The scale up of remote consultations in UK primary care and its implications for digital health disparities



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إِنَّ فِي خَلْقِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ وَٱخْتِلَٰفِ ٱلَّيْلِ وَٱلنَّهَارِ لَءَايَٰتٍ لِّأُو۟لِى ٱلْأَلْبَٰبِ

"There truly are signs in the creation of the heavens and earth, and in the alternation of night and day, for those with understanding"
Qur'an Translated Meaning [3:190]

I thank Allah first and foremost for the unearned blessing of undertaking this doctoral study journey. His signs - evident in every aspect of my life - have been constant sources of inspiration and a reminder of the greater purpose behind my quest for knowledge.

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Lastly, I cannot with a clean conscience speak about vulnerable populations and access to health services as I do in this thesis without addressing the ongoing genocide and ethnic cleansing that has been happening in Palestine for over a year now. The health impacts on Palestinian children, women, men, the elderly, people with disabilities, and marginalised individuals are profound and widespread. Healthcare institutions operate within the context of trauma, inequality, and injustice faced by people from all walks of life. Our work must be grounded in these realities, recognising that the moral foundations of global health and medical practice require us to prioritise and address oppressed realities and engage in epistemic resistance. In light of this, I ask what happens when students engage with decolonial theories and thinkers, embodying their principles? How do we, as a society and scholarly institution address the gap between concept and action? To bridge this divide, should we not critically evaluate how our academic and professional practices align with the urgent needs of those suffering under systemic oppression? Our work is not neutral. It never has been and never will be. As an academic, my task is not only to research but to advocate, to fight for liberation, and to dismantle the systems that create and perpetuate trauma. What we are witnessing is not just a political conflict; it is the systemic erasure of a people, and our silence in the face of it is an indictment of our profession. The struggle is not only for a ceasefire but for the liberation, dignity, and health of Palestinians and all oppressed people worldwide.

Abstract

The rapid digitalisation of healthcare services has led to the widespread adoption of remote consultations, particularly in the wake of the COVID-19 pandemic. While these digital health technologies have the potential to increase access to care, the benefits are not always equally distributed. This study aims to address the significant gaps in understanding the intersectionality of factors contributing to digital health disparities and their impact on patients' lived experiences.

The research question guiding this study is: How do multiple types of disadvantage intersect to contribute to digital health disparities in the uptake of remote consultations? The study employs an intersectional approach, examining the complex ways in which the intersection of age, income and limited English proficiency affects patient experiences with video consultations and digitalisation of health services. The theoretical frameworks of intersectionality, digital capital, and critical race theory provide a comprehensive lens for analysing the interlocking systems of oppression and inequities embedded within the structures and practices surrounding remote care. Methodologically, a qualitative narrative inquiry approach is employed to centre the voices and lived experiences of disadvantaged patients.

Analysis showed that remote consultations can exacerbate existing inequities, erode trust, compound oppression, and reduce patient agency for multiply-disadvantaged patient populations. Key themes included: weakened presence in video consultations, erosion of therapeutic relationships, disruption of continuity, increased complexity leading to disorientation, and engagement shaped by prior experiences of discrimination. Participants reported feeling overwhelmed, disconnected, and disempowered by remote care services.

The study's outputs include narrative portraits and user personas, fictional cases based on empirical data that draw together and illustrate the multiple intersecting elements of disadvantage. These portraits and personas capture the variety and complexity of how dimensions of disadvantage intersect and influence identity and actions, highlighting the challenges faced by older patients with multiple markers of disadvantage in accessing and receiving care through remote modalities like video consultations.

This study provides critical insights into how the digitalisation of healthcare can deepen disparities for older, low-income, limited English speaking individuals. Findings underscore the need for intersectional approaches to digital health equity that address the multifaceted nature of disadvantage. Recommendations include co-designing inclusive digital services, strengthening relational continuity, and developing targeted support to preserve agency and trust for marginalised groups in an increasingly digital healthcare landscape.

Table of Contents

Abstract ..... **iv**
List of Textboxes, Figures and Tables ..... **ix**
List of Abbreviations ..... **x**
Chapter 1 – Introduction **1**
1.1 Motivations for undertaking this DPhil 1
1.2 Terminology and Scope 5
1.3 Contextual background 7
1.3.1 Older age *8*
1.3.2 Ethnicity *9*
1.3.3 Limited English proficiency within the broader ethnicity construct *11*
1.3.4 Low socioeconomic status *13*
1.4 Aims, objectives and research questions 15
1.5 Overview of thesis chapters 17
Chapter 2 – Narrative Review **20**
2.1 Preamble and published review 20
2.2 Updated review 44
2.2.1 Persistent digital disparities *44*
2.2.2 Multifaceted and intersecting barriers *45*
2.2.3 Emerging solutions and interventions *47*
2.2.4 Theoretical frameworks and future directions *48*
Chapter 3 – Methodology **50**
3.1 Introduction 50
3.2 Ontological and epistemological assumptions 51
3.3 Crenshaw's theory of Intersectionality 55
3.3.1 Background *55*
3.3.2 Empirical study of intersectionality *57*
3.4 Digital capital theory 61
3.4.1 Beyond the digital divide *61*
3.4.2 Digital capital *63*
3.4.3 Empirical study of digital capital *67*
3.4.4 Limitations *69*
3.5 Critical Race Theory 70
3.6 Theoretical approach informed by multiple frameworks 73
3.7 Using qualitative research to investigate digital health disparities 74
3.8 Narrative research as a formal research method 80
3.9 Ensuring the study's quality 82
3.10 Conclusion 88
Chapter 4 – Methods **89**
4.1 Aim of the study 89
4.2 Study design 90
4.2.1 Setting *90*
4.2.2 Organisational context *95*
4.2.3 Sample selection and characteristics *96*
4.3 Migration history and socio-political context of South Asian communities in Britain 103
4.4 Data collection 106
4.4.1 Interviews *106*
4.4.2 Observations *113*
4.4.3 Focus group refinement sessions *116*
4.4.4 Strengths and limitations *121*
4.5 Data management and analysis 123
4.5.1 Overview of narrative analysis *124*

4.5.2 Transcription process *128*
4.5.3 Narrative thematic analysis *130*
4.6 Presentation of data 134
4.6.1 Rationale for creating narrative portraits *135*
4.6.2 Process of creating narrative portraits *137*
4.6.3 Process of creating user personas *140*
4.6.4 Incorporating strengths-based approaches *144*
4.7 Ensuring the study's quality 145
4.7.1 Sensitivity *145*
4.7.2 Commitment and rigour *145*
4.7.3 Transparency and coherence *146*
4.7.4 Impact of the research *146*
4.8 Ethical considerations 147
4.9 Patient and Public Involvement 149
4.10 Researcher positionality and reflexivity 151
Chapter 5 – Impact of remote consultations on continuity and relationships 159
5.1 Video consultations may have weak presence 160
5.1.1 Background *160*
5.1.2 Findings *161*
5.2 Video consultations may weaken relationships 174
5.2.1 Background *174*
5.2.2 Findings *175*
5.3 Video consultations may disrupt continuity 181
5.4 Video consultations may compound oppression 192
5.4.1 Background *192*
5.4.2 Findings *192*
5.5 Synthesis of findings 196
Chapter 6 – Impact of remote consultations on patient orientation, agency, discrimination and trust 199
6.1 Remote consultations may erode trust in health providers and systems 200
6.2 Remote consultations increase complexity, which may lead to disorientation 209
6.2.1 Background *209*
6.2.2 Findings *211*
6.3 Engagement with remote consultations may be shaped by previous experiences of perceived racism and discrimination 220
6.3.1 Background *220*
6.3.2 Findings *222*
6.4 Remote consultations may reduce patient agency 235
6.4.1 Background *235*
6.4.2 Findings *236*
6.5 Synthesis of findings 241
6.6 Conclusion 246
Chapter 7 – Narrative Portraits 248
7.1 Narrative portraits and personas 251
7.1.1 Saima *251*
7.1.2 Rajesh *260*
7.1.3 Gita *269*
7.1.4 Aziz *280*
7.2 Reflexive account of my role as researcher 289
7.3 Conclusion 291
Chapter 8 – Discussion 294
8.1 Contribution to the literature base 294
8.2 Overview of principal findings 299
8.3 Intersectional approach 306
8.4 User personas 312

8.4.1 Limitations and dynamic persona development *314*
8.5 Future directions 316
8.6 Implications for practice and policy 317
8.7 Ethical implications of digital health disparities 324
8.8 Conclusion 326
References 330
Appendices 371
Appendix I- Ethics Approval 371
Appendix II – Recruitment Flyer 377
Appendix III – Patient Information Sheet 378
Appendix IV – Verbal and Written Consent 384
Appendix V – Interview Guide 388
Appendix VI – Focus Group Guide 390
Appendix VII – Ethnographic Field Notes 392
Appendix VIII – NVIVO Coding Excerpt 404
Appendix IX – Rajesh Story Map 405
Appendix X – Saima Story Map 406
Appendix XI – BJGP Publication 407

List of Textboxes, Figures and Tables

Textbox 1: Concepts and definitions....24
Textbox 2: Search strategy with updated terms....26
Textbox 3: Summary of solutions to digital disparities proposed by authors of primary studies and commentaries....30

Figure 1: Flow diagram of the search process (adapted from the PRISMA [Preferred Reporting Items for Systematic Reviews and Meta-Analyses] guidelines....31
Figure 2: A corresponding fields model for digital exclusion....65
Figure 3: Narrative portraits and user persona definitions....135
Figure 4: Saima's User Persona....254
Figure 5: Rajesh's User Persona....263
Figure 6: Gita's User Persona....274
Figure 7: Aziz's User Persona....283

Table 1: Characteristics of the empirical studies....27
Table 2: Characteristics of the commentaries and editorials....29
Table 3: Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) summary of findings....32
Table 4: Criteria to assess qualitative research [148]....87
Table 5: BAME Ethnicity in Redbridge....92
Table 6: Characteristics of interview participants....101
Table 7: Interview protocol guide: procedures for preparing and conducting interviews....113
Table 8: Focus Group Data`....117

List of Abbreviations

CARES	Community Aid, Relief, Education, and Support
COREQ	Consolidated Criteria for Reporting Qualitative Research
CRT	Critical Race Theory
DOTW	Doctors of the world
GRADE-CERQual	Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research
GP	General Practitioner
HCP	Health Care Professional
ICT	Information communication technologies
IMD	Index of Multiple Deprivation
LEP	Limited English Proficiency
NELFT	North East London NHS Foundation Trust
NHS	National Health Service
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PTSD	Post traumatic stress disorder
SANRA	Scale for the Assessment of Narrative Review Articles
SES	Socioeconomic status
VPR	Virtual Pulmonary Rehabilitation
WHO	World Health Organisation

Chapter 1 – Introduction

"I feel like a stranger in my own country. Even after living here for so many years, I don't have a proper GP so I struggle talking to the GP. And now, with the NHS all going digital, I feel like I'm being left behind even more because I'm not able to keep up at my age." (Hamida, 75-year-old Bangladeshi female, with rheumatoid arthritis, hypertension, heart problems, migrated in 1985)

Hamida's words illustrate the complex, multifaceted challenges faced by some older, low-income, limited-English speaking individuals in accessing digital health services. Her experience is not unique, but rather emblematic of a broader pattern of digital health disparities that disproportionately affect multiply-disadvantaged individuals. Digital health disparities – inequities in access to and use of digital health technologies – have emerged as a critical public health concern, particularly affecting older adults, low-income individuals, and those with limited English proficiency. This thesis studies these lived experiences, analysing how multiple types of disadvantage intersect to create and exacerbate digital health disparities in the context of remote consultations.

1.1 Motivations for undertaking this DPhil

As a researcher with a dual perspective in public health and primary care, as well as academic expertise in psychology, I aim to bring a unique lens to the study of digital health inequity. This positioning is not only academic, but deeply rooted in personal experiences and ethical commitments that shape my approach to research and my understanding of the moral imperatives that underpin it.

My journey into this arena began during my undergraduate years at the University of Michigan in the US. While pursuing my Bachelor's degree in Biopsychology, Cognition, and Neuroscience, I became involved in a refugee resettlement project that profoundly shaped my academic and

personal trajectory. This experience opened my eyes to the complex interplay of social determinants of health and the intricate challenges faced by vulnerable populations. It ignited a passion for addressing health inequities that would become the cornerstone of my future work.

This formative experience propelled me towards further study and engagement with marginalised communities. In recognition of my commitment and potential in this field, I was honoured to receive a US-UK Fulbright Scholar grant. This award enabled me to pursue a Master's in Public Health at the University of Birmingham, where I delved deeper into the complex relationships between health systems and vulnerable communities. My master's thesis, which explored trust in health systems among refugee and immigrant populations, was not just an academic exercise but a personal inquiry into the lived experiences of those navigating unfamiliar and often unwelcoming healthcare landscapes.

This work solidified my dedication to understanding and addressing the multifaceted barriers faced by marginalised groups in accessing healthcare. The insights gained from this research continue to inform my approach to health equity, emphasising the need for culturally responsive and trauma-informed care practices.

Following my Master's degree, I had the privilege of joining the Department of Primary Care Health Sciences at Oxford. This position offered me invaluable opportunities to engage in diverse research studies, each contributing to my growing understanding of primary care's role in addressing health disparities. These experiences not only broadened my research skills but also reinforced my resolve to pursue doctoral studies, which I saw as a path to make meaningful contributions to the field of health equity.

However, the onset of the COVID-19 pandemic brought unprecedented challenges and rapid transformations to healthcare delivery systems worldwide. Almost overnight, I found myself at the forefront of researching the seismic shift to remote consultations in general practice as part of the UK-wide Remote by Default Study. This sudden pivot in research focus became a real-time exploration of a healthcare revolution with far-reaching implications for access and equity.

As I engaged in this research, I could not help but observe the stark disparities emerging in my own community. Within my own social circle, those who were already facing multiple disadvantages seemed to be disproportionately affected by the rapid digitalisation of healthcare services. This first-hand witnessing of the uneven impact of remote adoption crystallised my research focus for my doctoral studies. It became clear to me that investigating the implications of this shift to remote consulting for multiply disadvantaged populations was an academic interest, but also a moral imperative.

This realisation marked a pivotal moment in my academic journey, aligning my personal experiences, professional research, and ethical commitments. It set the stage for my doctoral research, driving me to explore how the digital transformation of healthcare is reshaping access and outcomes for those at the intersections of multiple forms of disadvantage. Through this work, I aim to document these disparities and contribute to the development of more equitable and inclusive digital health systems.

My journey as a researcher is inseparable from my identity as an American of South Asian ethnicity (my parents are from India), raised in a multilingual household (Urdu, Hindi, English). This background has afforded me a first-hand understanding of the intersectionality of ethnicity, language concordance and healthcare disparities. It has also instilled in me a deep sense of

responsibility to challenge dominant narratives and knowledge systems that perpetuate health inequities - a practice of epistemic resistance that informs my research approach.

Through my experiences volunteering with refugee populations and working with underprivileged patients in community health clinics, I have witnessed what medical anthropologist Paul Farmer terms 'structural violence' - the systematic ways in which social structures harm or disadvantage individuals [1]. Structural violence manifests in healthcare through institutional barriers, discriminatory practices, and systemic inequities that disproportionately affect marginalised populations [2]. These experiences have reinforced my understanding that health does not exist in a vacuum; health is inherently political because political realities shape health outcomes [1]. This realisation compels me to approach my research with a critical lens, one that seeks to uncover and address the underlying systemic inequities inherent in our healthcare system.

My academic journey has equipped me with the tools to engage in this critical work. However, it has also made me acutely aware of the limitations of traditional academic approaches. I recognise the need to move beyond reductive health status metrics and embrace a more holistic understanding of health that centres the lived experiences of marginalised individuals and communities.

As I approach this research on digital health disparities, I do so with a commitment to epistemic resistance. This means prioritising the voices and experiences of marginalised groups and challenging the dominant paradigms that often frame digital health disparities as solely a matter of individual access or skill. Instead, I aim to situate these disparities within broader systems of power and oppression, recognising the interconnectedness of material and political conditions in shaping health outcomes.

My positionality as a researcher is thus deeply intertwined with my moral and ethical commitments. I see my work not just as an academic exercise, but as part of a larger struggle for social justice and health equity. I approach this research with a sense of humility, recognising the limitations of my own perspective and the need to continuously engage with and learn from the communities I seek to serve.

In undertaking this study, I am acutely aware of my moral obligation to bear witness to injustices and to act to redress them. I approach this work with a commitment to transformative empathy, striving to understand the experiences of multiply-disadvantaged individuals navigating digital health systems and to use this understanding to advocate for meaningful change.

Ultimately, my approach as a researcher is grounded in the belief that research should serve as a tool for social change. Through this work, I hope to contribute to a more nuanced, contextualised understanding of digital health disparities, one that can inform more equitable and just approaches to healthcare delivery in our increasingly digital world.

1.2 Terminology and Scope

This thesis primarily focuses on video consultations (under the broader umbrella of remote care) in healthcare, while also addressing broader aspects of digital health and remote care. For clarity, I define key terms as used throughout this work:

Video consultations: Real-time, two-way audio-visual interactions between healthcare providers and patients conducted via digital platforms.

Remote consultations: Any healthcare consultation conducted at a distance, including video, telephone, or text-based interactions.

Digitalisation: The process of converting information into a digital format and the broader adoption of digital technologies across healthcare systems and services.

Digital health: The broad use of digital technologies in healthcare, encompassing electronic health records, health applications (apps), wearables and various forms of telemedicine.

Digital access: The ability to connect to and effectively use digital technologies and services, including but not limited to healthcare-related technologies.

While video consultations are the central focus of this research, findings and discussions often relate to or have implications for wider aspects of digital health and remote care. Study participants similarly did not limit their discussions to video consultations alone. They often spoke about wider aspects of digitalisation and the challenges of accessing care in an increasingly digital healthcare landscape. This broader context is crucial for understanding the full impact of video consultations within the evolving landscape of healthcare delivery.

When discussing literature or background information, I use terms as they appear in original sources. This may include broader concepts such as telemedicine or e-health, reflecting the evolving terminology in this field.

Throughout the thesis, I strive to be specific about which aspects of digital health or remote care are being referred to in each context. However, it is important to note that these concepts are

often interrelated, and findings about video consultations may have relevance for other forms of remote care or digital health initiatives.

The COVID-19 pandemic has accelerated the adoption of various forms of remote care, including video consultations. This rapid shift has blurred some distinctions between different modes of care delivery. Where relevant, I note how this context has influenced the terminology and practices discussed in this research.

1.3 Contextual background

Digital health technologies and remote forms of consultation have the potential to revolutionise healthcare delivery, but their benefits are not equally distributed. Research has identified significant disparities in access to and use of these technologies among different populations.

Prior to the COVID-19 pandemic, studies had shown that patients with poorer self-reported health, older age, lower incomes, and certain minority ethnic backgrounds were less likely to access healthcare through technological means [3,4]. The pandemic dramatically increased the proportion of remote consultations [5], affecting greater numbers of patients already facing access barriers due to poverty, low health literacy, limited English proficiency (in countries where English is the official language), or lack of digital skills and devices [6].

While there is a growing body of literature on digital health disparities, there are still significant gaps in understanding the intersectionality of these factors and their impact on patient experiences. Specifically, there is a lack of research on how the intersection of age, income, and

limited-English proficiency affects patient experiences with digital health technologies, particularly video consultations.

The importance of these three axes - older age, low income, and limited English proficiency - has been highlighted by numerous researchers in the field of digital health equity [7–10]. Such people face complex challenges in accessing and using digital health technologies, produced by interacting social, linguistic, and economic circumstances. These challenges include, but are not limited to, limited access to technology, financial barriers to data use, low digital literacy skills, and lack of linguistic and cultural concordance.

To set the stage for the subsequent intersectional analysis, I will first begin by individually examining each of these axes, drawing on existing literature to lay the groundwork for this research.

1.3.1 Older age

The conceptualisation of "older age" in the context of digital health inequity necessitates a nuanced understanding that transcends chronological age as a sole determinant. This multifaceted construct encompasses a complex interplay of biological, psychological, and social factors that evolve over time [11,12]. The heterogeneity of the ageing experience, influenced by intersecting variables such as gender, race, ethnicity, socioeconomic status and cultural background, underscores the limitations of age as a unitary category in health research and policy [13].

Critical gerontology scholarship has problematised the use of chronological age as a primary marker of an individual's status or capabilities, emphasising instead the importance of functional

age and subjective age perceptions [14]. This perspective aligns with intersectionality theory [15], which posits that multiple social identities and positions interact to create unique lived experiences. In the context of digital health, this intersectional lens reveals how age intersects with other social determinants to shape access to and engagement with digital health technologies.

The digital divide literature has consistently identified older age as a significant factor in digital exclusion [16,17]. However, recent scholarship cautions against overly deterministic views of age-related digital inequalities, emphasising the need to consider cohort effects, life course perspectives, and the rapidly evolving nature of digital technologies [18,19].

In the realm of digital health, older adults face multifaceted challenges that extend beyond access to technology. These include lower levels of digital literacy, age-related physical and cognitive changes that may impact technology use, and attitudinal barriers stemming from unfamiliarity or discomfort with digital tools [10,20]. Moreover, the design of many digital health technologies often fail to account for the specific needs and preferences of older users, potentially exacerbating existing inequalities [9].

1.3.2 Ethnicity

The concept of collective social identification known as ethnicity frequently consists of aspects of language, culture, shared history, and common lineage. Ethnic identity involves a complex and dynamic negotiation between those who are a part of a particular ethnic grouping and the society in which that grouping has social significance. Ethnic identity is socially constructed by both internal and external group membership. The terminology and boundaries that are used to define

ethnicity on a broad scale change over time and space, and on a personal level, the same person may identify with different ethnicities in various social contexts and stages of their life.

However, the use of race and ethnicity as categories has been a source of controversy and criticism. For example, some argue that race is a social construct and that genetic variation among individuals corresponds poorly with traditional racial categories [21]. Moreover, racial categories have been used historically to justify discrimination and prejudice against certain groups, leading to the perpetuation of systemic racism [22]. Similarly, the use of ethnicity as a category has been criticised for oversimplifying complex cultural identities and reinforcing stereotypes [23]. It's important to note that in some minority ethnic groups, social and economic factors can significantly impact the ageing process. For instance, early childbearing (often in the teens), becoming grandparents at a young age (sometimes in their 30s), multiple childbirths leading to chronic health issues like anaemia, and the cumulative effects of poverty and poor housing conditions throughout life can result in accelerated ageing and a self-perception of being 'old' at a relatively young chronological age.

Additionally, the use of these categories can lead to the exclusion of individuals who do not fit neatly into preconceived racial or ethnic categories, such as those who identify as multiracial or who come from mixed cultural backgrounds. Despite these controversies, race and ethnicity remain important tools for understanding and addressing social inequalities, and I aim to remain vigilant in their use of these categories to avoid perpetuating harmful stereotypes and exclusionary practices. So, for the time being, race and ethnicity are necessary, imperfect categories that allow us to consider and respond to patterns of social, education, economic, political and health inequalities and disadvantage, and I use them with these cautions in mind.

Ethnicity-related disparities in remote consultations are complex and multifaceted. Research has identified language hurdles, cultural differences, and a lack of digital literacy skills as major challenges faced by individuals with limited English proficiency in accessing and using digital health technologies [24,25]. In addition, these individuals may be less likely to seek out digital health resources and technologies due to a lack of awareness of available resources and a lack of confidence in their ability to navigate and use these tools. Racial and ethnic minorities also face disparities in access to technology and digital health resources, as well as historical and systemic barriers to healthcare access [26]. These disparities highlight the need for culturally and linguistically appropriate digital health technologies and resources that are accessible to all.

1.3.3 Limited English proficiency within the broader ethnicity construct

Limited English proficiency (LEP) represents an important dimension within the broader ethnicity construct that significantly impacts digital health equity. This linguistic barrier extends beyond communication challenges, intersecting with issues of digital literacy, health literacy, and systemic barriers to healthcare access [27].

The term 'Limited English Proficiency' (LEP) originated in American policy contexts, first appearing in the 1975 Lau Remedies following the Supreme Court case Lau v. Nichols [28]. While commonly used in the United States healthcare research, this deficit-focused terminology has faced criticism for potentially stigmatising individuals and communities [28]. In the United Kingdom (UK), health research and policy documents more commonly use terms such as 'speakers of other languages' or 'people who speak English as an additional language' to emphasise linguistic diversity rather than English-language deficiency [29]. However, this thesis deliberately employs the term LEP to maintain alignment with the broader international literature on digital health disparities, where

LEP remains the predominant term in systematic reviews and meta-analyses [30]. Furthermore, while acknowledging its limitations, the term LEP precisely captures the specific challenge being investigated - the impact of limited English language skills on remote healthcare access - which is distinct from the broader linguistic diversity that terms like 'speakers of other languages' encompass.

Additionally, this study focuses specifically on South Asian communities in London, England, which represents one segment of the linguistically diverse population in the UK. This scope limitation warrants acknowledgment, as experiences with remote health services may differ significantly among other ethnic and linguistic communities, including but not limited to Chinese, Somali, and Eastern European populations. Each community brings distinct cultural contexts, migration histories, and linguistic needs that shape their remote healthcare experiences [31]. While this research offers valuable insights into digital health disparities through the lens of South Asian communities, its findings should be considered alongside studies examining other linguistic and ethnic communities' experiences.

The linguistic dimension of healthcare access significantly impacts digital health equity. Language barriers extend beyond basic communication challenges, intersecting with issues of digital literacy, health literacy, and systemic barriers to healthcare access [32]. The heterogeneity of multilingual populations, encompassing varying degrees of oral and written English proficiency, necessitates a nuanced understanding of how language barriers interact with digital health technologies.

The decision to focus this study specifically on South Asian participants was guided by both methodological considerations and practical circumstances. As the primary researcher, my

fluency in Hindi and Urdu enabled me to conduct interviews directly with participants in their preferred languages, allowing for in-depth exploration of their experiences without the mediating influence of interpreters. This linguistic concordance was particularly crucial for a narrative inquiry approach, where subtle linguistic expressions and cultural contexts significantly influence data quality. Direct communication in participants' preferred languages facilitated trust-building and allowed participants to express complex experiences and emotions more freely than might have been possible through interpreted conversations.

The recruitment pathway also naturally led to a focus on South Asian participants. Initial recruitment was facilitated through gatekeepers at the Redbridge Respiratory Service, who connected me primarily with South Asian patients. This initial group then led to further South Asian participants through snowball sampling, as individuals referred others from within their community networks. This pattern of recruitment reflects the demographic composition of the London Borough of Redbridge, which has a significant South Asian population (this demographic context is discussed in detail in Chapter 4.2.1). While this methodological choice and recruitment pathway enhanced the depth and authenticity of the data collected, it necessarily limited the study's scope to South Asian communities.

1.3.4 Low socioeconomic status

Socioeconomic status (SES) represents a critical axis of digital health inequity, encompassing a complex interplay of economic, social, and cultural factors that significantly influence individuals' capacity to access and utilise digital health technologies [33]. This multidimensional construct, comprising elements such as income, education, occupation, and wealth, operates as a

fundamental social determinant of health, shaping health outcomes as well as the ability to engage effectively with healthcare systems and technologies [34,35].

In the context of digital health, low SES manifests as a significant barrier to technology access and utilisation. Empirical evidence consistently demonstrates that individuals from lower socioeconomic backgrounds face disproportionate challenges in accessing digital devices, reliable Internet connectivity, and the requisite digital literacy skills necessary for meaningful engagement with digital health technologies [36,37]. These material constraints are often compounded by limited awareness of available digital health services, stemming from inadequate outreach efforts and information dissemination strategies that fail to penetrate socioeconomically marginalised communities [38].

However, conceptualising low SES solely in terms of material deprivation or lack of awareness oversimplifies the complex dynamics at play. A more nuanced understanding recognises SES as a fluid and relational construct, deeply embedded within broader socio-structural inequalities [39]. This perspective aligns with Bourdieu's theory of capital, which posits that economic capital intersects with cultural and social capital to shape individuals' life chances and health behaviours [40]. In the digital health domain [41], this translates to recognising how economic constraints interact with cultural norms, social networks, and health literacy to influence engagement with digital health technologies.

Moreover, the intersectionality of low SES with other social identities and positions, such as race, ethnicity, gender, and age, creates unique constellations of disadvantage that can exacerbate digital health inequities [42,43].

Addressing digital health inequities stemming from low SES necessitates a multifaceted approach that goes beyond increasing access to technology or developing more affordable digital health solutions. It requires a fundamental reconfiguration of how digital health initiatives are conceptualised, designed, and implemented to account for the diverse needs, capabilities, and lived experiences of socioeconomically marginalised populations.

Chapter two highlights these aforementioned points and discusses the importance of considering intersectionality in research on digital health disparities. I argue here that digital health disparities are not only influenced by individual-level factors such as age, income, and ethnicity, but also by the intersection of these factors. I review the existing literature on digital health disparities and intersectionality and highlight the limitations of current research in this area.

1.4 Aims, objectives and research questions

The aim of my study was to inform a more equitable delivery of health care services in a post COVID-19 digital world.

My strategic objectives were:

- To understand the intersecting factors that contribute to digital health disparities in people affected by multiple disadvantage on a micro, meso and macro level.
- To use this research within a national and wider social context to support organisational learning and co-design work by GP practices.

My operational objectives were:

- To explore individual lived experience narratives around digital health disparities and how they are experienced by older, low-income, limited English speaking individuals using purposive sampling.
- Within an organisational context, to observe and undertake focus groups with patient representatives and health professionals involved in conducting/overseeing video consultations to understand the perspectives and practices around remote care.
- To develop and refine narrative portraits and user personas that characterise the intersection between older age, low socioeconomic status and limited English proficiency in exacerbating digital health disparities, that can be used to inform improvements in digital health services for marginalised and excluded groups.

To address the gaps in current understanding and achieve the stated aims and objectives, this study was guided by the following specific research questions:

- How do multiple types of disadvantage intersect in their contribution to digital disparities in the uptake of remote consultations among older, low-income, limited-English speaking individuals?
- How do such individuals experience access to (or attempts to access) healthcare and video consultations?
- What can we learn from studying these perspectives about the intersection of different aspects of disadvantage in our society?
- How can the insights gained from this study inform the development of more equitable and inclusive digital health services?

1.5 Overview of thesis chapters

This thesis explores the concept of multiple disadvantage in the context of remote consultations and the digitalisation of health services, particularly focusing on disparities faced by older, low income, and limited English-speaking individuals. The thesis is structured in eight chapters.

Chapter Two presents a narrative review of published studies on disparities in remote consultations. The chapter examines how the concept of multiple disadvantage has been defined, theorised, and empirically tested in the literature. The study design has been informed by theory and existing literature around digital health disparities as discussed in this chapter.

Chapter Three outlines the philosophical foundations, theoretical frameworks, and methodological approach underpinning this research study. It details the constructivist ontology and interpretivist epistemology adopted and explains the use of intersectionality, digital capital, and critical race theories as conceptual lenses. The chapter justifies the use of qualitative narrative inquiry as the chosen methodology and discusses strategies for ensuring research quality and rigour.

Chapter Four describes the specific research methods used to conduct the empirical work. It details the study design, including the setting and sample selection. The chapter outlines the data collection methods and ethical considerations. It explains the narrative thematic analysis approach used to analyse the data. The chapter also discusses how the findings were presented through narrative portraits and user personas.

Chapter Five presents the first set of findings from the empirical study, exploring how participants with multiple disadvantage navigate relationships with healthcare providers in the digital healthcare landscape. The chapter is organised around four key findings: weak presence in video consultations, weakened patient-provider relationships, shifts from relational to distributed continuity and compounded oppression through remote consultations.

Chapter Six presents the second set of findings from the empirical study, highlighting further concerns about the digitalisation of healthcare delivery and its impacts on vulnerable groups. The chapter is organised around four key themes: erosion of trust, increased complexity leading to disorientation, the influence of perceived racism and discrimination on digital engagement and reduced patient agency.

Chapter Seven presents narrative portraits and user personas of study participants facing multiple forms of disadvantage in accessing remote healthcare services. Through storytelling and analysis, the chapter illustrates how key themes from previous chapters - such as weakened relationships, distrust, digital complexity, and loss of agency - manifest in individuals' lived experiences. The narratives and personas highlight the intersecting challenges faced by marginalised patients in navigating an increasingly digitalised healthcare landscape. The chapter aims to humanise the research findings and provide context to the issues identified in earlier chapters.

Chapter Eight concludes the thesis by synthesising the key findings and exploring their implications. It outlines the study's contribution to digital health disparities literature, emphasising the application of intersectionality theory. The chapter provides an overview of principal findings, highlighting how multiple forms of disadvantage intersect to shape experiences with remote consultations. It discusses the development of user personas as a methodological

innovation and explores future research directions. The chapter concludes by examining implications for practice and policy.

Chapter 2 – Narrative Review

2.1 Preamble and published review

This chapter presents the narrative review I published in 2022 titled 'Desperately Seeking Intersectionality in Digital Health Disparity Research: Narrative Review to Inform a Richer Theorization of Multiple Disadvantage' [44]. This review explored how multiple disadvantage — specifically the intersection of older age, lower socioeconomic status, and limited English proficiency — has been conceptualised, theorised, and studied empirically in relation to digital health technologies and remote consultations, with a particular focus on video consultations.

The key findings were that up to 2022, research on this topic had been sparse and largely descriptive rather than theoretically informed. Substantial disparities in video consultation access and uptake were reported among groups experiencing multiple forms of disadvantage, but studies lacked a strong theoretical lens to explain how these disparities emerged and played out both within and across categories. The review called for greater interdisciplinary dialogue between theoretical research on multiple disadvantage and empirical studies on digital health disparities, to generate richer explanations and inform more effective and equitable solutions.

Since the publication of this review in late 2022, several relevant empirical studies have been published that reinforce and extend its central themes. These are added after the reprint of the published paper that follows.

Review

Desperately Seeking Intersectionality in Digital Health Disparity Research: Narrative Review to Inform a Richer Theorization of Multiple Disadvantage

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Abstract

Background: Digital consultations between patients and clinicians increased markedly during the COVID-19 pandemic, raising questions about equity.

Objective: This study aimed to review the literature on how multiple disadvantage—specifically, older age, lower socioeconomic status, and limited English proficiency—has been conceptualized, theorized, and studied empirically in relation to digital consultations. We focused mainly on video consultations as they have wider disparities than telephone consultations and relevant data on e-consultations are sparse.

Methods: Using keyword and snowball searching, we identified relevant papers published between 2012 and 2022 using Ovid MEDLINE, Web of Science, Google Scholar, and PubMed. The first search was completed in July 2022. Papers meeting the inclusion criteria were analyzed thematically and summarized, and their key findings were tabulated using the Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research criteria. Explanations for digital disparities were critically examined, and a search was undertaken in October 2022 to identify theoretical lenses on multiple disadvantage.

Results: Of 663 articles from the initial search, 27 (4.1%) met our inclusion criteria. In total, 37% (10/27) were commentaries, and 63% (17/27) were peer-reviewed empirical studies (11/27, 41% quantitative; 5/27, 19% qualitative; 1/27, 4% mixed methods; 1/27, 4% systematic reviews; and 1/27, 4% narrative reviews). Empirical studies were mostly small, rapidly conducted, and briefly reported. Most studies (25/27, 93%) identified marked digital disparities but lacked a strong theoretical lens. Proposed solutions focused on identifying and removing barriers, but the authors generally overlooked the pervasive impact of multiple layers of disadvantage. The data set included no theoretically informed studies that examined how different dimensions of disadvantage combined to affect digital health disparities. In our subsequent search, we identified 3 theoretical approaches that might help account for these digital disparities. Fundamental cause theory by Link and Phelan addresses why the association between socioeconomic status and health is pervasive and persists over time. Digital capital theory by Ragnedda and Ruiu explains how people mobilize resources to participate in digitally mediated activities and services. Intersectionality theory by Crenshaw states that systems of oppression are inherently bound together, creating singular social experiences for people who bear the force of multiple adverse social structures.

Conclusions: A limitation of our initial sample was the sparse and undertheorized nature of the primary literature. The lack of attention to how digital health disparities emerge and play out both within and across categories of disadvantage means that solutions proposed to date may be oversimplistic and insufficient. Theories of multiple disadvantage have bearing on digital health, and there may be others of relevance besides those discussed in this paper. We call for greater interdisciplinary dialogue between theoretical research on multiple disadvantage and empirical studies on digital health disparities.

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(J Med Internet Res 2022;24(12):e42358) doi: 10.2196/42358

KEYWORDS

digital health disparities; video consultations; intersectionality; health inequity; narrative review; digital capital; fundamental cause theory; mobile phone

Introduction

Background

COVID-19 has thrown a spotlight on digital health disparities. Before the pandemic, patients with poorer self-reported health, of older age and lower incomes, and from certain minority ethnic groups were less likely to access health care by technological means [1,2]. The proportion of health care consultations conducted remotely (telephone, video, and web-based) increased dramatically during the pandemic [3], chiefly because many face-to-face consultations were canceled owing to the risk of transmitting the virus. Therefore, the shift to remote consultations affected a greater number of patients with increased access burdens because of being disadvantaged through poverty, low health literacy, limited English proficiency (LEP; in countries where English is the main language), or lacking digital skills or devices [4,5].

There is a vast amount of research on health disparities in general; this literature falls into 3 broad categories corresponding to 3 longitudinal phases. The first phase, detection, involves defining health disparities, identifying vulnerable populations, and developing valid measures for studying both. The second phase, understanding why disparities exist, involves identifying factors that explain gaps in health care between vulnerable and less vulnerable groups. The third phase involves the development, implementation, and evaluation of interventions that reduce or eliminate health disparities. These different kinds of research are all relevant to the study of digital disparities as well, although the literature on the latter is currently sparse in both volume and depth.

Digital health is sometimes presented vaguely and futuristically as having the potential to strengthen health systems and public health, improve efficiency, and increase equity in access to health services [6,7]. Video consultations in particular have been extensively researched (often in randomized controlled trials in comparison with face-to-face consultations) and depicted with promissory claims of delivering efficient care without compromising safety or patient satisfaction [8-10]. However, as the pandemic showed, digital *solutions* intended to reduce inequalities may actually widen them [11-13]. Broadly speaking, and with some notable exceptions [14-16], technologies are least frequently and least readily used by limited English–speaking communities, those with low income, and older adults—and especially by those in the *triple jeopardy* of all 3 groups.

Uptake of video consultations, for example, is known to be low among various disadvantaged groups [17]. This and other digital disparities have been explained by multiple factors, including lack of access to technology, low digital literacy, suboptimal internet coverage, and power differentials within the home in terms of who has access to digital devices [18-20].

Several recent publications have proposed strategies to ensure that the emergence of digital services does not exacerbate disparities in access to health care and health outcomes [11,21-23]. In total, 2 broad approaches have been taken. One approach speculates that digitally driven efficiency savings could *free up* staff to attend to the disadvantaged, who would continue to consult in traditional ways. However, there is limited evidence that such savings occur even with telephone consultation services and—to our knowledge—no evidence that they occur with video services (which have higher setup costs and require staff and patients to learn new skills) [24].

Another approach centers on identifying and removing barriers to video access among disadvantaged groups—for example, ensuring that people are equipped, competent, and confident in using the video modality where appropriate. This strategy is founded on an individual deficit model that depicts the disadvantaged as deficient in certain things (eg, knowledge, confidence, and bandwidth) and assumes that these deficiencies can be rectified by specific inputs (eg, training, practice, and digital upgrades). Thus, it tends to overlook the pervasive impact of multiple layers of structural disadvantage. Of particular interest is how key risk factors for digital exclusion such as LEP, poverty, and older age are often mutually reinforcing, an effect that some have called intersectionality [25].

These approaches are discussed throughout this paper, which starts by outlining the aim, scope, and research questions of the review along with definitions of important terms and concepts. We then explain our methodological approach to the review and the details of our methods. Our findings show that, in the relatively sparse literature uncovered on the topic, substantial digital disparities are reported and that this research to date in relation to video consultations has been almost entirely descriptive rather than explanatory. We also describe how we identified 3 candidate theories of multiple disadvantage that could further enhance our understanding of digital disparities. We conclude by proposing 3 candidate theories that may have particular relevance in explaining and helping address digital health disparities in people with multiple disadvantage.

Aim, Scope, and Research Questions

In this narrative review, we sought to explore how published studies of disparities in digital health consultations have defined, theorized, and empirically tested the concept of multiple disadvantage.

To sharpen our focus in a potentially vast field, we chose to restrict our sample of empirical digital health research to studies of video consultations between patients and health care professionals as this is where the most dramatic differences in digital access have been documented in the literature [8]. In contrast, there has been little research on digital disparities in electronic consultations [26], and research on telephone consultations suggests that digital disparities are less marked

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[27]. On the basis of findings from our previous work on remote consulting [28], we decided to focus particularly on studies that provided insights relevant to an underresearched group: older adults with low income and LEP.

Our research questions were as follows: (1) How have the intersecting effects of age, socioeconomic status, and LEP been conceptualized, theorized, and studied empirically in relation to digital consultations (especially video)? (2) What interventions have been developed and tested within the context of digital consultations to try to overcome the effects of multiple disadvantage? (3) What were the findings of these studies and how can they help us extend theory and inform future research? and (4) What are the implications for policy and practice?

Definitions

This review covers a number of closely related terms and concepts, which we define and discuss in Textbox 1.

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Textbox 1: Concepts and definitions

Textbox 1. Concepts and definitions.

Health disparities

- Defined by the Centers for Disease Control and Prevention of the United States (as this term has almost exclusively been used in the United States) as differences in health status or health outcomes among population groups as a result of—for example—social, economic, racial, or ethnic characteristics [29].

Health equity

- Defined by the World Health Organization (WHO) as "the absence of avoidable, unfair, or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification" [30]. Others have defined health equity in positive terms as "the attainment of the highest level of health for all people...valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and healthcare disparities" [31]. Thus, reducing health disparities is one aspect of achieving health equity.

Health inequity

- Refers to the presence of these avoidable, unfair, or remediable differences [31]. Some authors have distinguished health inequities from *health inequalities*, the latter being disparities that are explained by differences that are not avoidable or remediable (eg, because of age) [32] but, in practice, these terms tend to be used interchangeably.

Digital health

- An interdisciplinary field linking technologies (software, hardware, and underpinning infrastructure) and the service models in which they are used [33]. It includes mobile health apps, electronic health records, electronic medical records, wearable devices, remote consultations (by telephone, video, or the web), and remote monitoring of various kinds.
- Digital health includes *telemedicine*, which the WHO set a standardized definition for in 2007 as the delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment, and prevention of disease and injuries; research and evaluation; and the continuing education of health care providers, all in the interest of advancing the health of individuals and their communities [34].
- The terms *telemedicine* and *telehealth* are often used interchangeably, but telehealth has evolved to encapsulate a broader array of digital health care activities and services, including patient and professional health-related education, public health, and health administration [34].
- *Video consultations* are a specific type of telemedicine involving a video connection.

Digital divide

- This constitutes a societal division between those who have the means and capability to make full use of digital technology and those who lack those means for reasons relating to (for example) income, education, or age [35].

Digital health disparities

- A concept that emerged recently; refers to inequalities that may be widened when technologies are required for accessing and receiving care. One author has coined the expression "digital inverse care law" to depict how people who are most in need of care (in particular, older people and those experiencing social deprivation) are least likely to access or receive it through digital platforms [36].
- For consistency in this paper, we have chosen to use the term *disparities* rather than *inequities* or *inequalities*.

Disadvantage

- Defined as those for whom the social conditions in which they are born, live, and age do not ensure opportunities for them to be healthy and flourish [37]. Disadvantaged people are disproportionately affected by disease, dysfunction, and ill health.
- *Underserved* and *marginalized* populations include people who experience discrimination of any kind and encounter barriers (eg, racial, ethnic, gender, sexual orientation, economic, cultural, or linguistic) to accessing health care goods and services [38]. They tend to receive fewer and lower-quality health care and public health goods and services, have a lack of familiarity with the health care delivery system, face a shortage of readily available providers, and lack access to quality systems of care.

Intersectionality

- Refers to the idea that systems of oppression are inherently bound together, thus creating singular social experiences for people who bear the force of multiple systems [25]. It has been defined as "the relationships among dimensions and modalities of social relations and subject formations" [39]. A more specific definition in relation to health disparities is the "intersections of individuals' multiple identities within social systems of power that compound and exacerbate experiences of ill health" [40], thus recognizing that health is shaped by a multidimensional overlapping of factors such as race, class, income, education, age, ability, sexual orientation, immigration status, ethnicity, indigeneity, and geography.

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Methods

We undertook a narrative review of the literature published from 2012 to 2022 focusing on digital health disparities in disadvantaged groups, with a specific focus on older, low-income, limited English–speaking individuals and on video consultations. Various combinations of search terms, including those regarding age, language, and income, were trialed as part of the initial search strategy but, because of the unique combination of terms being used, they yielded no relevant results. Following discussion with an expert librarian and coauthors, the search strategy shown in Textbox 2 was applied and updated with further terms as the study progressed to reflect the developing field. Although the search range extended back to 2012, only one study in our final sample was published before 2020. Earlier studies were clearly superseded by later work because of technologies having been developed at pace and the evolving field of digital health care. An evaluation of a video consulting service in Scotland by Wherton et al [41] reported that, as late as 2017, the platforms used for video consultations were designed for videoconferencing rather than video consulting and were expensive, clunky, unreliable, and poorly aligned with clinical workflows. A few years later, bespoke video technologies for health care encounters had been developed; they were cheaper, more agile, and better designed around key workflows. Accordingly, studies undertaken before the development of mature, fit-for-purpose technologies were less relevant. Similarly, when looking to the literature for explanations of digital health disparities, little had been published before 2012, and earlier studies reflected challenges that are no longer relevant today, such as website provision and public health dissemination through digital television [42].

We drew in particular on 3 methodological sources. First, we aligned with Greenhalgh et al [43], who highlighted the purpose of narrative review (to achieve clarification and understanding across a broader field of inquiry) and distinguished this from that of quantitative systematic review (to identify, summarize, and synthesize data on a narrowly focused topic, typically through meta-analysis). The latter relies on largely technical processes (eg, data extraction and the use of risk-of-bias tools), whereas the former requires the progressive development and refinement of an argument through interpretative methods.

Second, we engaged with the methodology by Boell and Cecez-Kecmanovic [44] for hermeneutic review, which applies the hermeneutic circle (progressively adding parts to the whole) to secondary research. The hermeneutic review begins with a close reading of key texts—those known to the research team and those identified on an initial scoping search. These texts are mapped and classified according to coherence, adequacy, and relevance (with relevant extracts as quotes) in interim summaries. Some summaries are *deep dives* on specific themes (eg, how a particular theory has been applied). Some are broader but less deep (eg, an early draft of the review findings to be progressively refined as the study unfolds). The researchers move back and forth between further searches and a progressively richer overall summary.

Third, we took note of methodological guidance from a group of journal editors in the health care field [45], who developed a structured critical appraisal tool (SANRA [Scale for the Assessment of Narrative Review Articles]). SANRA defines quality in narrative reviews in terms of strong justification for the importance and aims of the review, a well-described and well-justified literature search, claims backed up by referencing relevant primary studies, the quality of scientific reasoning (including a nonselective approach to inclusion of studies and study designs appropriate to the research question), and appropriate presentation of data.

The following search terms were developed by author 1 and discussed with the coauthors: *remote consultations* (or *virtual consultations* or *video consultations* or *video visits* or *telemedicine* or *telehealth*) and *digital health inequality* (or *digital divide* or *inequity/ies* or *inequality/ies* or *health disparity/ies* or *disadvantage*). These terms were then checked by the expert university librarian. Following some pilot searches, these were developed into formal search strings (Textbox 2).

The search was first completed in July 2022 and then supplemented with an additional search with revised search terms in October 2022. The results of all these searches were combined into a single data set, and irrelevant studies were excluded by screening titles and abstracts. All papers were reviewed by author 1, and each paper was second reviewed by at least one coauthor. Rigor was strengthened by reflexivity and the application of the Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research checklist [46] to determine confidence in the findings.

To gain familiarity and aid data management, author 1 extracted and tabulated the following information from the included sources: (1) study design, setting, and sample; (2) key findings in relation to health inequalities and web-based care; (3) key issues raised by the authors; (4) authors' recommendations for how to promote health equity in the context of remote care; and (5) any theories or frameworks used by the authors to study digital disparities.

Following the hermeneutic circle, we worked back and forth between individual papers and our overview of the findings, progressively adding detail. The process of interpretive synthesis was aided by discussions among the coauthors. When we realized that the initial data set of 27 papers included very little theoretical analysis, we conducted a further search for theories of multiple disadvantage that were potentially relevant to digital health disparities and had the potential to add a theoretical depth to our original sample of papers. This second search was deliberately not exhaustive; it included asking experts in the field, using key sources known to the authors, and searching the PubMed database for the term *theor** along with the selected terms listed in Textbox 2.

A near-final version of the synthesis was shared with a wider group of peers, including experts in various aspects of health disparity or digital health, and with laypeople with lived experience of accessing care. The synthesis was refined in response to their feedback.

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Textbox 2: Search strategy with updated terms

Textbox 2. Search strategy with updated terms.

Ovid MEDLINE

- Search in title, abstract, keywords, and subject headings
- Search limited to the years 2012 to 2022
- Search string: ("remote consultations" or "virtual consultations" or "video consultations" or "video visits" or telehealth or telemedicine) AND ("digital health inequalit*" or "digital divide" or inequit* or inequalit* or "health disparit*" or disadvantag*)

Web of Science

- Search in title, abstract, keywords, and subject headings
- Search limited to the years 2012 to 2022
- Search string: ("remote consultations" or "virtual consultations" or "video visits" or telehealth or telemedicine) AND ("digital health inequalit*" or "digital divide" or inequit* or inequalit* or "health disparit*" or disadvantag*)

Google Scholar

- General search in Google Scholar
- Search limited to the years 2012 to 2022
- Search string: ("remote consultations" or "virtual consultations" or "video visits" or telehealth or telemedicine) AND ("digital health inequalit*" or "digital divide" or inequit* or inequalit* or "health disparit*" or disadvantag*)

Sources known to the research team and their networks

- Key studies already on file
- Asking expert colleagues to recommend sources

Forward and backward reference searching

- Identifying highly relevant papers cited by the included papers
- Identifying highly relevant papers that cited the included papers

Results

Description of the Data Set

In this section, we describe the main findings of the empirical studies included in this narrative review (Table 1) as well as key points from commentaries on the theme of inequity of access (Table 2). All the authors of both commentaries and empirical studies offered a list of proposed solutions to digital disparities. These are further summarized and categorized (Textbox 3). Figure 1 presents a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flowchart demonstrating the number of papers identified, included, and excluded.

The 17 peer-reviewed research papers (summarized in Table 1) comprised 1 (6%) systematic review [48], 1 (6%) narrative synthesis [49], 7 (41%) retrospective audits of medical records [56,57,59-62,70], 3 (18%) quantitative surveys [5,50,58], and 5 (29%) qualitative studies based on semistructured interviews [5,51,52,54,55]. A further 37% (10/27) of the articles (Table 2) commented on others' research, reflected on findings from clinical practice, or proposed measures to reduce digital health disparities [11,21,22,63-69].

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Table 1: Characteristics of the empirical studies

Table 1. Characteristics of the empirical studies.

Author, year, and country	Study design	Setting	Sample	Aim of research
Parker et al [48], 2021, United Kingdom	Systematic review	Primary care (any country)	Studies that compared remote and face-to-face consultations (until June 2020)	To explore the impact of remote consultations on use and clinical outcomes in disadvantaged groups
Litchfield et al [49], 2021, United Kingdom	Rapid review and narrative synthesis	UK primary care	Studies that explored various constructs within the 3 domains of the digital divide framework	To identify how this "digital divide" was manifested during the first wave of the pandemic and highlight any areas that might be usefully addressed for practice beyond the pandemic
Chang et al [50], 2020, United States	Quantitative study using rapid response surveys	Small primary care practices in low-income, minority, or migrant areas of New York City	5372 primary care providers contacted in 5 waves	To understand how primary care practices were responding to the COVID-19 pandemic and examine whether telemedicine use and barriers differed based on the socioeconomic characteristics of the communities served
Eberly et al [23], 2020, United States	Quantitative retrospective electronic record audit	Large academic health system	2940 patients who had scheduled a remote consultation	To compare patients who completed telemedicine encounters with patients who were scheduled but did not complete a visit early in the COVID-19 pandemic
Fu et al [5], 2022, United Kingdom	Mixed methods—quantitative survey before and during the pandemic and qualitative data from free-text notes	DOTW[a] United Kingdom—a third-sector organization serving migrants with drop-in clinics	Migrant patients (survey: n=6268; free-text analysis: n=96)	To understand the living conditions, changes in the service user profile, and needs of vulnerable migrants trying to access health care both before and during the pandemic (when DOTW services moved to telephone)
Stevens et al [51], 2021, United Kingdom	Qualitative interview study ("rapid health needs assessment")	Across England	42 interviews with people who experienced social vulnerability and faced barriers to accessing health care	To assess the experiences of socially vulnerable people during the COVID-19 pandemic
Kaihlanen et al [52], 2022, Finland	Qualitative semistructured interview study	National study, mostly via third-sector organizations working with vulnerable groups	N=74, including older adults, migrants, mental health service users, high users of health services, and unemployed individuals	To examine the challenges experienced by vulnerable groups using digital health services during the COVID-19 pandemic
Knights et al [53], 2021, United Kingdom	Qualitative semistructured interview study	Urban, suburban, and rural settings in England	48 clinicians, 16 administrative staff, and 17 migrant patients	To understand the pandemic's impact on recent immigrants and their access to primary health care and implications for vaccine rollout
Alkureishi et al [54], 2021, United States	Qualitative semistructured interview study	Primary care clinics linked to a Chicago academic research center	54 interviews with adult patients and parents of child patients who had web-based visits (March 2020-September 2020)	To understand service users' perspectives on (1) the definition, causes, and impact of the digital divide; (2) whose responsibility it is to address this divide; and (3) potential solutions to mitigate this
Donaghy et al [55], 2019, United Kingdom	Qualitative semistructured interview study	Scotland primary care	Patients (n=21) and primary care clinicians (n=13)	To explore the views of physicians, nurses, and patients who have experienced a web-based consultation
Rodriguez et al [56], 2021, United States	Quantitative cross-sectional study using electronic health record data	Across primary and specialty care in Boston, Massachusetts	Data from 162,102 patients across 1652 primary and specialty care practices	To use data from a large, integrated health system to determine patient, clinician, clinic, and neighborhood characteristics associated with visit modality

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Author, year, and country	Study design	Setting	Sample	Aim of research
Hsueh et al [57], 2021, United States	Quantitative retrospective cross-sectional study	Primary care across Kaiser Permanente, Northern California	955,352 patient portal self-scheduled primary care telemedicine visits	To test the hypothesis that limited English proficiency would be associated with lower video use compared with telephone, especially among patients without previous video visit experience
Yu and Hagens [58], 2022, Canada	Quantitative cross-sectional web survey	Across Canada	2303 older adult Canadians	To investigate socioeconomic disparities in the demand for and use of web-based visits during the COVID-19 pandemic among older adults in Canada
Schifeling et al [59], 2020, United States	Quantitative retrospective, cross-sectional analysis	2 primary clinics in Colorado	192 appointments reviewed	To determine (1) whether video visits had longer duration, more visit diagnoses, and more discussions than telephone visits in the rapid implementation of telemedicine during the pandemic and (2) whether disparities in visit type existed based on patient characteristics
Sachs et al [60], 2021, United States	Quantitative cross-sectional analysis	Oregon Health and Science University	134,274 ambulatory patients	To evaluate for demographic disparities in the use of telehealth modalities
Broffman et al [61], 2022, United States	Quantitative cross-sectional analysis	Electronic platform across the United States	2847 men	To examine the complex relationship between individual and environmental characteristics, broadband access, device type, and telehealth use as it relates to the digital divide
Zachrison et al [62], 2021, United States	Quantitative retrospective analysis	Electronic health record data across the Northeastern United States	N=1,241,313 individual health records	To describe patient characteristics associated with successful transition from in-person to web-based care and video vs audio-only participation

[a]DOTW: Doctors of the World.

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Table 2: Characteristics of the commentaries and editorials

Table 2. Characteristics of the commentaries and editorials.

Author, year, and country	Context	Aim of paper
Nouri et al [22], 2020, United States	Commentary emerging from practice, by clinicians at an academic medical center in San Francisco with 3 clinics including an urban "safety-net" service	Discussion of challenges encountered in ensuring equitable access to telemedicine in the early weeks of the pandemic
Ramsetty and Adams [63], 2020, United States	Editorial by directors of free CARES[a] clinics in South Carolina	To discuss disparities in access to telemedicine among vulnerable patients and evaluate why patients could not access the web-based system at CARES clinics
Mehmi et al [64], 2020, United Kingdom	Commentary on 2 articles, one arguing for the benefits of video consultations and one about health inequalities exposed by the pandemic	Authors criticize a BMJ article for failing to address digital disparities, notably relating to lack of effective internet access in some geographical areas, digital poverty (inability to afford a device or adequate data package), poor digital skills and confidence, refugee and other uncertain citizenship status, and lack of space and privacy at home
Thronson et al [65], 2020, United States	Commentary on an empirical audit showing that the pandemic led to fewer primary care encounters overall and many more conducted remotely	Authors comment that the empirical study failed to capture a key finding from their own clinical experience (supported by audit data): that web-based visits (by video) were rarely taken up by the homeless, limited-English speakers, and those in a "racially diverse safety-net population"
Ramasawmy et al [66], 2021, United Kingdom	Commentary on how the move to digital could increase many well-documented inequities	Summarizes the literature on health inequities, including key reports from the past; warns that these inequities could increase with "digital first" policies; and highlights areas in which existing knowledge and evidence might be translated into cross-sectoral action
Gray et al [67], 2020, United States	Editorial from the Department of Internal Medicine at Ohio State University	To explore the strategies for digital care of vulnerable patients in a COVID-19 world; recommends 5 key strategies to prevent losing touch with vulnerable patients who are alienated by the digital divide
Crawford and Serhal [21], 2020, United States	Commentary summarizing existing literature and offering a new framework	Authors introduce the Digital Health Equity Framework to identify the digital determinants of health and their links to digital health equity; aim is to establish systematic ways to ensure that health inequities are identified and addressed in digital health policies and programs
Rodriguez et al [11], 2020, United States	Opinion piece on digital health equity	To discuss views on how the digital divide should be considered in the implementation of recent policy (21st Century Cures Act)
Eruchalu et al [68], 2021, United States	Commentary emerging from practice (New York City)	To discuss concerns about inequities in digital health access
Gallegos-Rejas et al [69], 2022, Australia	Article proposing a series of practical steps to improve access to telehealth services	Summarizes selected strategies to improve equity of access to telehealth for stakeholder groups: consumers (patients and carers), consumer advocacy groups, health service staff (clinicians), health services (providers), policy makers, funders, and researchers

[a]CARES: Community Aid, Relief, Education, and Support.

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Textbox 3: Summary of solutions to digital disparities proposed by authors of primary studies and commentaries

Textbox 3. Summary of solutions to digital disparities proposed by authors of primary studies and commentaries.

Policy and government

- Finance and governance
  - Extension of temporary waivers by private medical programs for telemedicine beyond the end of the public health emergency declaration
  - Develop targeted payment mechanisms to reimburse providers for helping patients adapt to video-enabled telemedicine
  - Payment parity between insurers for video and audio visits
  - Clarify standards for design of digital health innovations
  - Secure funding for projects that address equity and access to health services (including telehealth) with focus on patient experience and acceptance
- Internet access
  - Improve distribution of video-enabling devices to those unable to afford them
  - Expand device and broadband internet access
  - Install free, bookable, soundproofed video booths in community centers, libraries, or physicians' offices to ensure privacy, with staff available to help with using technology
- Evaluation
  - Identify and monitor disparities in access
  - Incentivize quality improvement programs based on equity-related outcomes

Organization and health system

- Staff training
  - Increase system leadership awareness of barriers to telemedicine
  - Engage community health workers
  - Promote empathy and bedside manner
  - Provide clinical telehealth training to all staff
- Service delivery and choice
  - Offer digital services to all patients
  - Targeted access slots
  - On-the-day appointments reserved for marginalized patients
  - New models of care such as web-based group consultations
- Technology
  - Provide different modality options, including high- and low-technology forms
  - Explore technologies that supplement or simulate face-to-face interactions during web-based consultations
  - Develop device loan schemes to support those who would benefit from telehealth interventions but do not have access to equipment

Patients and citizens

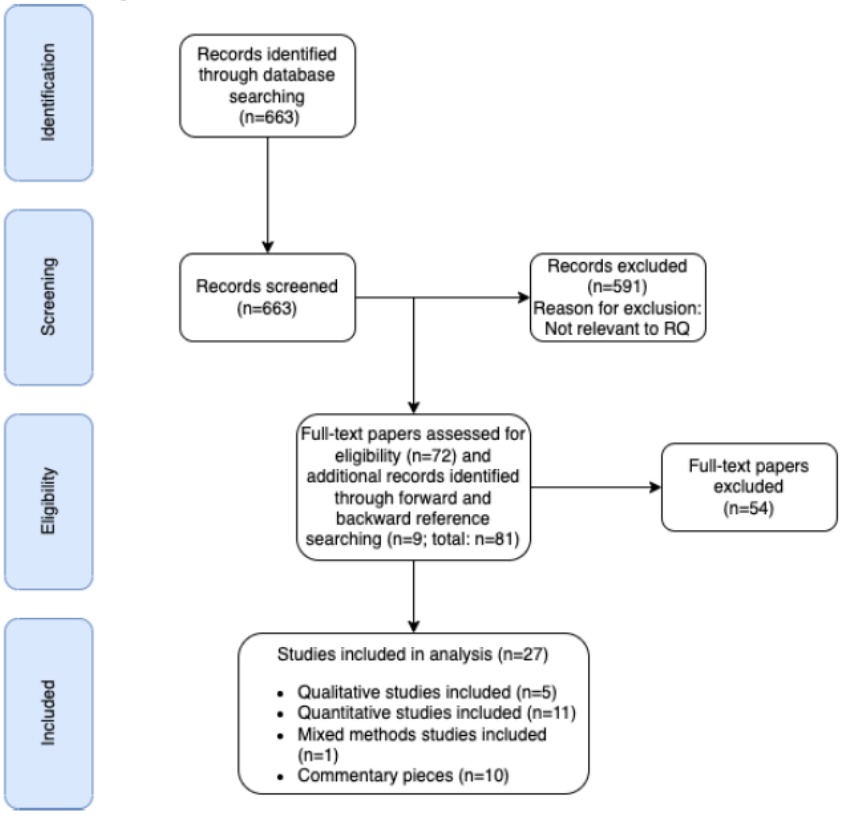
- Translation and communication
  - Provide interpreting services
  - Translation of relevant documents
  - Information and guidance that are more inclusive and relevant to those living in challenging and vulnerable circumstances
  - Use of tailored translated texts and text templates to encourage access
- Education and awareness
  - Develop programs to improve general and health technology literacy
  - Increase public awareness of available resources

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Figure 1: Flow diagram of the search process (adapted from the PRISMA [Preferred Reporting Items for Systematic Reviews and Meta-Analyses] guidelines

- Community engagement and co-design
  - Involve marginalized people in co-design and data stewardship
  - Develop and evaluate evidence-based health care communication protocols for telemedicine practice to help providers create a patient-centered experience

Figure 1. Flow diagram of the search process (adapted from the PRISMA [Preferred Reporting Items for Systematic Reviews and Meta-Analyses] guidelines [47]). RQ: research question.



Descriptive Findings

Formal research studies on this topic in the early months of the pandemic were few in number, mostly small in size, and conducted rapidly. As such, our data set included no in-depth, theoretically informed empirical studies that had set out to explain how different dimensions of disadvantage combined to affect digital health disparities. During 2020, several clinical authors were moved to write urgent editorials and commentaries on the theme of inequity of access as frontline services shifted from face-to-face to remote modes. The summary of the review findings using the Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research checklist [46] to determine confidence can be found in Table 3.

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Table 3: Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) summary of findings

Table 3. Grading of Recommendations Assessment, Development, and Evaluation Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) summary of findings.

Summary of review findings	Studies contributing to the review findings	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence	Explanation of CERQual assessment
Low household income, older age, and ethnic minority background (especially limited-English speakers) were all independently associated with lower uptake of video consultations.	• Fu et al [5] • Moher et al [47] • Parker et al [48] • Litchfield et al [49] • Eberly et al [70] • Rodriguez et al [56] • Zachrison et al [62] • Stevens et al [51] • Donaghy et al [55] • Ramsetty et al [63] • Thronson et al [65] • Gray et al [67] • Eruchalu et al [68] • Mehmi et al [64] • Ramasawmy et al [66]	Some concerns about reflexivity [47-49,51,55,63-66,70], recruitment [5,49,55,65-68,70], and analytical rigor [5,47-49,56,63,64,67,70]	• No concerns—strongly evidenced with qualitative or quantitative data	• No concerns [49,51,62,64,67,68] • Minor concerns [5,47,48,55,56,63,65] • Moderate concerns [66,70]	• No concerns [5,47,49,51,55,56,63-68] • Minor concerns [48,51,62,70]	High confidence	15 studies contributing data with good coherence and few other concerns
Research into digital health disparities, at least in relation to video consultations, has to date been almost entirely descriptive rather than explanatory.	• All studies	Some concerns about reflexivity [47-49,64,65,67,68,70], recruitment [5,49,56,57,70], analytical rigor [5,47,48,56,61,63,66,70], and ethical considerations [56]	• No concerns	• No concerns [49,51,57,62,64,65] • Minor concerns [5,47,48,55,56,61,66,68] • Moderate concerns [63,67,70]	• No concerns	High confidence	All studies contributing data with good coherence and few other concerns
The higher the patient's social vulnerability index, the more likely the consultation occurred by phone instead of video.	• Eberly et al [70] • Thronson et al [65] • Eruchalu et al [68] • Mehmi et al [64] • Ramasawmy et al [66]	Some concerns about analytical rigor, recruitment, and reflexivity [64,66,68]	• No concerns [64-66,68] • Minor concerns—limited sample size and not explored in detail in the study [70]	• No concerns [64-66,68] • Moderate concerns—limited sample size, not sufficiently "rich" data [70]	• No concerns [64-66,68] • Minor concerns [70]	High confidence	Only one study contributing data with moderate concerns about sample size

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Summary of review findings	Studies contributing to the review findings	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence	Explanation of CERQual assessment
Access to digital health services is hampered by insufficient digital or local language skills.	• Parker et al [48] • Rodriguez et al [56] • Hsueh et al [57] • Zachrison et al [62] • Donaghy et al [55] • Ramsetty et al [63] • Thronson et al [65] • Gray et al [67] • Mehmi et al [64] • Ramasawmy et al [66]	Some concerns about reflexivity [48,56,57,64,65,67], analytical rigor [48,56,63,66], and recruitment [57]	• No concerns—strongly evidenced with qualitative or quantitative data	• No concerns [50-52,54,55,57-67] • Minor concerns [48,56]	• No concerns [55,56,63,65-67] • Minor concerns [48,61,62,64]	High confidence	Few concerns
Digitization and web-based consultations amplified existing inequalities in access to health care for many migrants because of a lack of digital literacy and access to technology compounded by language barriers and indirect discrimination.	• Fu et al [5] • Rodriguez et al [56] • Stevens et al [51]	Some concerns about recruitment [5,57], analytical rigor [5,56], and reflexivity [56,57]	• Minor concerns—strongly evidenced with qualitative data but varying experiences in some studies	• No concerns [51] • Minor concerns [5,56]	• No concerns [5,56] • Minor concerns [51]	High confidence	3 studies contributing data with good coherence and few other concerns
Although demand for video consultation services in primary care is likely to rise, for complex or sensitive problems, face-to-face consultations remain preferable.	• Broffman et al [61]	Some concerns about analytical rigor	• Minor concerns given methodological limitations	• Minor concerns	• No concerns	Moderate confidence	Only one study contributing data with minor concerns about analytical rigor

Systematic and Narrative Reviews

Studies published in late 2020 and early 2021 included rapid systematic reviews comparing the impact of face-to-face and remote consultations on a range of predefined variables. Parker et al [48], for example, reviewed quantitative studies from before the pandemic to mid-2020 across socioeconomic and disadvantaged groups in the United Kingdom. A total of 13 studies met their inclusion criteria, and they found that phone consultations were used more by young people of working age, nonimmigrants, and women. Asynchronous web-based consultations were used more by affluent and educated people.

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Findings in relation to socioeconomic status and ethnicity were inconsistent across primary studies, and none of the included studies reported on quality of care or clinical outcomes.

In a rapid review and narrative synthesis of UK primary care by Litchfield et al [49], 9 studies were identified that explored various constructs within three domains of the digital divide: (1) digital access, within which one study described continuing issues with internet connectivity among vulnerable patients in the United Kingdom; (2) digital literacy, where 7 studies described how ethnic minorities and older adults were less likely to use digital technologies for accessing care; and (3) digital assimilation, where one study described how video technologies can reduce feelings of isolation and another described how older Black men were the most likely group to share information about COVID-19 on social media platforms. This review also found a large number of opinion pieces and editorials on digital disparities.

Quantitative and Mixed Methods Studies

Nouri et al [22] audited the uptake of remote consultations by demographic group in 3 clinics at an academic medical center in San Francisco. Their paper included a literature review and empirical data from the authors' own 2 general practices. They showed that the shift to remote consulting had been associated with a decrease in the number of consultations with older adults, those of low socioeconomic status, low–health-literacy groups, limited-English speakers, and Black and Asian minority ethnic groups. The authors offer a framework for addressing inequities, which includes goals such as improving digital literacy and resource barriers, removing health system–created barriers, and advocating changes to support sustained and equitable access.

Rodriguez et al [56] also found lower use of video versus telephone visits among older Black, Hispanic, and Spanish-speaking patients, which extends previous findings that showed decreased telemedicine use among patients with LEP [70]. This study also found that clinicians and practices largely drove this variation in the use of video versus telephone visits, suggesting an important target for intervention.

Hsueh et al [57] similarly found that patients with LEP chose video consultation options less often than those without LEP. However, they also found that, once patients with LEP had video visit use experience, they were not different from patients without LEP in likelihood to reuse video visits.

The survey of small primary care providers in New York City by Chang et al [50] uncovered the percentage of encounters undertaken by telephone, video, or web-based patient portal or face-to-face as well as barriers to remote consultations. A key finding was that the higher a patient's social vulnerability index, the more likely the consultation occurred by phone instead of video. This was similarly echoed by Broffman et al [61] and Zachrison et al [62], who also found that patients of color, who have historically experienced the greatest access disparities, are significantly more likely to use smartphones to access telehealth compared with a computer. This provides insight into the extent to which low-bandwidth telehealth is accessible under certain conditions.

Although Chang et al [50] conducted a relatively small survey with a low response rate (exact figures not given), their findings align with those of other studies. For example, a retrospective case note review of 80,000 American patients from March 2020 to May 2020 who had completed a telemedicine visit (from a total of 140,000 who had scheduled such a visit) found that, overall, 46% of teleconsultations were by video and 54% were by phone [70]. Factors independently associated with fewer completed telemedicine visits included older age, preference for languages other than English, Asian ethnicity, and Medicaid insurance (indicating low income). Higher rates of telephone consultations were associated with female sex, Black or Latino ethnicity, older age, and lower household income. This was also the case with the study by Schifeling et al [59], where more than half of the older patients did not use video visits, especially if they were from racial or ethnic minority backgrounds or Medicaid beneficiaries, and with the cross-sectional analysis by Sachs et al [60] showcasing seniors, non-English speakers, and Black patients to be more reliant on telephone than video for care. Although these large studies provided important quantitative information about individual risk factors for a failed telemedicine visit (and for a telephone visit over a video visit), they were not designed to explore the interaction between different independent variables. Further theoretical explanations of *how* different risk factors, individually and in combination, contributed to digital inequities in certain vulnerable population groups are necessary to fully understand these data.

Similarly, a mixed methods study based in the United Kingdom by Fu et al [5] found that there was a reduction in video consultations in older users, undocumented migrants, and individuals with poor health, which could mean that those in the greatest need were being excluded, perhaps because of the digital divide evidenced in some groups of migrants before the pandemic. Yu and Hagens [58] echoed similar findings in older adults in Canada, with results highlighting socioeconomic disparities among older adults that could potentially explain this trend, including lower income and education levels that may act as barriers for older adults to acquiring the skills and technologies necessary to use more complex solutions such as video. As Fu et al [5] stated, "those in the greatest need of health care appeared to be less able to access remote services."

Qualitative Interview Studies

The qualitative rapid health needs assessment by Steven et al [51] across the United Kingdom found that all groups studied experienced challenges in accessing and following COVID-19 information and government guidance, attributed variously to lack of access to digital technology, lack of translated resources, absent or inadequate tailored support, and inadequate housing. Changes in the organization and delivery of health care services, including closure of outreach and drop-in services, remote consultations, and web-based patient registration, worsened existing barriers to accessing health care.

The semistructured interview study by Kaihlanen et al [52] sought to explore and explain the challenges related to the use of digital health services in Finland through the lens of a digital health equity framework. They found that access to digital health

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services was hampered by insufficient digital or local language skills.

Knights et al [53] found that digitization and web-based consultations appeared to have amplified existing inequalities in access to health care for many migrants in Finland because of a lack of digital literacy and access to technology compounded by language barriers and indirect discrimination (eg, telephone-only booking services become inaccessible to those without a phone). Health care professionals perceived low digital literacy among migrants and were concerned that web-based consultations resulted in difficulties building trust and risked missing safeguarding cues. These semistructured interviews were conducted by phone, and the sample of migrants was small and skewed; the study was not designed to capture individual, contextualized narratives, and findings were largely impressionistic.

The qualitative study by Alkureishi et al [54] of patient perspectives on the digital divide in US primary care settings explained the concept to participants as follows: "there are people that have and can use technology like computers and the internet. But there are also people that do not have or cannot use this kind of technology. So there is a split or a divide, between people that have and know how to use technology, and those that do not" [61]. These authors found that patients were very aware of the digital divide and described the impacts beyond health care, including employment, education, community and social contexts, and personal economic stability. These participants viewed access to technology and digital skills as important influencers of health disparities.

The clinician-patient relationship was a theme in a qualitative study of patients' and clinicians' experiences with video consultations in general practice in Lothian, Scotland [55]. Although the sample size of this study was comparable with that of the study by Knights et al [53], purposive sampling was used in this study to include both sexes, a range of ages and socioeconomic statuses, and those with and without technical problems during their video consultations. The study stated that although the demand for video consultation services in primary care is likely to rise, for complex or sensitive problems that require *touch*, face-to-face consultations remain preferable for patients and clinicians.

Commentaries

A commentary from 2 directors of free clinics in the United States described how their patients were unable to access their web-based system and offered the solution of a combination of technology and face-to-face services to help address some of these disparities [63]. Their discussion highlighted various upstream societal and social factors (such as mistrust of technology, internet availability regionally, and housing insecurity, to name a few) that were being exposed across hospital systems in the country at a critical time in a public health crisis with no measures in place to address them.

Mehmi et al [64] further discussed how they expected video consultations to increase health inequality if the correct infrastructure is not put in place. Thronson et al [65] considered the underlying cause of this "pandemic of health care inequity" [50] to be access—the disadvantaged simply cannot access telemedicine or home monitoring tools. Ramasawmy et al [66], by contrast, highlighted 3 areas in which existing knowledge and evidence can be translated into cross-sectoral action to avoid further ethnic and digital health inequalities: data and measurement, improved communication, and embedded equality impact.

Gray et al [67] offered 5 strategies to prevent the exacerbation of health disparities for low-income, rural, disabled, ethnic minority, and older adult populations in the United States. They considered sociocultural barriers to digital inclusion, including limited digital skills, low health literacy, disability, low income, and LEP, and structural barriers such as geographic isolation, broadband capacity, and technical hardware.

Crawford and Serhal [21] offered a new digital health equity framework to identify the digital determinants of health and their links to digital health equity, which requires additional evidence and empirical application. Gallegos-Rejas et al [69] proposed practical steps to reduce the digital divide and encourage equitable access to telehealth through improvements in digital health literacy, workforce training in clinical telehealth, co-design of new telehealth-enabled models of care, change management, advocacy for culturally appropriate services, and sustainable funding models.

Another 20% (2/10) of the commentaries, by Rodriguez et al [11] and Eruchalu et al [68], also explored strategies for the digital care of vulnerable patients during the pandemic and further discussed concerns about inequities in digital health access. They reiterated the finding that ethnic minority patients had significantly lower chances of attending telemedicine visits because of inequities in broadband access, lack of available technology, and mistrust of health care professionals.

All the authors of the aforementioned studies offered a list of proposed solutions to digital disparities. These are summarized and categorized in Textbox 3.

Although the changes proposed in Textbox 3 have some face validity, they remain largely untested.

A reviewer of a previous draft of this paper suggested that the taxonomy offered in Textbox 3 (which was our own way of making sense of the data we extracted from papers in our sample) reflected a particular theoretical perspective, namely, the social-ecological framework, which "considers the complex interplay between individual, relationship, community and societal factors" [71]. We agree that this lens could potentially provide an overarching framework within which to synthesize middle-range theories in a future paper.

Our second search identified 3 candidate theories that helped explain the effects of multiple disadvantage identified in our data set: fundamental cause theory, digital capital theory, and intersectionality theory, all of which are discussed in the next section.

The fundamental cause theory and intersectionality theory were the most common theories cited in general health disparity research; digital capital theory was mentioned in studies and commentaries in digital disparity research. Various other

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theories recurred in the literature but were unhelpful in analyzing our data set. We found the aforementioned theories helpful as (1) intersectionality worked as an overall guiding principle for understanding how people's lives and characteristics stem from and lead to multiple axes of disadvantage; (2) digital capital theory helped us understand how these axes of disadvantage played out in terms of access to and use of digital resources; and (3) fundamental cause theory sensitized us to the pervasive impact of poverty, which operates through multiple intermediate mechanisms.

Discussion

Principal Findings

Findings from our narrative review of digital health disparities in relation to video consultations highlighted that the available literature reports substantial digital disparities. Formal research studies on this topic in the early months of the pandemic were few, mostly small, and rapidly conducted. Research in relation to video consultations to date has been almost entirely descriptive, and our data set included no in-depth, theoretically informed empirical studies that were able to explain how different dimensions of disadvantage combined to affect digital health disparities.

Our narrative review, which focused on video consultations, produced 3 key findings in particular. First, the literature was sparse, comprising only 7% (2/27) of reviews and 63% (17/27) of empirical studies, most of which were published since the start of the COVID-19 pandemic in 2020. Of these studies, most (25/27, 93%) were relatively small and undertaken quickly and under pressure during the pandemic, for example, qualitative studies that comprised one-shot semistructured interviews on convenience samples.

The second finding is that, despite the limitations of the literature, substantial digital disparities were reported [5,22,50-53,56,57,59]. Low household income, older age, and ethnic minority background (especially limited-English speakers) were all independently associated with lower uptake of video consultations [5,50,52,53,58,60,61]. Proposed explanations include lack of digital devices and infrastructure, low health and digital literacy, and inability to understand written resource materials [11,65,66,68]. The disparities found were sometimes dramatic and contrasted strikingly with studies of video consulting undertaken before the pandemic. These studies had framed this as an innovative service model that might increase service efficiency.

The third major finding was that research on digital health disparities, at least in relation to video consultations, has to date been almost entirely descriptive rather than explanatory. All the quantitative studies (audits and surveys) in our data set were designed to generate knowledge of the *association* between particular patient characteristics and the uptake and outcome of video consultations. Although such knowledge is essential in identifying a problem, there is a risk that such studies reduce the complex and interacting aspects of disadvantage to simple variables. Variable-focused research has been criticized by social scientists for oversimplifying context, removing key content (eg, unmeasured variables), overlooking historical path dependencies, and failing to explore how different variables combine and unfold over time to produce complex and sometimes unpredictable outcomes for individuals [72,73]. Explanations generated from such studies and from the superficial and qualitative designs included in our data set tended to couch findings in terms of *barriers* and *enablers*, which were depicted as having more or less fixed effects (negative and positive, respectively) on outcomes. The result is a body of literature that is desperately in need of theorization; for example, none of the 63% (17/27) of empirical studies cited any theory of disadvantage, and none of the well-intentioned ideas listed in Textbox 3 are couched in a well-developed theory of change.

Descriptive, variable-centered research is common when studying health disparities as it allows the so-called social determinants of health (eg, income, education, and gender) to be manipulated by quantitative techniques such as aggregation and correlation. However, such approaches are inherently problematic as they require research participants to be placed into categories that can then be manipulated as variables (*older adults*, *those with low income*, and *ethnic group X*), and findings tend to be presented in terms of what has been called "single-axis" analyses [25].

As Zheng and Walsham [74] have argued, these notions and categorizations do not consider the multifaceted and complex interplay of factors that contribute to digital disparities, nor how a characteristic that disadvantages an individual in one setting may have little adverse impact or even a positive impact in another. In terms of multiple disadvantage, for example, limited-English speakers are more likely to be older and lack basic digital devices and skills [75]. Although these factors may in some cases be mutually reinforcing, *some* older adults from *some* minority ethnic groups may be more likely than White British older adults to live in intergenerational households with good internet connection and family member support—hence, a characteristic (non-White ethnicity) that acts as a *barrier* in one setting may act as an *enabler* in another.

In sum, the current literature on digital health disparities is not only sparse but also in need of richer theorization to generate *explanations* of how different dimensions of disadvantage interact. We have argued elsewhere that the overemphasis in evidence-based medicine on empirical research at the expense of explanatory theory on the *causes* of phenomena (what some have called *EBM+*) may produce impoverished findings [76]. This builds on earlier work emphasizing the crucial importance of theory in selecting *which* hypotheses to test and how when studying disparities [77,78].

We have begun to explore the wider literature to identify theories of multiple disadvantage that have a potential bearing on digital health. In the following sections, we consider the 3 most relevant theories that emerged in our search to date: fundamental cause theory, digital capital theory, and intersectionality theory.

Fundamental Cause Theory

Link and Phelan [79] define a fundamental cause of health disparity as anything that involves resources that influence the

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extent to which people are able to avoid risks of mortality and morbidity. Socioeconomic status operates as a *fundamental cause* as it (1) involves access to resources (in particular, wealth, income, education, and racial privilege) that allow individuals to avoid diseases and their consequences and (2) affects multiple risk factors (eg, health literacy, quality of medical care, and diet) and disease outcomes that change over time. In short, those with financial resources and high social status can use these resources to avoid disease, seek treatment, and adopt healthy behaviors. The higher risk of heart disease in those of lower socioeconomic status, for example, can be explained by a combination of less access to money, health care, healthy food options, opportunities to exercise safely, and social support. These fundamental *upstream* disparities operate through multiple mediating factors at both the individual level (eg, diet, physical activity, and attendance at screening programs) and the metabolic level (eg, cholesterol, blood glucose, and stress hormones). An intervention that successfully changes one *risk factor* (such as BMI) will have limited impact as the fundamental cause will still operate through other mediating factors. This theory is often invoked when authors talk of the structural determinants of health disparities [80-82]. Although human behavior, lifestyle *choices*, knowledge, and beliefs may *mediate* the link between social determinants and adverse health outcomes, these factors are inadequate as explanatory *causes* of disease.

Fundamental cause theory offers a plausible explanation for the powerful and persistent link between multiple disadvantage and digital disparities. Applied to digital health disparities, it would depict the fundamental cause of these disparities as low socioeconomic status and that this cause operates through *flexible resources* such as access (or lack thereof) to money, knowledge, power, prestige, and beneficial social connections. A key hypothesis based on this theory is that addressing any one proximal cause—for example, by supplying a person with low income with a digital device—will not solve the fundamental problem as, although this *intervening mechanism* may change one *risk factor* (money in this case), it may have limited impact overall as the fundamental cause will continue to cause disparity through other mediating factors such as lack of knowledge (ie, not knowing how to use the digital device given).

Digital Capital Theory

Bourdieu [83] applied the idea of capital to signify the internal (eg, abilities and attitudes) and external (possessions and attributes) resources that people mobilize to achieve their goals in social life. He highlighted cultural capital as a form of capital that can be accumulated and transformed into other capitals. Digital capital is an extension by Ragnedda and Ruiu [84] of the theory of cultural capital by Bourdieu [83], made up of "both digital competencies and digital technologies." They argue that digital capital is a form of capital in its own right and is essential for building social, economic, and cultural resources in the digital world that we live in today. Disparities involving digital skills originate in inequalities of access but are mediated by orientations that can only be understood in relation to total life contexts (eg, education, income bracket, age, location, and social support all influence a person's access to digital technologies and the level of digital skills that they can acquire) [85]. Digital capital is a relatively new concept that scholars have begun to explore empirically using various methodological approaches [86,87]. Digital capital may be estimated, for example, at the individual level by assessing a person's digital literacy and skills, at the organizational level by measures of digital infrastructure (including the digital competence of personnel), and at the locality level in terms of the quality of the area's IT infrastructure.

Digital capital theory points us to the hypothesis that traditional forms of capital (such as economic, cultural, and social capital) are converted into digital capital and vice versa and provides the conceptual tools to examine how and to what extent this occurs, thereby illuminating how social inequality relates to digital inequality. If digital spaces—because of social inequality and underlying power structures—become increasingly stratified, there will be significant impacts on how individuals from differing backgrounds gain accumulated forms of capital through the digital realm. In other words, digital capital theory seems to offer an explanation as to why people who already experience health and other disparities find that these disparities widen when services are digitized.

Intersectionality Theory

The Black feminist scholar Kimberle Crenshaw [25] critiqued traditional studies of Black women's oppression for offering what she called "single-axis" analyses focusing on either race or gender but failing to integrate the 2 categories. Subsequent authors have extended the original concept of race-gender intersectionality by Crenshaw by adding categories, including nationality, class, age, sexual orientation, and disability [88,89], revealing "crosscutting and mutually reinforcing systems of domination and subordination" that "may construct multiple, uneven and contradictory social patterns" according to Anthias [90]. Intersectionality has been invoked to explain disparities in outcomes within minority ethnic groups in the context of the pandemic [91]. Intersectionality has been studied in many different ways [39]. Most relevant to our own data set is what we call *lived-experience* intersectionality research, which seeks to elucidate (through qualitative methods such as narrative interviews, ethnography, and arts-based methods) the complex and unique experiences of individuals whose identity crosses the boundaries of traditionally constructed groups [40,89].

Intersectionality theory applied to digital health disparities suggests the hypothesis that each individual's identity and lived experience is unique and multifaceted and that individuals will use (or will not use) digital services based on their own unique identity and circumstances—rather than as members of a single category such as *asylum seeker*, *Black individuals*, or *older adults*. This theoretical approach would support detailed small-scale case studies to see how different aspects of disadvantage interact in individual lives.

Strengths and Limitations

Although our narrative approach to this review allowed for a comprehensive overview of the wide range of literature spanning digital health disparities, there was no evaluation of selected articles for validity. Nonetheless, quality was not jeopardized

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as the methodology by Boell and Cecez-Kecmanovic [44] for hermeneutic review, an explicit methodology and accepted standard, was used alongside other methodological guidance for quality judgment. Narrative reviews are also often criticized for the subjective weighing of the studies chosen for the review. We sought to mitigate this through discussion between coauthors and the study team for an investigation focused on using remote care as part of a wider study [28]. To account for any additional selection bias on the authors' part, all the included studies were second reviewed for relevance.

A major limitation of the review was the sparse and undertheorized nature of the primary literature. We tried to remedy this by beginning to explore the wider literature to identify theories of multiple disadvantage that have a potential bearing on digital health. It should be noted that the 3 theories that we describe in the discussion are not a result of an exhaustive search, and there may be others of relevance. We plan to develop this stream of theoretical research in a future paper.

Conclusions: Suggested New Research Directions

Studies published since the COVID-19 pandemic began have shown that the move to digital forms of access and care provision has widened health disparities.

This recent literature contrasts strikingly with research on digital health services undertaken before the pandemic, which was largely focused on demonstrating noninferiority of digital modalities in terms of acceptability, safety, and subsequent use of services, often using randomized controlled trials with highly selected samples (stable, compliant, digitally equipped, and digitally confident patients recruited mostly from outpatient settings). The denominator population for digital health research expanded rapidly when such services became the default option for *everyone* for infection control reasons [92], revealing the (previously largely hidden) problem of wide digital disparities linked to multiple aspects of disadvantage. However, as this review has shown, in-pandemic research to date has been descriptive and superficial and has revealed few insights into how digital disparities emerge and play out both within and across categories of disadvantage.

This lack of attention to multiple disadvantage in digital health research to date represents both a unique opportunity and an important challenge for us to engage more curiously and theoretically with this core subject matter. We now need to turn our attention to specifically developing and using interdisciplinary theories of health disparities and technological innovation to inform our studies. Theories, including (but not limited to) fundamental cause theory, digital capital theory, and intersectionality theory, can provide a distinctive foundation for digital health inequality research and serve to guide ongoing research on this topic area. We suggest 3 complementary empirical approaches, as evidenced by previous studies that have conceptualized the aforementioned theories of health disparities.

First, quantitative studies using electronic patient record data should move beyond the current focus on single-axis analyses framed around a reified notion of the *digital divide* to produce category-focused intersectionality research. Such studies would need to be large, prospective, and hypothesis-driven to explore questions about the interaction between different categories of disadvantage; for example, how do gender, education, and ethnicity influence digital disparities in older people? The Digital Health Equity Framework [21] or the eHealth Equity Framework may provide a frame to think comprehensively about multifaceted approaches [93]. Using the eHealth Equity Framework approach in an initial scoping exercise, for example, can illuminate the proximal factors that need to be incorporated to address health inequities while also drawing attention to possible unintended consequences through distal interactions.

Second, qualitative studies of disadvantaged patients' digital access and experiences should move beyond the one-shot, theory-free semistructured interview on a convenience sample to achieve richly theorized, in-depth longitudinal studies of lived experience in maximum-diversity samples within particular categories of intersectionality. As noted previously, extended narrative interviews and ethnographic techniques should focus on the unique and particular experiences of individuals. Through rich description and the use of literary devices (eg, metaphor and dramatization), such lived-experience studies will reveal how multiple intersections play out over time in members of a particular broad category of intersectionality (eg, people who have low income, are older, and with limited English and multiple health needs) and also, importantly, illustrate the wide diversity of experiences within that group.

Third, based on the findings of this review as well as on the solutions to digital disparities proposed by the authors of primary studies and commentaries, we suggest adding a co-design component to research. Heard et al [40] proposed adapting lived-experience studies to inform the design of inclusive policies and interventions that can take account of the multiple social, cultural, and political contexts within which individual lives are lived and choices are contemplated. They cited the Intersectionality-Based Policy Analysis Framework as a tool to inform the design of such approaches [94]. The framework provides guidance and direction to address the challenges of health inequities across diverse populations in 3 ways. First, it provides an innovative structure for critical policy analysis. Second, it captures the different dimensions of policy contexts, including history, politics, everyday lived experiences, diverse knowledge, and intersecting social locations. Finally, it generates insights, knowledge, policy solutions, and actions that may not be fully captured through equity-focused policy frameworks. This systematic approach will help in designing policy responses that mitigate instead of increase the potential unequal effect of this phenomenon.

Health disparities are already wide and (in many countries) increasing. As society becomes increasingly digitized, the problem is likely to escalate if intersectional disparities are overlooked. This paper, which is intended as the starting point for a wider debate, has outlined a novel and ambitious research agenda. We invite others to help address and extend it.

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Conflicts of Interest

TG is a member of Independent Sage. All other authors declare they have no conflicts of interest.

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Abbreviations

LEP: limited English proficiency
PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses
SANRA: Scale for the Assessment of Narrative Review Articles

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2.2 Updated review

Recent research has continued to document persistent inequities in access to and use of digital health services, particularly video consultations, among patients facing multiple intersecting forms of disadvantage. This updated review synthesises key findings from studies published since 2022, building on the foundation established in earlier work.

2.2.1 Persistent digital disparities

Multiple large-scale studies have reinforced previous findings of lower video consultation uptake among socioeconomically disadvantaged groups. For example, Balakumaran et al. [45] analysed over 5 million primary care consultations in England during 2022, finding video consultation rates were 62% lower in the most deprived areas compared to the least deprived. This disparity persisted even after controlling for factors like age and pre-existing conditions.

Similarly, Bharadwaj et al.[46] examined telehealth use across 12 surgical specialties, observing significantly reduced video visit uptake for Black patients (adjusted odds ratio 0.67, 95% CI 0.61-0.74), Medicare beneficiaries (AOR 0.58, 95% CI 0.53-0.64), and those with limited English proficiency (AOR 0.41, 95% CI 0.36-0.47). Notably, these disparities were more pronounced for video visits compared to telephone.

Even among providers with high overall video consultation rates, disparities persist. Grady et al. [47] analysed over 200,000 cardiology visits at a large US academic medical centre, finding significantly lower video engagement among Black patients (54% vs 72% for white patients, $p<0.001$), Hispanic patients (59% vs 72%, $p<0.001$), those over 65 (48% vs 76% for under 65, $p<0.001$), and Medicaid recipients (51% vs 74% for privately insured, $p<0.001$). This aligns with

the disparities noted in my narrative review highlighting how low household income, older age, and ethnic minority background were independently associated with lower uptake of video consultations.

A recent qualitative study by Knotnerus et al. [48] further underscores the need for more theoretically grounded research in digital health disparities, as highlighted in my narrative review. The authors conducted semi-structured interviews with 18 older adults (aged 65+) to explore their experiences with a novel digital health platform in Dutch general practice. While the study provides valuable insights into the perceived advantages and disadvantages of digital health tools among older patients, it notably lacks a robust theoretical framework to explain the observed phenomena. The study identified various factors influencing older adults' experiences with digital health, including digital skills, education level, age, and expectations of healthcare. However, without a strong theoretical foundation, these findings remain largely descriptive.

2.2.2 Multifaceted and intersecting barriers

Recent qualitative work has provided deeper insights into the complex, intersecting barriers underlying these disparities. The digital divide, stemming from lack of broadband infrastructure and lower digital literacy in certain low-income, rural, and ethnically diverse communities, continues to be a key challenge [49–51]. Other obstacles include technology complexity, lack of trust and awareness, cost, and language barriers [50,52]. Importantly, these hurdles often intersect, compounding disadvantage. Hawley et al.[53] conducted in-depth interviews with 50 patients from groups with low video consultation uptake, identifying several key themes. Digital access and skills emerged as a significant barrier, with many participants lacking reliable broadband, appropriate devices, or confidence in using video platforms. This issue was often

compounded by limited health and digital literacy, as participants struggled to understand health information and navigate digital interfaces. Language and cultural factors also played a crucial role, particularly for non-native English speakers who described challenges in navigating English-language platforms and communicating nuanced health concerns via video. Trust and privacy concerns were prevalent, with some participants expressing discomfort with video technology, worrying about data security, or preferring in-person interaction for sensitive health issues. Finally, practical and environmental constraints, such as lack of private space at home, caregiving responsibilities, and work schedules, often precluded participation in video visits. These findings highlight the complex interplay of factors contributing to low uptake of video consultations among certain patient groups.

Seuren et al. [54] conducted a detailed analysis of video consultations in physiotherapy settings, identifying two key challenges: (1) managing safety and clinical risk, and (2) making exercises and movements visible. Their study revealed that while video consultations can work well, they require tailored communication strategies to overcome these challenges. This aligns with the findings of Hawley et al. [47], who identified digital access and skills as significant barriers, often compounded by limited health and digital literacy.

Moore et al. [55] further explored the phenomenology of perception and the clinical gaze in video consultations. Their study found that video consultations not only involve creative adaptation to a virtual clinic but also change how professionals and patients see and are seen. This transformation of the clinical gaze has significant implications for trust-building and maintenance, especially for patients from marginalised communities who may already have a tenuous relationship with healthcare systems.

2.2.3 Emerging solutions and interventions

In response to these persistent disparities, researchers have begun evaluating targeted interventions. Udegbe et al. [49] conducted a systematic review of 18 studies testing strategies to improve digital health equity. The authors identified several promising approaches to address digital health disparities. They highlighted the value of community co-design, which involves engaging target populations in developing and refining digital health tools and interfaces. Cultural adaptation was also emphasised, with a focus on tailoring content, imagery, and language to specific cultural contexts. The researchers recognised the importance of digital skills training, suggesting hands-on support to build confidence with video platforms. Infrastructure initiatives were proposed, including partnerships with community organisations to provide devices and Internet access. Additionally, the authors advocated for blended care models that offer flexible combinations of in-person, video, and phone options. Throughout their analysis, the authors emphasised the importance of multifaceted, context-specific approaches rather than one-size-fits-all solutions, acknowledging the complex nature of digital health disparities and the need for tailored interventions to address them effectively.

One innovative model showing early promise is the facilitated telemedicine program evaluated by Daniels et al.[56]. This initiative utilised community health workers to bring mobile telehealth units directly to patients' homes in underserved areas. In a quasi-experimental study of 1,200 patients, the program significantly increased video visit completion rates among those impacted by adverse social determinants of health (from 23% to 68%, $p<0.001$).

Several health systems have also reported success using human-centred design methods to address digital divides. For instance, researchers in Ontario, Canada [57] used patient journey

mapping to visualise and understand patients' experiences with virtual care services across mental health, chronic care, and surgical care settings. Their findings highlighted the importance of patient choice in selecting virtual care modalities, the need for improved coordination among hospital systems, and the value of patient journey mapping as a low-effort tool to gain operational insights from the patient's perspective.

2.2.4 Theoretical frameworks and future directions

Organisations have also employed human-centred design to understand and address digital divides, engaging diverse stakeholders, rapidly prototyping solutions, and iteratively adapting based on feedback [58]. This aligns with my narrative review's call for developing and evaluating evidence-based health care communication protocols for telemedicine practice. Blended care models, staff/volunteer support, securing virtual care infrastructure for patients, focusing on health/digital literacy, and advocating for enabling policies are other key approaches [59] that resonate with the recommendations outlined in the narrative review.

While much recent work remains descriptive, some researchers have begun applying more robust theoretical frameworks to conceptualise digital health disparities.

Szymczak et al. [59] proposed an integrated model depicting access as dynamic interactions between individuals, health systems, and broader socio-political contexts over time. This framework emphasises how digital innovations like video visits may have divergent effects on access and quality for multiply disadvantaged groups, depending on how they interact with existing structures and individual resources.

As the field of digital health equity research matures, there is growing recognition of the need for more nuanced, theoretically-grounded approaches.

Collectively, recent literature on this topic highlights the multifaceted nature of digital health inequity, with barriers operating at individual, organisational, and structural levels. An intersectional lens considering the complex interplay of factors like gender, race/ethnicity, age, socioeconomic status, and digital literacy is critical for fully characterising disparities. Further work is needed to unpack precisely how multiple dimensions of disadvantage intersect to influence digital health inequities and to develop and evaluate interventions explicitly grounded in intersectionality frameworks. My narrative review establishes an important foundation for this research agenda, which continues to evolve with the latest evidence.

Chapter 3 – Methodology

3.1 Introduction

This chapter outlines the philosophical, theoretical and methodological foundations that underpin this research study on how multiple types of disadvantage intersect to contribute to digital health disparities in the uptake of remote consultations. The study is grounded in a constructivist ontology and subjectivist epistemology, recognising that knowledge and understanding are constructed by individuals based on their unique perspectives and experiences.

The previous chapter's narrative review highlighted the lack of theorisation in digital health disparities work to date and illustrates the importance of using theory to guide both the empirical and non-empirical components of my study. In this chapter, I will first present three key theoretical frameworks: intersectionality, digital capital, and critical race theory. Following this presentation, I will then highlight how these theories complement each other in providing a comprehensive lens for examining how older age, low socioeconomic status, and limited English proficiency converge to shape access to and experiences with remote consultations. Intersectionality serves as an overarching framework for analysing the interlocking systems of oppression, while digital capital theory provides insight into the role of technology access and digital competencies. Critical race theory further highlights how racial inequities are embedded within the structures and practices surrounding health.

Methodologically, a qualitative narrative inquiry approach is employed to centre disadvantaged people's stories about their lived experiences. Narrative methods align with the study's philosophical underpinnings and captures individuals' nuanced, contextual realities of navigating

multiple disadvantage when engaging with remote care. The chapter also discusses strategies for ensuring the quality and rigour of the research.

3.2 Ontological and epistemological assumptions

Ontology is defined by Crotty et al [60] as the study of what exists. It is concerned with "what kind of world we are investigating, with the nature of existence, with the structure of reality as such" (p.10). Guba and Lincoln state that the ontological assumptions are those that respond to the question 'what is there that can be known?' or 'what is the nature of reality?'[61].

As noted above, my study breaks from mainstream biomedical tradition in the study of digital health disparities (which have mainly been grounded in realist, objectivist assumptions and employed quantitative methods). In my quest to augment knowledge from those studies, I have chosen a different ontological position which is grounded in the assumption that to study human experience is to study a social world of meanings. In this world, researchers assume that the world is populated by human beings who have their own thoughts, interpretations and meaning-systems. Meaning-systems are constructed and enacted by social groups; the study of these processes can be referred to as 'constructivist' and 'performative' respectively. Constructivist research studies how people create meanings; performative research considers how their actions bring particular meanings and other realities into being. Constructionism (or constructivism) is defined by Crotty et al [60] as the view that all knowledge and therefore all meaningful reality is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context.

Relativism on the other hand is based on the assumption that truth and knowledge are subjective and context-dependent [60]. It suggests that there are no universal or objective truths, but rather that truths are relative to individuals, cultures, or societies [62]. I do not hold the extreme relativist position that all views (even those that are readily disproved such as the flat earth theory) are equally valid. Rather, I position myself as a 'weak social constructivist', by which I mean I recognise that social reality is in part constructed by people through their own interpretations of reality, and it is these interpretations that my empirical work explores.

Weak social constructivism provides a foundation for understanding the complexity and nuanced nature of digital health disparities. By adopting this stance, I acknowledge that the concept of health disparities in the digital realm is not an absolute, universal phenomenon, but rather, is contingent upon various contextual factors. My constructivist position recognises that different individuals and communities may have diverse perspectives and experiences, influenced by factors such as socio-economic status, age, and language proficiency. It acknowledges the existence of multiple realities, shaped by subjective interpretations and cultural contexts, which influence how individuals navigate and interact with digital health services. In adopting this stance, I understand the need to examine the situated nature of digital health disparities, respecting and valuing the diverse perspectives and experiences of individuals facing disadvantage.

My chosen ontological stance requires me to explore the corresponding epistemological framework that underlies my research inquiry. Epistemology is a way of understanding and explaining how we know what we know [60]. Epistemology is also concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate [63]. My epistemological position follows from

the ontological assumption that knowledge and understanding are subjective and constructed by individuals based on their unique perspectives, experiences, and interpretations—hence it focuses on gathering people's accounts of their own experiences and interpretations. It emphasises the importance of personal beliefs, feelings, and perceptions in shaping one's understanding of reality [64]. In this epistemological framework, while objective aspects of reality exist, our understanding and knowledge of them are significantly shaped by human subjectivity. Knowledge is seen as a product of both objective reality and individual interpretation, influenced by factors such as culture, social context, and personal experiences. This approach acknowledges that while there are objective truths, our access to and comprehension of them are mediated through subjective lenses, allowing for multiple valid perspectives on the same phenomena [60]. Subjectivist epistemology in weak social constructivism recognises that while objective phenomena exist, our understanding is significantly shaped by individual perspectives. It emphasises the importance of considering multiple viewpoints to comprehensively grasp a given phenomenon [64]. This approach acknowledges that while objective realities exist, our access to them is mediated through subjective lenses. Thus, it values different individuals' perspectives as valid and valuable contributions to our understanding of the subject matter, while acknowledging an underlying reality that we aim to understand.

My research question is informed by my ontological, epistemological, and theoretical approaches, which align with a constructivist ontology and subjectivist epistemology as described above, making them appropriate for my research. I am trying to answer the question: **How do multiple types of disadvantage intersect in their contribution to digital disparities in the uptake of remote consultations among older, low-income, limited-English speaking individuals?** by presenting the lived experiences of individuals across multiple axes of intersectionality in terms of how and why they access (or do not access) digital health services. In this study, I approach

gaining knowledge about experiences with remote consultations by examining how meaning is constructed and transmitted within social and cultural contexts. This allows me to explore how individuals interpret and make sense of their interactions with digital health services, considering the influence of their unique backgrounds and circumstances. I am not seeking to find a universal or external truth; rather, I seek to tease out and explore what is meaningful to a sample of particular individuals and synthesise these multiple 'truths' to provide insights for those who try to meet the needs of the digitally excluded. In the following section, the theoretical framework of this research will be expounded, focusing on the examination of intersectionality, critical race theory and digital capital as key theoretical lenses through which the study explores the lived experience of digital health disparities from the perspective of the multiply disadvantaged individual.

The ontological position I adopt finds its resonance in the theoretical framework of intersectionality, which articulates that forms of disadvantage originate from societally constructed categories and the edifice of oppression. This perspective acknowledges that facets such as age, socioeconomic position, language, among other axes of disadvantage, do not exist as inherent or rigid attributes but rather emerge from societal power relations and dominant ideologies. It recognises both the objective existence of these characteristics and the subjective ways they are interpreted and experienced within social contexts. Adopting this ontological stance enables me to examine how intersecting identities and inequities are produced through complex social processes and discourses.

Additionally, a constructivist ontology coheres with applying digital capital theory through a critical lens. From this perspective, technology access and digital competencies are not neutral or strictly technical, but rather shaped by societal beliefs, values, and systems of privilege. By

foregrounding the socially constructed nature of digital health disparities, I can better analyse how it stems from and interacts with other forms of oppression.

Epistemologically, a subjectivist position aligns with both theories. Intersectionality focuses on how individuals differentially experience and make meaning of intertwined systems of subordination. This requires centring marginalised voices and knowledge claims. Similarly, investigating digital capital necessitates understanding how people subjectively experience and perceive barriers to digital inclusion. A subjectivist lens complements both theories by acknowledging diverse lived realities and perspectives. Moreover, subjectivism epistemologically grounds the study's narrative methodology as it is fitting for capturing individuals' unique technology encounters, digital competencies, and health care experiences from their own standpoint.

In summary, constructivism and subjectivism enable me to situate categories of disadvantage and processes of marginalisation ontologically and epistemologically as products of social systems and power relations. This is in alignment with the critical application of intersectionality and digital capital theory, allowing for a nuanced analysis of multiplicative disadvantage and inequitable digital healthcare experiences. The philosophical foundations underpinning the research facilitate a contextualised, humanistic inquiry into digital health disparities.

3.3 Crenshaw’s theory of Intersectionality

3.3.1 Background

Kimberlé Crenshaw is a pioneering scholar and writer on civil rights, critical race theory, Black feminist legal theory, and race, racism and the law. Her work on intersectionality theory serves as

a foundational framework for this study, emphasising the complex interplay of multiple, interlocking systems of oppression in shaping individual experiences at the micro-level. Crenshaw [15] originally developed the concept to highlight how the experiences of Black women were often marginalised in both feminist and anti-racist discourse, as their unique challenges and perspectives were not adequately addressed by single-axis frameworks. Intersectionality posits that various social categories, such as race, gender, class, and age, are not independent or additive but rather intersect and interact to create distinct social realities and experiences of privilege or disadvantage [65].

In the context of digital health disparities, an intersectional lens is important for understanding how multiple forms of disadvantage converge to shape individuals' access to and experiences with remote care. Chapters 5-7 reveal how older age, low socioeconomic status and limited English proficiency intersect to create complex barriers and challenges for patients engaging with video and remote consultations. Intersectionality theory helps to illuminate how these overlapping systems of oppression compound and exacerbate experiences of digital exclusion, leading to disparate health outcomes.

Intersectionality also calls for a critical examination of power structures and the ways in which they shape access to resources, opportunities, and decision-making. In the realm of remote care, this involves interrogating how institutional policies, practices, and discourses surrounding technology implementation and use may disproportionately benefit some groups while excluding or marginalising others. The findings chapters highlight instances where digitalisation fails to account for the specific needs, constraints, and preferences of disadvantaged patients, thereby reproducing and exacerbating health inequities.

3.3.2 Empirical study of intersectionality

A key principle of intersectionality crucial for the empirical side of this study, concerns the prioritisation of minority experiential perspectives through the concept of centring in the margins, whereby marginalised experiences are brought to the centre of the analysis [66]. To achieve these goals, an empirical engagement with older, low-income, limited English speaking health users was required, focusing on (1) the ways in which they see themselves (i.e., their identities), (2) their locations within broader society (i.e., positionalities), and (3) the difficulties they face (i.e., oppressions) when negotiating the organisational and societal landscape of accessing healthcare remotely.

The central tenets of intersectionality [67] affirm that: (i) individual lives cannot be reduced to single traits, nor can single traits accurately depict understandings of individual experiences; (ii) person categories or locations are socially constructed, fluid, flexible, and inseparable, shaped by social processes, structures, power relations, and influenced by time and place; and (iii) prioritisation of social justice and equity are of utmost importance. Empirical application of these principles is used in this study to create composite narrative portraits and user personas; fictional but representative profiles that encapsulate different segments of a target population [68]. This empirical application makes visible the attributes of privilege that contribute to digital health disparities, which are highlighted by the multitude of obstacles experienced by these individuals situated in disadvantaged positions.

According to Kohon [69], an individual's 'identity' may be summed up in terms of who they are. Identity has been defined as a social and personal construct that is formed and shaped by the subjective experiences of an individual, providing a lens through which individuals view

themselves in relation to their position in society [70]. Such encounters have the potential to influence someone's behaviour, mannerisms, and eventually their place in society [70]. The concept of identity can also be seen as a combination of social and personal interpretations, emphasising particular qualities and traits that set one apart from others as well as identities within relationships. All these concepts involve ascribed qualities that are reinforced by societal norms and expectations [71,72].

Within the scope of this research, identity is not seen solely as a personal and singular construction, but rather that people personify and express multiple identities. Categories of identity capture an individual's race, age, class, and religious affiliation, amongst others [70]. People can hold simultaneous identities such as mother, sister, lawyer, and carer. While some identities are held in higher esteem than others [73], identities can also be characterised as multiplicative, dynamic and shaped by political and historical contexts [74]. Societies, however, experience paradigm shifts across time and thus the embodiment of various identities and how they are expressed will also traverse time and change in socio-political and economic contexts [75,76].

It should be noted, however, that identity transcends the notion of being solely an internal construct representing an individual's self-perception, as it also encompasses the performative aspect through which identities are enacted. Crenshaw's pivotal argument revolves around the understanding that identity constitutes a convergence of multiple intersecting axes, resulting in a distinct and singular formation that is specific to each person. This perspective posits that identity is both unique and fused, reflecting its singular nature, while also acknowledging its multiplicity through the capacity of individuals to adapt and modify their identities in response to varying social contexts and circumstances.

Positionality is a mode of being or knowing that is affected by shifting institutional frameworks and social, political, and economic institutions [76]. According to the intersectionality tenets, a person's location or position in society is situated through the intersection of various positions, such as a person's gender, financial position, and so on. Additionally, distinct aspects of positionality are consolidated by a person's pronounced or assigned identities [77]. Due to this, a person's place (and how they fit into social hierarchies) is frequently reinforced by subjective experience and moulded by intertwined identities in connection to their physical and psychological surroundings [66,78].

Ultimately, varied positionalities in society establish inequitable social divisions between groups enabling some people to be in elevated positions of power compared to others. Such inequities linked to both identity and positionality can contribute to poor health and wellbeing. It is in this context that I examine the intertwined notions of identity and positionality to reveal the underlying problems that arise from an uninformed roll out of remote consultation services.

Disadvantage is frequently viewed in terms of oppressive societal norms and systems. An oppressive social structure, according to Prilleltensky [79], is "a state of asymmetric power relations characterised by domination, subordination, and resistance, where the dominating persons or groups exercise their power by restricting access to material resources" (p.58). The deliberate reduction of a certain group's chances to master most or all aspects of life has been described as oppression in the past [80]. According to another definition, oppression is a force that is imposed on a person or people and consists of unpleasant events, unforeseen circumstances, and unfavourable living conditions [80].

Exploitation, marginalisation, deprivation, persecution, helplessness, cultural imperialism and other types of violence can all be components of oppression [81]. According to Watts [82], oppressors exhibit an entitlement mentality that is fuelled by social privilege; when privilege is not questioned or challenged, oppression of some groups in society spreads and becomes accepted as normal. Young [81] expands on this, contending that some groups are victims of oppression not due to overt or obvious actions, but rather because of "the routine activities of a well-intentioned liberal society" (p.41). Through an unbalanced system that is bolstered by group stratification and eventually results in societal division between 'us' and 'them,' social and health disparities are repeated. In my research, the status quo of remote care access for disadvantaged older people is confronted and challenged.

I use these three components of intersectionality (identity, positionality and oppressions) empirically to underpin user personas which are discussed in detail in chapter seven. These personas, within the scope of this study, have the potential to be a valuable knowledge translation strategy which can inform the design of technologies and healthcare systems that are more inclusive and effective in meeting the needs of older, low-income, limited English speaking health users. They can serve as design tools or guiding archetypes which providers can use to develop a better understanding of this group's needs, improve the delivery and coordination of care and help ensure culturally congruent patient-centred care [83].

Broadly speaking, an intersectionality health equity lens can help us to understand how every person's experience is fundamentally different from the experience of others, based on their unique identity and structural positions within systems of inequality and structural impediments [84–86]. In this research, I have committed to employing intersectionality not just as a theory or framework to be used selectively, but as a fundamental approach to developing a relentlessly

critical and self-reflective lens. This commitment begins with the premise that ethnicity, class, gender, and other axes of social identities are intertwined and mutually constitutive. By adopting this approach in my study, I aim to advance health disparities research by making the invisible visible, particularly in the context of remote care and video consultations.

My core argument is that an intersectionality perspective offers scope for novel inquiry in digital health disparities research. It highlights both the complexity of multiple axes of disadvantage and its influence on access to health services and experiences of video consultations, and the shared mechanisms of causality comprising the unequal power relations that underpin different axes of digital health disparities.

3.4 Digital capital theory

Digital capital theory, as developed by Ragnedda and Ruiu [41], serves as another key theoretical lens in this study, providing a framework for understanding how individuals' access to and mastery of digital technologies can shape their ability to navigate and benefit from digitally mediated healthcare services.

3.4.1 Beyond the digital divide

The following background literature is presented in this section to provide a contextual understanding of the complexities surrounding unequal access to and usage of digital technologies, while critically examining the limitations of conventional perspectives on digital inequities.

The research on digital inequities has developed throughout time by concentrating on the many levels of the 'digital divide' to classify various access types, levels of digital skills and competencies, and associated consequent advantages [87]. To be more precise, studies on digital inequities from the late 1990s to early 2000s primarily examined physical access to the Internet by establishing a distinction between those who possess digital devices and have Internet access and those who are excluded from it [88]. However, as research in this field progressed, it became clear that the concept of the 'digital divide' is more complex than a binary division between those who have access to technology and those who do not. Subsequent studies began to explore additional dimensions of digital inequity.

From the mid-2000s onwards, some researchers expanded their focus beyond solely examining Internet access. These studies intentionally considered socio-demographic, cultural, and economic factors in their analysis of digital inequities. Additionally, other studies from this period, while not explicitly setting out to examine these factors, included relevant data that has since been valuable for understanding the broader context of digital divides [89,90]. To better understand the interaction between digital inequalities and social factors, researchers have explored various variables such as gender [91], age [92], racial background [93], education [94], geographic location [95,96], and income [97]. However, it became evident that access to information and communications technology (ICT) alone does not guarantee meaningful use. Consequently, scholars have emphasised the need to investigate competences and skills that shape individuals' experiences of digital technologies [98,99].

It has been recognised that digital skills are influenced by a range of factors, including education [98,100], income [101], age [102], duration and intensity of use [98] and social support [103,104]. Moreover, the benefits obtained from Internet use vary across different activities, granting

individuals access to diverse resources and opportunities [105]. These studies have demonstrated how socio-economic status and capital shape perceptions of digital technologies, access to digital technologies and patterns of technology usage, revealing the interplay between online disparities and real-world inequities [97]. This highlights the need to move beyond a simplistic notion of the digital divide and instead explore the disparities in the benefits derived from technology usage. By going beyond this notion, I aim to critically examine the complexities of digital inequities and explore alternative frameworks including digital capital to explore the role of individual competences and skills in shaping digital disparities and their consequences in an intersectional manner.

3.4.2 Digital capital

This section explores two key approaches to understanding digital capital: Helsper's correspondence model and Ragnedda and Ruiu's concept of digital capital as a distinct form of capital.

Ragnedda and Ruiu [41] assert that digital capital is a new, distinct form of capital, not merely a digital correspondence to existing forms of capital. They define it as the accumulation of digital competencies (information, communication, safety, content-creation, problem-solving) and digital technology. This perspective views digital capital as a unique resource that can be mobilised across various domains.

In contrast, Helsper [106] adopts a correspondence approach, incorporating Bourdieu's concept of capital to understand the relationship between social exclusion and digital exclusion. Her

Corresponding Fields Model suggests that social exclusion in non-digital domains can manifest in digital exclusion.

Bourdieu's notion of capital encompasses various forms of resources that individuals possess and can leverage to gain advantages in society. These forms of capital include economic capital (financial resources), social capital (networks and relationships), and cultural capital (knowledge, skills and preferences) [107].

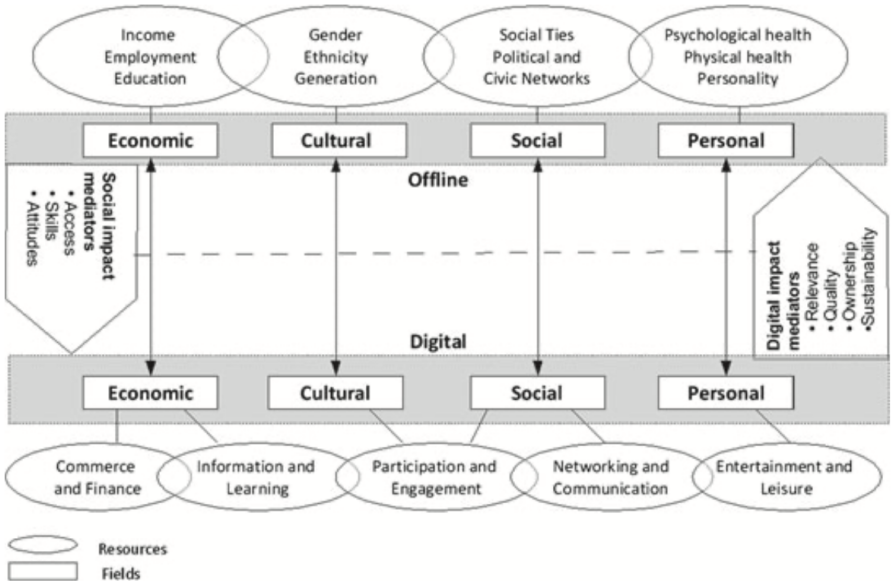
Recent academics like Helsper [106] have incorporated Bourdieu's concept of capital and the notion of correspondence between non-digital 'fields' and digital 'fields' to understand the relationship between social exclusion and digital exclusion.

For example, Helsper [106] adopts Bourdieu's idea of cultural capital and its relevance to digital exclusion. Cultural capital refers to the knowledge, skills, and preferences that individuals possess, which can influence their ability to engage with digital technologies effectively. Individuals with higher levels of cultural capital, in terms of technology-related knowledge and skills, are more likely to participate in the digital sphere, while those with lower levels of cultural capital may face barriers to digital inclusion.

Furthermore, Helsper [108] introduces the notion of 'correspondence' between non-digital 'fields' (such as income, education, employment, and social networks) and digital 'fields' (which encompass digital access, skills, and engagement). The Corresponding Fields Model (Figure 2) suggests that social exclusion in non-digital domains can manifest in digital exclusion. For example, individuals with limited material resources may face difficulties in accessing and using

digital technologies, thereby perpetuating digital inequality. Similarly, disparities in educational attainment or social networks can translate into variations in digital skills and digital engagement.

Figure 2: A corresponding fields model for digital exclusion [108]



By considering the correspondence between these non-digital and digital fields, Helsper [106] highlights the interconnected nature of social exclusion and digital exclusion. The model recognises that multiple dimensions of social exclusion contribute to digital exclusion, and interventions to promote digital inclusion should address these various domains.

The discussion of cultural capital and its application to digital exclusion in Helsper's work [109] directly relates to digital capital which can be understood as a specific form of cultural capital that pertains to knowledge, skills, and resources related to digital technologies and the digital environment. It encompasses the ability to navigate and engage effectively in digital spaces, utilise digital tools and platforms, and leverage digital resources for various purposes.

Helsper [106] highlights that individuals with higher levels of cultural capital, specifically in terms of digital skills and literacy, are more likely to possess greater digital capital. They are better equipped to access and benefit from the opportunities offered by digital technologies, including educational resources, employment opportunities, social connections, and civic participation.

On the other hand, individuals with lower levels of cultural capital may lack the necessary digital skills and resources, resulting in lower digital capital. This can lead to digital exclusion, where individuals are unable to fully participate in the digital society, limiting their access to various digital resources and opportunities.

Digital capital has elsewhere also been theorised and operationalised as a specific capital and, at the same time, intertwined with five other forms of capital, namely social [110–112], political [113], economic [110], personal [114], and cultural capitals [110]. The concept of digital capital is intended in Bourdieusian terms, whereby he conceived of capital as any resource that might give an advantage and empower those who own it [110]. Differently from Tapscott, Lowy, and Ticoll [115] and Roberts and Townsend [116], the concept of digital capital is used beyond its economic terms, to analyse how digital technologies (externalised resources) and digital competencies (internalised resources) are used to foster individuals' life chances.

The focus of this work is, thus, on the definition of digital capital as offered by Ragnedda [87] and further refined by Ragnedda and Ruiu [41] as the accumulation of digital competencies (information, communication, safety, content-creation and problem-solving), and digital technology. According to Ragnedda, Ruiu and Addeo [117] a collection of internalised talents and aptitudes (digital competencies) as well as externalised resources (digital technology) that may be historically collected and moved from one domain to another are both considered to be

components of ‘digital capital’. The ability of this theoretical idea to represent the complexity of people's digital backgrounds, experiences, and competencies was operationalised and empirically applied [117], offering a framework to explain how individuals mobilise resources to participate in digitally-mediated healthcare.

In this study, I use digital capital theory alongside intersectionality to examine how digital skills and access interact with other forms of disadvantage in digital health disparities. Part of the originality of this study relies on advancing the study of digital health disparities by examining how digital capital influences inequities in accessing remote healthcare services (including video consultations). The progression of digitalisation within healthcare and the advancement beyond mere rectification of the digital divide indicate the crucial relevance of the concept of digital capital in comprehending emerging forms of inequity, particularly in light of its potential impact on digital health disparities.

3.4.3 Empirical study of digital capital

The Bourdieusian framework has proved useful in empirical studies which explore the nature of digital ability across different kinds of groups and life activities and the links between digital capital and non-digital forms of capital. However, currently, there is no unified approach to understanding digital capital methodologically. This is because there have been various attempts to substantiate it within different methodological approaches [118]. The task of translating the construct empirically is being explored by researchers, which requires the development of a methodologically substantiated system of criteria and indicators for its assessment and measurement. Some attempts at empirical research into the valuation of digital capital have been conducted [117]. At the micro level (of an individual), indicators related to digital literacy are used

to assess digital capital, and in a broader sense, digital competence. At the level of individual organisations, studies already assess the state of the digital infrastructure — tangible and intangible (which may include the digital competence of personnel). Digital capital at the macro level is measured in terms of the development of the area's IT infrastructure.

In this study of older, low-income individuals with limited English proficiency, digital capital intersects with other forms of disadvantage. This aligns with intersectionality, showing how digital competencies and technology access interact with age, socioeconomic status, and language barriers to shape experiences with remote care services. This approach reveals how digital capital can compound or mitigate other disadvantages in healthcare access. Older individuals who are not familiar with digital technologies may have limited digital capital, which may result in difficulties participating in video consultations. Individuals with low income may also struggle to afford the necessary technology and Internet access to participate in video consultations, further limiting their digital capital. Limited English proficiency can also pose a challenge in understanding how to use these technologies, adding to the difficulties that these individuals may face in accessing video consultations.

In the context of Helsper's Corresponding Fields Model (Figure 2) as mentioned earlier, digital capital is closely tied to the domain of digital skills and literacy. Individuals with higher levels of digital capital possess the necessary knowledge and skills to utilise digital technologies effectively, enabling them to access and leverage digital resources and opportunities. Helsper's model recognises that disparities in digital skills and literacy can contribute to digital exclusion. Individuals with low levels of digital capital, who lack the necessary skills and resources, may face barriers in accessing and utilising digital technologies. This can result in limited participation in

the digital sphere, hindering their ability to benefit from the opportunities offered by digital platforms and services.

Accordingly, I drew on aspects of this model in designing the empirical side of this study by using a set of criteria and indicators to assess participants' digital capital in the context of navigating remote care. This involved identifying key digital competencies for each research participant, such as the ability to access and use the necessary technology, navigate video consultations, and communicate effectively with healthcare providers through these mediums. Within the narrative interviews that were conducted, participants were asked about their experiences of using video consultations for healthcare purposes, and the role of digital capital was explored in shaping these experiences. Questions focused on the participants' access to technology and Internet connectivity, their level of familiarity with remote consultation platforms, and their ability to effectively communicate with healthcare providers through this medium. Furthermore, user personas were also designed to capture multiple dimensions of disadvantage, including digital capital, as well as social, cultural, economic and personal resources. In this way, the personas synthesise not just identities and social positions, but also the digital competencies, values, and barriers to access narrated by participants. This allows the personas to capture how digital capital intersects with other forms of disadvantage.

3.4.4 Limitations

While digital capital offers a valuable lens for understanding technology-related inequalities, some limitations of this theory warrant acknowledgement. Critics have argued that conceptualising technology access and skills as a form of capital risks overemphasising individual competencies while obscuring broader structural barriers [119]. Furthermore, applying notions

of capital accumulation to the digital realm has been critiqued for implying that building individual digital skills can remedy structural disadvantage. However, improving digital literacy in isolation cannot dismantle overarching systems of oppression. As such, I recognise the need to situate digital capital within intersectional frameworks that foreground systemic inequities.

To mitigate potential limitations, this study engages a critical perspective in applying digital capital theory. I aim to adapt this theory by examining how an individual's digital capital intersects with and is constrained by larger structures of inequality. Rather than viewing digital capital in individualistic or meritocratic terms, I aim to contextualise technology access and skills within broader relations of privilege and power. The research design attends to how experiences of digital marginalisation both stems from and exacerbates multiple, overlapping forms of disadvantage.

Additionally, I do not intend to imply that enhancing digital capital alone can overcome entrenched barriers facing disadvantaged groups. While valuable, increasing technology access and digital literacy is insufficient without addressing underlying disparities. This study utilises digital capital critically, as one lens among others, to analyse nuanced dynamics of exclusion and inclusion within digitally-mediated healthcare.

3.5 Critical Race Theory

In addition to intersectionality theory and the concept of digital capital, this study also draws upon critical race theory (CRT) as a complementary theoretical lens. CRT originated in the field of legal studies in the 1970s by scholars examining the persistence of racism in the United States despite laws designed to promote racial equality [120]. It has since been applied across various disciplines

as a framework for analysing how racial inequities are deeply embedded within societal systems and institutions.

Before examining CRT's key tenets, it is important to define racism and its various manifestations. Racism can be understood as a system of advantage and oppression based on race, involving cultural messages, institutional policies and practices, and individual actions and beliefs that create and perpetuate racial inequities [121]. This system operates through multiple, interconnected levels:

Structural racism refers to the totality of ways in which societies foster racial discrimination through mutually reinforcing inequitable systems (housing, education, employment, earnings, benefits, credit, media, criminal justice, healthcare, etc.) that in turn reinforce discriminatory beliefs, values and distribution of resources [121]. In healthcare, structural racism manifests through policies, practices and norms that create persistent racial inequities in health outcomes.

Institutional racism operates at the organisational level through policies, practices, and procedures that work to benefit white people and disadvantage people of colour, whether intentionally or unintentionally [26]. In healthcare settings, this might include policies that make it harder for non-English speakers to access services or digital systems designed primarily for English-speaking users.

Interpersonal racism occurs in interactions between individuals and manifests as prejudice, bias, or discrimination directed at people of colour by white individuals. This can include both explicit bias (conscious beliefs and actions) and implicit bias (unconscious attitudes and behaviours) [122].

In healthcare, this might manifest as differential treatment by healthcare providers or discriminatory interactions during remote consultations.

CRT is based on several key tenets: 1) racism is ordinary and pervasive in society, not an aberration; 2) racism serves the material and psychic interests of the dominant white group; 3) race is a social construction, not a biological reality; and 4) the experiential knowledge and counter-narratives of marginalised racial groups should be centred and valued [120].

CRT posits that racism is embedded in healthcare and technology access policies, necessitating scrutiny of how structural racism perpetuates inequitable access to digital health services. Its emphasis on amplifying marginalised voices aligns with this study's narrative approach, foregrounding experiential knowledge to challenge dominant narratives that may obscure racial inequities in digital healthcare.

CRT provides a framework for analysing the intersection of race with other axes of oppression, such as socioeconomic status and linguistic marginalisation. Integrating CRT with intersectionality and digital capital theories allows me to theorise how racial formation processes interact with other power relations to shape digital health disparities. This approach enables a nuanced examination of how racial identities and experiences interplay with digital capital and health system barriers, surfacing racialised dimensions of digital exclusion that may be depoliticised in dominant discourses.

3.6 Theoretical approach informed by multiple frameworks

While intersectionality, digital capital theory, and critical race theory offer distinct perspectives, this study draws on elements from each to inform a comprehensive analysis of digital health disparities. In this study, I have used them as complementary lenses to examine different aspects of the multifaceted issue at hand.

Intersectionality serves as an overarching conceptual framework that focuses attention on the intersections of multiple axes of disadvantage experienced by marginalised groups. It orients the study towards exploring how older age, low socioeconomic status, and limited English proficiency converge and interact in shaping access to healthcare.

However, intersectionality theory does not specifically address the role of digital technologies and competencies. This is where digital capital comes in - it provides a theoretical lens to examine the digital dimensions that intersect with other forms of disadvantage. I contend that an individual's level of digital capital, encompassing their access to technology and digital skills, fundamentally shapes how they experience and navigate remote healthcare. Patients with lower digital capital may face compounding barriers when accessing video consultations, as digital exclusion interlocks with other forms of marginalisation. Digital capital theory complements the intersectionality framework by highlighting an additional dimension of inequality relevant to digital health disparities. It brings attention to the digital mechanisms and competencies that interact with other axes of disadvantage.

Elements of critical race theory inform the study's consideration of how racial inequities may be embedded within healthcare and technology systems. CRT posits that racism is not an aberration

but rather a fundamental feature of social, political, and economic structures, and that race intersects with other forms of oppression to shape individuals' experiences and outcomes. In the context of digital health, CRT helps to illuminate how institutional policies, practices, and discourses surrounding technology implementation and use may disproportionately benefit some groups while excluding or marginalising others. While not as central to the empirical work as intersectionality and digital capital theory, CRT's insights help contextualise findings within broader societal structures.

By drawing on these three theoretical frameworks, this study aims to provide a multifaceted analysis of digital health disparities. This approach allows for an examination of how various forms of disadvantage intersect, how digital competencies influence remote healthcare access, and how these issues exist within broader systemic inequities.

3.7 Using qualitative research to investigate digital health disparities

The choice of methods to use when conducting a research study is directly linked to the types of questions the research is looking to answer. This research aims to explore the lived experience of digital health disparities from the perspective of the disadvantaged patient. A summary of the research question is given first to explain why qualitative methods were chosen and how they are used to conceptualise the nature of this research around digital health disparities.

Research Question: How do multiple types of disadvantage intersect in their contribution to digital health disparities in the uptake of remote consultations in people who are poor, elderly, and limited-English speaking?

Qualitative methods will be used in this study to understand, inform and advance health equity. But more importantly, qualitative research provides critical insight into the subjective meaning and context of health that is essential to understand where and how to intervene for equitable health research and practice.

A qualitative research design is dictated by my constructivist and subjectivist stance, and intersectional framework. It prioritises participants' voices and researcher reflexivity [123], allowing for in-depth exploration of how individuals experience and make meaning of their health experiences. The significance of incorporating the voices of participants and the researcher's reflexivity is rooted in the capacity to produce knowledge that is firmly based on experiential evidence, ethically and methodologically sound, trustworthy and pertinent to practical situations [124]. This is in addition to making the most of the rich insights this mode of research provides, that will help to explore a more conceptualised understanding of the perceptions and experiences of disadvantaged patients in the UK. It is important to have a conceptualised understanding because it helps to provide a structured and organised framework for analysing and interpreting data obtained through qualitative research. This understanding enables me to identify key themes and patterns in the data, which can then be used to develop a more comprehensive and nuanced understanding of the underlying meanings and motivations that drive participants' perceptions and experiences.

A key strength of qualitative research methods within this study is the ability to consider and incorporate contextual information that is difficult to capture and incorporate in quantitative research; these contextual factors are essential in informing the interpretation and dissemination of my findings. Qualitative research, for the case of this DPhil, is well suited to capture the multiple realities and truths in the subjective experiences of participants [125]. These methods also prove

useful for examining the explicit and implicit theories that underlie established frameworks and that explain why disparities exist and what can be done to reduce or eliminate them.

In the case of this research, understanding the factors impacting patients' experiences of accessing remote care requires a complex and detailed understanding of their actions, which can only be established by having in-depth and detailed conversations with them. Additionally investigating the implications of the uptake (or lack of) of remote consultations requires an understanding of the contexts in which these consultations take place (health services).

Qualitative methods are most appropriate for exploring the many different aspects of a complex issue, helping to tease out different mechanisms, interactions and meanings, including the social and locally specific aspects of phenomena [126]. For my research question, this is essential, as I aim to explore the different intersectional processes related to positive or negative experiences with remote care and how they link to other levels of explanation, which in the complex world of health care access will be specific to individual context and wider issues. This enables me to look at individual patients holistically, not as abstract or isolated events.

Qualitative approaches to inquiry are diverse and can be numerous depending on how they are classified [123]. Narrative research as a qualitative methodology is one such approach that can be defined as the procedure of analysing individuals' stories [127,128]. It focuses on the individual's specific experience but also on the cultural and social contexts that help shape these experiences [129]. In contrast, the phenomenological research method focuses more on the shared experiences of a group of individuals that lived a shared phenomenon, it investigates what all participants experienced in common facing this specific phenomenon and describes what and how they lived it [123,130,131].

When considering that the unit of analysis is a single individual (as is the case in this research), it may seem that narrative research, case study research and ethnography are similar. And while a researcher can approach the study of single individuals from either of the three approaches, the types of data that would be collected and analysed would vastly differ. In narrative research, the researcher focuses on the stories told from the individual and arranges these stories often in chronological order; in ethnography, the focus is on setting the individuals' stories within the context of their culture and culture-sharing group; in case study research, the single case is typically selected to illustrate an issue, and the researcher compiles a detailed description of the setting for the case. In the case of this research, because I want to study individuals' experiences, I feel the narrative approach is the most appropriate approach because it centres on individuals sharing their life experience(s) by recounting their life story [123].

However, while the narrative approach offers valuable insights into individual experiences, it is important to acknowledge several key limitations. First, by focusing primarily on individual narratives, this approach may not fully capture the collective and communal dimensions of healthcare engagement within South Asian communities. The data revealed that family members often played key mediating roles in participants' healthcare interactions - from providing technological support for remote consultations to facilitating language interpretation. However, the individual narrative format may artificially isolate these experiences from their broader familial context.

Furthermore, many participants described drawing support from extensive community networks, including local faith centres, cultural associations, and informal social groups. These community ties often provided vital resources for navigating healthcare systems and technology barriers. The

choice of individual narratives, while allowing for deep personal accounts, may have limited exploration of these collective coping strategies and community-level perspectives.

These limitations suggest that complementary methodological approaches could have enriched the study's findings. Focus groups with South Asian community members, for instance, could have illuminated shared challenges and collective solutions around digital healthcare access. Such group discussions might have revealed how communities mobilise social capital to overcome individual barriers, while also highlighting cultural frameworks that shape technology engagement. Additionally, incorporating family interviews could have provided deeper insight into how digital health navigation occurs within family systems rather than purely at an individual level.

Another limitation of the narrative approach is its reliance on retrospective accounts, which may be influenced by recall bias or subsequent reinterpretation of events. Participants' stories of healthcare interactions are inevitably shaped by their current circumstances and perspectives, potentially obscuring important contextual factors at the time of the original experiences. These methodological constraints should be considered when interpreting the study's findings.

Despite these methodological limitations, the narrative approach offers unique strengths in challenging traditional research hierarchies and amplifying historically silenced perspectives. As this approach also calls for a deprivileging of the 'expert' researcher, it aligns with my feminist research goals. These goals, rooted in my weak social constructivist ontology and subjectivist epistemology, aim to challenge traditional power dynamics in research by elevating marginalised voices and experiences. Feminism demands that those whose voices have not been heard in the past are now able to define themselves and to tell their own stories [132]. This approach

corresponds with intersectionality by recognising how multiple identities shape experiences. It empowers individuals to construct their own narratives without researcher-imposed structures. This method reinforces my constructivist and subjectivist stance while acknowledging the complex nature of lived experiences in digital health disparities.

While my research question pertaining to intersectional disadvantage and digital health disparities could potentially be examined quantitatively, a qualitative approach better aligns with my constructivist ontological and subjectivist epistemological stances. Quantitatively measuring multifaceted concepts like digital capital can obscure nuanced subjective perspectives and experiential insights. In contrast, qualitative methods allow me to capture the complexity of digital health disparities amidst intersecting axes of oppression. Open-ended narratives provide more contextual depth than surveys or experimental data in elucidating how individuals differentially experience exclusion and marginalisation.

Moreover, a qualitative approach coheres with the aims of centring marginalised voices and foregrounding participants' lived realities, as aligned with intersectionality theory. Intersectionality scholarship emphasises gathering experiential knowledge from oppressed groups, which qualitative interviews enable by elevating participant perspectives. Similarly, the digital capital literature stresses investigating how people subjectively perceive and respond to digital barriers. Qualitative data can unpack multifaceted meanings and competencies not quantifiable through digital skills metrics.

Qualitative techniques allow for a nuanced exploration of themes emerging from the data, while acknowledging that the researcher's position and interpretive process play a role in identifying and analysing these themes. This approach aims to balance participant-driven insights with

researcher expertise, rather than relying solely on predefined variables. This openness is essential for studying multidimensional disadvantage from an emic, inductive perspective. Through detailed narratives, I can gather insights into how individuals navigate subordinating structures and leverage assets when engaging with remote care. Therefore, a qualitative approach aligns with my research aims, question, and theoretical frameworks. The rich, contextual data enables a holistic investigation into the interactively constructed nature of intersectional disadvantage.

3.8 Narrative research as a formal research method

People use stories to share and reinterpret their life experiences [133]. According to Hatchell and Aveling [134], stories can be utilised to illuminate common threads of understanding while also illuminating the ways in which people make meaning of their experiences through narrative. Narrative inquiry is a qualitative method that uses stories as primary data while also examining the social process of narration [135]. This method has been employed by various academic fields to discover more about the narrator's culture, historical events, identity, and way of life [136]. The narrative approach incorporates either inquiry that produces facts in narrative form or inquiry that is oriented at narratives of human experience [137]. I have employed this method to capture both participants' stories and the nuanced ways they're constructed and communicated. This broader understanding has informed my data collection and analysis, enabling a richer exploration of digital health disparities.

Over the past few decades, the narrative method, which emerged from the social sciences, has evolved and is now cross-disciplinary. It is frequently used in healthcare to gather illness narratives in order to better understand the lives of patients with life-limiting conditions [138]. The story technique has many advantages for qualitative research. First, because people naturally

tell stories, it is a familiar way to include people in research. Second, it becomes feasible to acquire comprehensive data since narratives frequently include detailed elements. Finally, as participants may present their vulnerable selves in their stories, it is possible to glean wider-ranging, more nuanced meaning about their experiences [139].

The object of investigation in narrative inquiry is the story itself which can be used in many ways to understand an individual's first-hand account of their experiences [133]. Stories have the ability to resonate with us in a way that other forms of information cannot. We relate to people's stories, we look for similarities and difference, and resonances with our own stories. Finding the ways our stories connect with others may enable us to navigate a way forward when facing barriers, or even simply understand that on a highly individual and often isolating journey of accessing health services for a chronic condition remotely, others have also walked this path.

While various qualitative approaches could provide insight into digital health disparities, I chose narrative inquiry as the methodology because of its particular capacity for investigating intersectionality and digital capital. Narrative methods are especially useful for capturing the complexity of intersecting disadvantage, as storytelling enables connecting personal experiences to broader discourses and social structures [140]. Through narratives, participants can articulate how socioeconomic status, age, language, and other factors converge in shaping healthcare access. Stories also unveil processes of gaining or lacking digital capital, as individuals describe information and technology encounters.

Furthermore, narratives elucidate identity construction, a key concern of intersectionality. By recounting critical events, people convey how they see themselves amidst marginalising systems [141]. Stories reveal the fluid, contextual nature of disadvantage, as well as resistance and agency.

This aligns with intersectionality's commitment to representation and ‘giving voice’. Narratives also uncover how digital skills develop relationally, rather than in isolation, complementing digital capital's more structural focus.

Methodologically, narrative analysis retains contextual nuances and meanings unlike other qualitative approaches. Thematic analysis, for instance, fractures stories into coded fragments. In contrast, narrative techniques preserve sequencing and holistic coherence even amidst thematic analysis. This is essential for investigating multifaceted, dynamic social processes. Through detailed personal accounts, I can trace how intersectional exclusion and digital capital emerge situationally.

Overall, narrative inquiry provides methodological tools resonant with key tenets of intersectionality and digital capital. It enables elucidating identities, social structures, marginalisation, privilege, and digital competencies through the lens of lived experience. By eliciting and preserving stories, this methodology provides an apt means of examining the research topic.

3.9 Ensuring the study’s quality

The ability to assess the quality of research is crucial for any study, both to validate its claims to knowledge and to determine its potential for practical application. Qualitative research is often challenged on issues of methodological rigour and the criteria by which it should be assessed [142–144]. This is because the standards usually used for evaluating and assessing quality in research were based in the positivist paradigm concerned with objective knowledge, deductive or theory testing approaches. In contrast, qualitative research’s theoretical underpinnings are

derived from interpretivism and naturalistic approaches. There are a broad range of perspectives and much debate on the ability to apply an explicit set of quality criteria to the diversity of qualitative research methods [145–148]. However, the need for clear and transparent approaches which demonstrate rigour is widely agreed [142,145,146,149].

Criteria for assessing and enhancing the quality of qualitative research have been offered from a number of authors [61,145–147,150–153] In considering how best to ensure validity and reliability, and demonstrate quality in my own study, I drew on Yardley's framework which involves attention to four key dimensions: sensitivity to context; commitment and rigour; transparency and coherence; and impact and importance [154].

Sensitivity to context refers to the researcher's awareness of all facets of the context of their study – theoretical, sociocultural setting and relationships and ethical considerations. In this study, sensitivity to theoretical context was developed through extensive and systematic consultation with the literature and the related theories and phenomena under study.

The second and third dimensions are concerned with commitment and rigour and transparency and coherence. Within the criteria for rigour, Yardley [154] argues that it may be appropriate to employ triangulation of data collection or analysis to obtain a full understanding of the research topic. This method makes use of combinations of methods, investigators, perspectives and so on, thus facilitating richer and more valid interpretations [155].

Transparency and coherence refer to clear and thorough documentation of the steps taken in conducting the research. Researchers are providing their audience with an 'audit trail' to allow them to assess the overall research design and implementation [156].

Finally, the impact of the research is a critical factor in determining its value, whether it tells the reader something interesting and useful both in relation to developing theoretical understanding and in its practical utility [154]. As stated in Chapter one, I have aspired to make a meaningful contribution to knowledge through my exploration of multiple disadvantage and its impact on digital health disparities. The contributions of my research are considered in more detail in Chapter eight.

It should be noted that in quantitative research, the concepts of validity and reliability are used to form the criteria for assessing quality in the study. In qualitative research, quality assessment cannot be measured by validity and reliability in the same way [157,158]. The literature suggested alternative criteria to critique the quality of research for qualitative studies. Bryman [157] posits using the concepts of trustworthiness and authenticity. Table 4 discusses the criteria that should be taken into account for qualitative research.

The equivalent of internal validity in quantitative research is the concept of 'credibility' in qualitative research. The tenets of credibility are to make sure that research is conducted based on the 'canons of good practices' which are clarity, accuracy and trustworthiness, and suggests that findings be submitted to participants with the aim of reaffirming that the research reflects the information the way the participants intended it to. This is also referred to as 'respondent validation' [157]. Thus, it is important for the researcher to reach out to participants for feedback on data analysis at different points of the study to ensure correct understanding.

The equivalent of external validity in quantitative research is the concept of transferability in qualitative research. This is defined as the extent to which it can be applied in other contexts and studies [159]. However, Riessman [160] contends that when conducting a narrative analysis, it is

essential for the researcher to explicitly acknowledge that their analysis is influenced by particular discourses or theoretical frameworks. This acknowledgement serves two purposes. Firstly, it allows the researcher to reject the external validity criteria that is based on realist assumptions. Secondly, it acknowledges that a different theoretical framework could lead to a different analysis.

As a result, according to Riessman, the assessment of the external validity of an analysis no longer depends on representing the 'truth' but instead emphasises the concept of 'trustworthiness'. An analysis should not claim to be any more 'truthful' than another, but rather should make visible the process by which the interpretation of the narrative and stories has been achieved. Therefore, a high degree of trustworthiness in the analysis and any conclusions drawn from it can be argued.

For my own narrative analysis, the above concept is utilised to highlight the importance of acknowledging the influence of my theoretical frameworks including that of intersectionality and digital capital. I argue that subjective interpretations of the narratives in the analysis cannot be avoided, as my theoretical framework inevitably influences my understanding of the data. However, by emphasising the importance of transparency and acknowledging theoretical biases, I, as a researcher, can build trustworthiness in my analysis, rather than focusing on an unattainable goal of representing the 'truth'.

The equivalent of reliability in quantitative research is the concept of dependability in qualitative research. This refers to the consistency and reliability of the research findings and the degree to which research procedures are documented, allowing someone outside the research to follow, audit, and critique the research process [161]. The equivalent of objectivity in quantitative research is the concept of confirmability in qualitative research. This is defined as the degree to

which the outcomes could be confirmed by other people [161]. Even though complete neutrality is considered impossible in qualitative research, the researcher can show that they acted in good faith by demonstrating that personal values did not impact the participants or the findings [157].

Table 4: Criteria to assess qualitative research [154]

Criteria	Equivalent in quantitative	What it means
Credibility	Internal validity	The underlying purpose is to ensure that the research adheres to the principles of good practices, and it involves sharing the research findings with the participants to confirm that the researcher has correctly understood their intended meaning. This process is known as respondent validation or member validation, and it serves to establish mutual understanding between the researcher and the participants, ultimately verifying the research's internal validity.
Truthfulness	External validity	An analysis should not claim to be any more 'truthful' than another, but rather should make visible the process by which the interpretation of the narrative and stories has been achieved.
Dependability	Reliability	To obtain a comprehensive record of the entire research process the researcher must document all phases of the research. This complete record will enable external auditors to evaluate the extent to which appropriate procedures were followed during the research.
Confirmability	Objectivity	While it is widely acknowledged that achieving absolute neutrality in qualitative research is not feasible, the researcher can demonstrate that they have acted in good faith by ensuring that their personal values and opinions did not influence the participants or the findings.

3.10 Conclusion

This chapter has detailed the philosophical assumptions, theoretical frameworks and methodological approach that form the foundation of this research study. By adopting a constructivist ontology and subjectivist epistemology, the study recognises the subjective, contextual nature of knowledge production. The complementary lenses of intersectionality, digital capital, and critical race theories provides a conceptual toolkit for examining the complex interplay of multiple disadvantages in shaping digital health disparities.

The qualitative narrative inquiry methodology enables centring marginalised voices and gathering rich, nuanced accounts of lived experiences. Narrative methods are well-suited to investigating the dynamic, intersectional processes underlying disparate access to and engagement with remote consultations. The chapter has also outlined key strategies for ensuring the quality and trustworthiness of the research process.

The following chapter will detail the specific research design, data collection, and analysis procedures that build upon this theoretical and methodological foundation.

Chapter 4 – Methods

This chapter outlines the methods employed for the empirical research undertaken in this thesis. It provides description and rationale behind the chosen methods for research design, data collection, analysis, and interpretation. The study design is described in detail, beginning with context-setting through an organisational overview, followed by the sample selection process and participant characteristics. The chapter then describes the specific data collection techniques utilised, namely in-depth interviews, observational methods, and focus groups. This is succeeded by an account of data management practices and the analytical approach, offering an explanation of the distinctive phases involved in narrative thematic analysis. Furthermore, the chapter details the novel way in which data were presented through the use of narrative portraits and user personas. This is followed by a discussion of how the study's quality and rigour were ensured throughout the research process. The chapter concludes by addressing the ethical considerations that guided the study, as well as reflections from my perspective as a researcher on the research process.

4.1 Aim of the study

The purpose of my study was to understand how multiple types of disadvantage intersect to contribute to digital health disparities in the uptake of remote consultations. I sought to better understand the intersecting effects of age, socio-economic status and limited English proficiency within the context of digital health disparities. The narrative approach was selected because it is often used to better understand identity [136]. In essence, I studied the personal identities of older, low-income, limited English-speaking patients through their narratives which allowed for a greater understanding of their lived experiences of accessing remote care.

4.2 Study design

The exploratory nature of my research led me to start with the process of considering the practical elements of my empirical study. This involved an iterative process of familiarising myself with the current landscape of remote care across various NHS Trusts and exploring potential study sites which resulted in the formation of the study aim: to inform a more equitable delivery of health care services in a post COVID-19 digital world. A further study aim was devised following engagement with the literature: to explore how multiple disadvantage—specifically, older age, lower socio-economic status and limited English proficiency—has been conceptualised, theorised and studied empirically in relation to accessing health services remotely.

Narrative lends itself to a qualitative inquiry to capture the rich data in stories told. The types of data collected in narrative research are also diverse in nature, although most commonly these are first person oral accounts of experience [162]. Semi-structured interviews were employed, allowing for a flexible approach where the interviewer could adjust questions and probe further based on participants' responses (see interview guide in Appendix V). Observations and focus groups were further used to supplement data collection and refinement.

4.2.1 Setting

I explored the phenomenon of inequity around remote healthcare from within the NHS, specifically the Redbridge borough in the North East London NHS Foundation Trust (NELFT) and surrounding community services.

The Redbridge Respiratory Service within NELFT was selected as the specific site for this study for two key reasons:

1. Its continued use of remote consultations (specifically the video mode) following the COVID-19 pandemic.
2. Its potential to tap into the lived-experiences narratives of older, low-income, and limited English-speaking individuals as Redbridge is an area of relatively high deprivation, with a diverse population and high percentage of elderly residents.

Although many services turned to video consulting services during COVID-19, most of them stopped providing this mode of consultation soon after the pandemic. I had originally intended to situate my study within Barts Health NHS Trust due to familiarity and previous engagements on remote study. However, it quickly became apparent that post-pandemic most services within this Trust had switched to in-person or telephone-only consultations. This, combined with little interest from Bart's services and significant delays in communication, led me to search for a new study site. The Redbridge Respiratory Service within NELFT was one of the few services (at the conception of this study) that had continued conducting video consultations following the COVID-19 pandemic. I was introduced to the service after a lead clinician responded to a call put out on X (formerly Twitter). As the focus of this study was experiences of video consultations in particular (within the broader umbrella of remote consultations), the Redbridge Respiratory service fit the first inclusion criterion.

The second inclusion criterion centred around three factors: high percentage of elderly residents, diversity in terms of ethnicity and relatively high deprivation for the area under study. NELFT serves one of the most diverse populations in the country. Some of London's most ethnically diverse and most deprived communities are found in the local authority areas it serves, including Redbridge, Barking and Dagenham, and Waltham Forest. The Redbridge borough, in particular,

meets the above-mentioned criterion and represents an area of high diversity, in terms of social, economic and demographic characteristics.

The most recent London Borough of Redbridge Annual Public Health Report [163] showed that Redbridge was the fourth most diverse community in England and Wales with over 65 percent of residents from Black and Minority Ethnic (BAME) communities[1]. According to the report, four in ten residents were Asian (42%) and just over one third (37%) were born outside the UK. Over 90 different languages are spoken by Redbridge residents, while nearly a quarter aged three and over had a first language that was not English. The three most common ethnicities that make up 57% of the BAME population of Redbridge include 16% Indian, 11% Pakistani and 6% Bangladeshi (see Table 5).

Table 5: BAME Ethnicity in Redbridge (Source: Redbridge Annual Public Health Report [163])

Ethnicity	%
Asian/Asian British	**41.7**
Indian	16.4
Pakistani	11.1
Other Asian	7.4
Bangladeshi	5.7
Chinese	1.1
Black/Black British	**8.8**
Black African	4.4
Black Caribbean	3.2
Other Black	1.2
Other ethnic group	**2.7**
Any other ethnic group	2.1
Arab	0.6

[1] Note the term BAME is problematic for several reasons. First, it homogenises distinct ethnic groups with vastly different histories, cultures, experiences, and health outcomes under a single umbrella term. Second, it centres whiteness as the norm by defining communities primarily by their minority status. Third, it can mask important differences in health inequalities and social experiences between various ethnic groups. While this thesis references 'BAME' when citing historical documents or demographic data that used this terminology, it otherwise strives to be specific about the ethnic groups being discussed.

In terms of religion, nearly 37% of the population were Christian, the fourth lowest proportion in England and Wales, while just over 23% were Muslim, nearly double the London average and the sixth highest in England and Wales [163].

The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation for small areas or neighbourhoods in England. Redbridge is ranked the 138th most deprived authority in England and includes 11 neighbourhoods amongst the 20 percent most deprived in England. When considering socioeconomic status, the unemployment rate in Redbridge is at eight percent which is higher than the London rate of six percent [163].

The COVID-19 pandemic has highlighted the complex relationship between housing arrangements and health outcomes in Redbridge. While official statistics show that 10.8% of homes in Redbridge meet the technical definition of overcrowding (where the number of occupants exceeds available space), and 2.2% are classified as severely overcrowded [164], these metrics reflect Western housing standards that may not align with diverse cultural living arrangements. Almost a quarter of people over 70 years in London live in households with another adult below the age of 65 years, about 50% above the national average [165].These multigenerational living arrangements, particularly common among South Asian communities, offer significant advantages that are often overlooked in public health discourse. Extended family households can provide robust social support networks, enabling collective caregiving for both elderly relatives and children. This arrangement facilitates the transmission of cultural knowledge across generations and often allows families to pool financial resources for greater economic stability. However, during the pandemic these multi-generational and extended family households may have generated an

increased risk for COVID-19 infection[166]. Another concern for Redbridge has been recent increases in numbers of rough sleepers/statutory homeless which were exacerbated by the pandemic [167]. Homelessness in particular increases vulnerability to COVID-19 and other health related issues due to increased risk of transmission in shared accommodation and the high prevalence of comorbidities [164].

Parts of northeast London served by NELFT are also seeing an increase in residents aged over 65, with resultant implications for health care, as older people are generally higher users of health services. Redbridge has the 13th highest proportion of 65 years or older in London [165], making this an ideal setting for my study.

These aforementioned factors contributed to the selection of the Redbridge Respiratory Service as my study site due to its continued use of video consultations following the COVID-19 pandemic and its potential to tap into the lived-experience narratives of older, low-income, and limited English-speaking individuals. While this study was situated within the Redbridge respiratory service, there remains broader relevance for UK primary care, particularly as the NHS continues its digital transformation [168]. The Redbridge Respiratory Service operates as part of the wider primary care network in Northeast London, providing community-based care that complements and interfaces with GP services. Many of the challenges around digital access and remote consultations identified in this specialist service mirror those faced in general practice, as both settings serve similar patient populations and operate within the same local healthcare ecosystem.

The choice of this site also reflects wider trends in UK primary care delivery, where specialist community services increasingly work alongside GP practices to provide integrated care closer to

home. The continued use of video consultations by this service following the pandemic offers valuable insights for primary care more broadly, as practices across the NHS grapple with questions of digital inclusion and equitable service delivery.

4.2.2 Organisational context

The Redbridge Respiratory service supports patients diagnosed with chronic respiratory conditions and provides pulmonary rehabilitation programmes. At the time of this study, they were trialling a novel virtual pulmonary rehabilitation (VPR) programme which included holding remote pulmonary rehabilitation consultations with patients over zoom and Microsoft Teams. Those who could take part were loaned a device with Internet access. The conception of this programme was in part due to lockdown restrictions during COVID-19. However, it was also the brainchild of a lead specialist physiotherapist who was keen on scaling up the use of video consultations and remote health care services in NELFT. He started the VPR programme and worked with two other providers on his team to ensure its smooth running. The programme entailed two online sessions a week for six weeks. Each session lasted for two hours and consisted of an exercise component and educational component. Although the face-to-face pulmonary rehabilitation programme commenced soon after lockdown restrictions were lifted, the two specialist physiotherapists were keen to keep the remote programme running alongside it due to high turnout and positive patient feedback.

This service provided an ideal site for the study, as it provided access to participants in Redbridge who met my demographic criteria and had experience with video consultations. Additionally, it facilitated the development of relationships with service staff who had broader networks with other community organisations and patients, which was crucial for recruitment. It is worth noting

that the VPR programme was only one of the recruitment avenues used, as the study aimed to recruit patients in Redbridge with diverse health conditions and needs. The respiratory site served as a primary recruitment site, and relationships with healthcare providers and staff were leveraged to extend recruitment to patients outside of pulmonary rehabilitation as well. These staff connections with patients were invaluable in referring patients for interviews and speaks to the importance of continuity of care in these patient groups which will be elaborated on in later chapters.

4.2.3 Sample selection and characteristics

For this study, I employed purposive sampling with a maximum variation approach to ensure a diverse range of participants were selected [169]. Purposive sampling was deemed appropriate as it promotes generation of rich insights [158] and allowed for the deliberate selection of study participants who fitted the study's inclusion criteria.

The inclusion criteria for all participants were:

1. Aged 65 years or older
2. Limited English-speaking individuals (self-reported or as identified by healthcare providers)
3. Living within an Index of Multiple Deprivation (IMD) decile of 1-5 (measured through postcode)
4. Must have attempted at least one video consultation
5. Residing within the Redbridge borough

These criteria were chosen to align with the study's focus on intersecting disadvantages in remote care. I aimed to speak with patients who had a range of experiences in terms of duration, level of engagement with health services, severity of condition, symptom impact, treatment histories and outcomes.

The recruitment process involved multiple complementary channels, each presenting unique opportunities and challenges. The Redbridge Respiratory Service at NELFT served as the primary Participant Identification Centre. Here, the recruitment process benefited significantly from the cultural competency of the healthcare team. Two of the specialist respiratory physiotherapists were of South Asian origin themselves, which facilitated culturally sensitive participant identification and initial contact. These healthcare professionals understood the clinical needs and also the cultural nuances and language preferences of potential participants, allowing them to explain the study in appropriate ways. The specialist respiratory physiotherapists also introduced me to colleagues in other NHS services across Redbridge. This professional networking created a cascade effect, with healthcare professionals across different services helping to identify potential participants. These introductions were particularly valuable as they provided access to patients with diverse health conditions beyond respiratory issues, enriching the study's understanding of digital health experiences across different healthcare contexts.

The process typically involved these healthcare professionals initially identifying eligible patients during routine clinical interactions. They would briefly introduce the study and, if the patient expressed interest, share the participant information sheet. With the patient's permission, they would then pass their contact details to me. This approach proved particularly effective as patients had already established trust with these healthcare providers. However, this method also

presented challenges, particularly in reaching patients who had disengaged from health services or were less confident in participating in research.

To address these limitations, I expanded recruitment to local community organisations, particularly focusing on mosques and South Asian community centres in Redbridge. This community-based recruitment required careful relationship building. I spent time meeting with community leaders to explain the research objectives and build trust. The imam at the Central Redbridge Islamic Centre was particularly supportive, helping to identify potential participants and providing a trusted introduction. This approach acknowledged the central role that religious and community institutions play in the lives of many older South Asian people, particularly first-generation migrants.

Snowball sampling emerged as another valuable recruitment strategy. After each interview, I asked participants if they knew others who might be interested in participating. This method proved particularly effective within the South Asian community, where social networks are often strong and recommendations from trusted community members carry significant weight. Several participants introduced me to friends or family members who had either struggled with or successfully navigated video consultations. This approach helped reach individuals who might have been hesitant to respond to more formal recruitment methods.

Throughout the recruitment process, I maintained detailed field notes documenting both successful strategies and challenges. One significant challenge was ensuring representation across different South Asian communities - while Pakistani and Bangladeshi participants were more readily recruited through mosque networks, reaching Hindu and Sikh participants required additional outreach through different community organisations. Another challenge was managing

the gatekeeping role of family members, who sometimes acted as intermediaries in the recruitment process, particularly for participants with limited English proficiency.

The recruitment strategy was regularly reviewed and adjusted based on emerging patterns and gaps in participant demographics. Regular discussions with my supervisory team helped ensure that recruitment methods remained ethical and appropriate.

Regarding sample size, I considered the guidance from qualitative research literature suggesting that 15 to 30 interviews are common for identifying patterns in data, with 50 or more considered large [158]. However, as Patton [153] notes, there are no rules for sample size in qualitative inquiry. The purpose of my study was to maximise the information I could get from certain groups of individuals regarding their experiences of accessing remote forms of healthcare. Therefore, I used the strategy of sampling to the point of redundancy or saturation [153,170].

To operationalise this approach, I followed Francis et al.'s [171] guidance, specifying an initial sample of 12 interviews for the first round of analysis, with a stopping criterion of 5 additional interviews that would not provide any new ideas or themes. I also considered Hennink, Kaiser and Marconi's [172] distinction between code saturation (achieved at nine interviews) and meaning saturation (requiring 15-24 interviews).

Given the nature of narrative interviews, which are geared towards reporting detailed stories and life experiences, I recognised that this method is better suited to a smaller sample size. Considerable time was spent with each informant, with interviews ranging from 60 to 240 minutes.

The final sample consisted of 17 participants, ranging in age from 65 to 83 years old. The sample included ten women and seven men, representing diverse ethnicities including Bangladeshi, Pakistani, Indian, and Afghan. Participants varied in their levels of English proficiency and digital literacy, and all resided in areas within the lower five deciles of the IMD.

By purposively selecting participants with varying intersections of disadvantage, I was able to explore how these factors interact to shape experiences with remote care, particularly video consultations. However, I acknowledge that the sample may not be representative of all older, economically disadvantaged, limited English-speaking individuals, and the findings should be interpreted with this limitation in mind.

Table 6: Characteristics of interview participants

Participant name (pseudonyms used)	Gender	Age	Ethnicity	Country of Birth	Languages Spoken	Occupation	Index of Multiple Deprivation (IMD) decile
Rashid	Male	65	Mauritian	Mauritius	Mauritian-Creole English	Retired	2
Maneshi	Male	83	Indian	India	Gujrati English	Retired	3
Kamala	Female	65	Nepali	Nepal	Nepalese English	Singer	3
Tasneem	Female	67	Bangladeshi	Bangladesh	Bengali English	Unemployed	4
Najma	Female	66	Pakistani	Pakistan	Urdu Pashto English	Homemaker	2
Mohammad	Male	70	Sri Lankan	Sri Lanka	Tamil English	Local convenience store owner	5
Fowzia	Female	68	Pakistani	Pakistan	Urdu	Homemaker	3
Dhriti	Female	72	Indian	India	Hindi English	Homemaker	3

Participant name (pseudonyms used)	Gender	Age	Ethnicity	Country of Birth	Languages Spoken	Occupation	Index of Multiple Deprivation (IMD) decile
Hasan	Male	73	Bangladeshi	Bangladesh	Bengali English	Mechanical engineer	2
Shruti	Female	66	Indian	India	Hindi English	Retired Teacher	5
Hamida	Female	75	Bangladeshi	Bangladesh	Bangla English	Homemaker	3
Abed	Male	65	Afghani	Afghanistan	Urdu Pashto	Retired construction worker	4
Samiyah	Female	69	Pakistani	Pakistan	Urdu	Homemaker	1
Mohan	Male	82	Punjabi	India	Punjabi Hindi English	Retired supermarket worker	5
Ramnik	Male	78	Gujrati	India	Punjabi English	Retired Statistician	4
Fatima	Female	81	Afghani	Afghanistan	Urdu Pashto	Homemaker	2
Basmah	Female	73	Bangladeshi	Bangladesh	Bengali English	Homemaker	3

4.3 Migration history and socio-political context of South Asian communities in Britain

As discussed in section 2.2.4, Szymczak et al. [59] proposed an integrated model depicting access as dynamic interactions between individuals, health systems, and broader socio-political contexts over time. Their framework emphasises how health service innovations may have divergent effects on access and quality for multiply disadvantaged groups, depending on how they interact with existing structures and individual resources. For South Asian communities in Britain, understanding these dynamic interactions requires examining the complex historical legacy of post-war migration and settlement that continues to shape healthcare engagement today.

The South Asian participants in this study are situated within a complex history of post-war migration and settlement in Britain. Following World War II, Britain actively recruited workers from its former colonies to address labour shortages, leading to significant waves of South Asian migration [173]. The migration occurred in distinct waves, each shaping the contemporary landscape of South Asian communities in Britain. The first major wave, during the 1950s and early 1960s, primarily comprised male workers from India and Pakistan [174]. These migrants found employment in industrial sectors, particularly in textile manufacturing across northern England. The Pakistani migrants, predominantly from small-scale farming backgrounds, concentrated in specific industrial sectors - notably the steel industry in the Midlands and the textile belt stretching from Manchester to Leeds. Indian migrants, representing more diverse socioeconomic backgrounds, established themselves across a broader range of industries and locations [173].

A second significant wave emerged in the late 1960s and early 1970s with the arrival of East African Asians, primarily from Kenya and Uganda, following the "Africanization" policies of newly

independent African nations. These migrants, predominantly of Gujarati origin, brought different social and economic capital to Britain. Their experience of running businesses in East Africa, combined with higher levels of education and professional experience, influenced their patterns of settlement and economic integration, often distinguishing them from direct South Asian migrants.[177]

The 1970s and 1980s marked a key transition as family reunification transformed what had initially been conceived as temporary labour migration into permanent settlement [176]. This period saw wives and children joining the earlier male migrants, leading to the emergence of distinctive South Asian communities across British cities. These communities developed their own institutions, places of worship, and ethnic businesses, creating what Brah [178] terms 'diaspora space' - a complex intersection of migration, ethnicity, and class that continues to shape community life.

As Ahmad and Bradby [173] emphasise, settlement patterns were significantly influenced by networks and patronage rather than direct recruitment. Early settlers facilitated the arrival and integration of later migrants from their home regions, creating distinct community clusters. This pattern is particularly evident in Redbridge, where strong cultural and religious ties persist alongside adaptation to British society. The concentration of specific communities in particular industries had lasting consequences - for instance, Pakistani communities heavily invested in the textile industry faced significant challenges when these regional industries declined [178].

The participants in this study, representing the first generation of these migration waves, navigated complex power relations while establishing their lives in Britain. Many arrived with limited English proficiency and took up manual or semi-skilled work, despite sometimes holding

professional qualifications from their countries of origin which were not recognised here. Their ongoing negotiation of British institutions, including healthcare services, should be understood within this historical context of migration and settlement.

Bangladeshi migrants, arriving later in the 1970s, faced additional challenges as both employment and immigration opportunities had become more restricted. This timing affected their ability to accumulate capital and achieve family reunification, creating distinct patterns of disadvantage that persist today. Their experiences highlight how the timing and circumstances of migration continue to influence community outcomes. [179]

The study participants' current engagement with remote care reflects this complex historical legacy. Their experiences differ markedly from second and third generation South Asians, who typically demonstrate higher levels of integration, English proficiency, and digital literacy. This generational distinction is important for understanding both the specific vulnerabilities of the study population and the essential role of younger family members in facilitating access to digital healthcare services. The importance of family and community networks in mediating healthcare interactions emerges as a direct continuation of historical patterns of community support and adaptation.

This historical and sociopolitical context remains fundamental to understanding current patterns of healthcare access and digital engagement among older South Asian communities. Their navigation of health services reflects not only immediate language and digital literacy barriers but also their longstanding experiences of negotiating British institutions as first-generation migrants, shaped by complex histories of migration, settlement, and community formation. As Szymczak et al.'s [59] framework suggests, these historical patterns create distinct configurations of individual

resources and structural conditions that mediate how different segments of the South Asian community engage with the digitalisation of healthcare services today.

4.4 Data collection

Qualitative data collection methods were used that emphasised the power of storytelling while collecting and analysing data; thus the methods are mostly descriptive with a focus on understanding peoples' experiences and behaviours [162].

4.4.1 Interviews

Data were collected mainly through narrative interviews that focused on the elicitation and provocation of storytelling [180]. Narrative interviews are a way of collecting people's stories about their lives and align with a patient centred approach to research and practice. They work as more of a guided dialogue than structured enquiries using a more fluid flow of questions [158].

Creating a detailed description of events or experiences is the aim of narrative interviewing [133]. These interviews let the participant tell his/her own story without much researcher intervention, with his/her own emphasis, pauses, and inflections—and most importantly—in his/her own words. As essential as what is said, is how the person communicates information [133].

The purpose of the qualitative interviews was to explore the personal experiences of people accessing health services remotely including participating in video consultations, the perceived acceptability and impact of the digitalisation of various health services, and to identify the potential factors that might support or hinder the effectiveness of this digitalisation.

Interviews allowed me to collect rich contextual data about the participants' experiences, thoughts and beliefs. Narrative inquiry was used here to embrace narrative as both the method and phenomenon of study [181]. The rationale behind using this method for collecting qualitative data was that engaging in a conversation with participants will open up space for insights such as relationships with health care services and feelings around inclusion and access, as well as information about individuals' experiences with digitalisation of health services, video consultations and use of technology. An important aspect of my research was leaving room for conceptual novelty to emerge, for example, unanticipated challenges that arise when navigating video consultations.

As the study is about exploring impediments of access and digital health disparities in particular, I aimed to interview participants mostly in person or over electronic modes that were preferred and convenient for each individual. Of the seventeen participants, nine were interviewed in person: eight in their homes and one at their local mosque. Three participants opted for video interviews conducted via Microsoft Teams, while five preferred telephone interviews.

The interview process was largely based on guidance from Gubrium and Holstein [182], Greenhalgh [183] and Creswell and Poth [123] who detail the procedures for preparing and conducting research interviews (see Table 7). This process involved several key steps. I began by deciding on a main question and prompts for the semi-structured interview, then conducted practice sessions with volunteers and students from my DPhil cohort to refine the process. I also sent the guide to my PPI group (further discussed in section 4.9) for feedback and revised the questions accordingly. Scheduling for the interviews was done carefully, considering individual availability and ensuring no more than one interview per day. I also selected appropriate locations and modes for the interviews, while allowing ample time for transcription between sessions.

Prior to the interviews, all participants received comprehensive study information (appendix III), including an easy-read version, provided in written English format only. The decision to not provide translated materials was made due to resource constraints and the methodological decision to maintain consistency in participant documentation across the larger Remote by Default 2 study that this DPhil project was nested within. While translation would have enhanced accessibility, it would have introduced additional variables around translation quality and conceptual equivalence across languages that were beyond the scope and timeline of doctoral research. Informed consent was obtained from each participant before the interview (appendix IV).

Interviews were arranged to take place at a time and location of the participants' choosing to ensure that they were as comfortable as possible within the interview setting and that the timing of the interview was convenient for them. Participants were offered the opportunity to be interviewed in their own home, place of work, local library, place of worship or community centre. I tried to make the experience as relaxed as possible, taking refreshments for example to help put participants at ease and encourage a more natural and open conversation. On one occasion, the participant introduced me to her son whom I chatted with them before and after the interview. On another occasion the participant invited me to take a break in the middle of the interview and have lunch in her home which I accepted. In taking a flexible approach to the interviews, I hoped participants would feel empowered to set the parameters of the environment for the interviews to take place.

Each participant took part in a single in-depth interview. These interviews were conducted in a relaxed and conversational manner, with open-ended questions to allow for discussion and

descriptive responses from participants. The length of the interview varied among participants and was partly dependent on the time participants had available.

At the start of each interview, participants were asked to choose their preferred language for the conversation (English, Hindi, Urdu). During the interview, the purpose of the study was explained and the participant was reminded that they could skip any questions they did not wish to answer. I showed interest in what the participant was saying during the interview, took notes with pen and paper while also making a digital audio recording for a transcription of the interview.

The interview guide was carefully designed to align with my theoretical frameworks of intersectionality, digital capital, and critical race theory. Below are key components of the guide with example questions and their theoretical linkages:

1. Opening Narrative Question:
    a. "Can you tell me about your experiences accessing healthcare services, especially as they've moved more towards remote and video-based options?"

This open-ended question allowed participants to shape their own narrative, aligning with intersectionality's emphasis on centring marginalised voices.

2. Intersectionality-Focused Questions:
    a. "How do you think your age/language abilities/financial situation affects your experience with remote care services like video consultations?"

b. "Can you tell me about a time when you felt your background or personal circumstances made it easy or challenging to use remote care services like video consultations?"

These questions probed the intersection of various social identities and their impact on remote care experiences.

3. Digital Capital Questions:
    a. "What kinds of technology do you have access to at home? How do you connect to the Internet?"
    b. "Can you walk me through how you would book a video consultation with your doctor?"

These questions operationalised digital capital theory by exploring participants' access to technology and digital skills.

4. Helsper's Corresponding Fields Model Questions:
    a. "How do your financial circumstances affect your ability to access and use remote care services?" (Economic resources)
    b. "How does your family or community support you in using remote care services?" (Social resources)
    c. "How do language or cultural factors influence your experience with remote care services?" (Cultural resources)

These questions explore how different forms of capital interact with digital exclusion, as per Helsper's model.

Throughout the interview, probing questions were used to encourage deeper reflection and richer narratives. For example: "Can you tell me more about that?", "How did that make you feel?", "What happened next?"

The interviews usually lasted 1.5 to 4 hours. Vocalisations including "uh huh," "mmmm," "yeah," and the like were used during the interview and functioned as social cues, aimed at encouraging the participant to continue with their story, while simultaneously signifying to the participant that I was actively following and engaged with their narrative.

Even though I was careful to keep my questions to a minimum and hardly ever added my own comments, non-verbal cues and the participants' understanding that I was a Muslim, hijab-wearing woman of south Asian descent did create a particular context for the interview. For instance, as will be explained further below, there was a lot of laughter during several interviews. One explanation for this is that laughter between the interviewer and participant stems from common understanding and common experiences of the problems and incidents mentioned by the interviewee that he/she felt the interviewer could relate to. This allows a specific type of narrative to be shared with me, which may not be accessible to other researchers who do not possess similar characteristics. As a result, the data collected from such interviews can be unique and provide insights that may not have been otherwise obtained.

In an effort to elicit more information during the interviews, there were several instances where I either repeated or rephrased what the participant was saying. I occasionally questioned

someone to follow up on something or to delve deeper into an incident. I made an effort to do this subtly in order to elicit further details without detracting from the main story's flow (although sub-stories were often told within the umbrella of the main narrative).

The final section of the interview consisted of asking participants if there were any comments they would like to add or if I had missed anything important. This was followed by asking specific demographic questions including age, ethnicity, languages spoken, post code and country of birth. Thank you notes and vouchers were given to the participant to acknowledge their time and effort after each interview.

Immediately after each interview, I made notes in my journal on the social aspects of the interview, practical issues and my reflections; these complemented the subsequent transcription and analysis process. I transcribed all interviews myself within 2-3 weeks.

Table 7: Interview protocol guide: procedures for preparing and conducting interviews

Procedures for preparing and conducting interviews	
Before the interview	Sent the information sheet to the participant
	Sent the consent form to the participant
	Scheduled the interview based on participant's availability
	Did not schedule more than one interview per day
	Allowed enough time for transcription between interviews
	Chose appropriate location or modality for interview
During the Interview	Explained the purpose of the research again and reminded the participants that they can skip any questions they do not wish to answer
	Showed interest in what the interviewee was saying
	Used recording equipment to have an accurate record of the interview
After the interview	Sent thank you note and voucher to participant acknowledging their time and effort
	Transcribed interview 2-3 weeks from the date of the interview to capture details while fresh in mind
	Took note of early reflections

Source: (Braun and Clarke [158], p.90-97; Creswell and Poth [123], p.163-166)

I followed the study protocol and provided in-depth detail of the steps taken during the research process. This also included keeping a reflexive diary which is written record of my activities, thoughts and feelings throughout the research process from design, through data collection and analysis to writing and presenting the study (see Section 4.9 for detail). New participants were interviewed until no new themes arose.

4.4.2 Observations

In addition to in-depth interviews, I also conducted ethnographic observations with research participants. The objective of this method was to gain insights into how individuals interact with technology in their natural environment [184]. These ethnographic encounters provided valuable contextual insights that complemented and enriched the interview data.

For eight of the participants, I conducted home visits and sometimes participated in daily routines, such as sharing a meal. During these visits, I recorded extensive fieldnotes capturing my observations, impressions, and reflexive thoughts. These ethnographic encounters yielded crucial contextual knowledge that shaped my interpretation of participants' narratives such as living conditions, family environment and technological exposure. For instance, observing Hamida (pseudonym for research participant, 75-year-old Bangladeshi homemaker) in her home provided insights into her close-knit, multigenerational family structure. I gained perspective on how this family network facilitated her access around technology. For example, although she had a smartphone, it was not usually with her. She would often get calls that her granddaughter would answer on her behalf before passing the phone on to Hamida. Similarly, accompanying Mohan (pseudonym for research participant, 82-year-old retired Punjabi man) around his home revealed additional barriers he faced due to mobility issues which were less apparent over the phone, as well as a lack of technological devices in the home.

Between March and September 2022, I conducted systematic observations at the Redbridge Respiratory Service to understand the socio-cultural contexts, interactions, and processes involved in delivering remote care (Appendix VII). These observations encompassed both video-based and in-person pulmonary rehabilitation sessions, providing comparative insights into different modes of care delivery.

The observational data collection comprised six formal sessions: three video-based pulmonary rehabilitation classes and three in-person sessions, each lasting approximately two hours. I followed two different patient cohorts through their rehabilitation programs, allowing me to track progression and engagement patterns over time. Additionally, I spent 40 hours observing two healthcare professionals who played key roles in running the VPR programme, documenting their

day-to-day work practices, preparation processes, and delivery of both video and in-person consultations.

During these observations I positioned myself with members of the administration staff but tried wherever possible to maintain an overt, non-participant role to enable me to record observations of activities, people, settings and discussions. I also wanted to reduce the risk of interfering with the class by potential participants being affected by my presence as a researcher and to avoid being a distraction [185]. However, when necessary, I participated in conversations with the participants, for example during refreshment breaks or if asked a direct question. This process helped me to become familiar with participants and facilitated building a rapport in subsequent interviews. During observations of the online VPR classes, I joined the online call but kept my microphone muted and my camera turned off.

Field notes were written as the events and interactions occurred using a template to guide note taking. I also discussed issues with the clinicians and members of the admin team such as particular events that happened or regarding participants [186]. I found this to be a useful technique in eliciting more candid accounts from the NELFT team. After each observation, on my journey home, I added brief descriptive words or phrases in order to prompt a more substantial recall of events when I came to type them up [187]. Subsequently, a more detailed account of each observation was written up using a structured template and including free form notes to capture the sequence of events throughout the observation period [188]. Informed by guidance on note taking from Spradley [189] and Burgess [190], these field notes were further enhanced by the inclusion of notes from my reflexive journal which I used to record my ideas, thoughts and self-reflections, and some initial analysis. The aim of this process was to enhance subsequent observations and develop my awareness of my role as a researcher, as well as an understanding

of different perspectives of the individuals I spoke to [191,192]. I adopted this guided approach in writing up all subsequent field notes.

4.4.3 Focus group refinement sessions

Two online focus groups were conducted in September 2023, which served as a supplemental qualitative method aligned with the study's participatory aims, to refine and validate the narrative portraits and user personas developed from the interview data (discussed in section 5.5). This participatory member-checking aligns with narrative inquiry's emphasis on collaboration and meaning co-construction [193]. The groups were intentionally structured to facilitate meaningful dialogue between healthcare providers, patients, and family members while accommodating language needs and technological access.

The first focus group comprised eight participants (Table 8): three healthcare professionals from the Redbridge Respiratory Service (two physiotherapists and one administrative staff member), two patients from the original interview cohort who were comfortable with English and technology, and three family members who regularly supported their elderly relatives' healthcare interactions. The healthcare professionals were specifically selected for their extensive experience with the virtual pulmonary rehabilitation program and their understanding of the challenges faced by South Asian elderly patients.

The second focus group included six participants (Table 8) : two different healthcare professionals from the service, one patient comfortable with English, and three family members. Family members were designated as 'patient representatives' because they actively managed their

elderly relatives' healthcare interactions and could articulate both their own perspectives as caregivers and their understanding of their relatives' experiences with digital healthcare services.

For patients with limited English proficiency, their family members participated as representatives, translating and conveying their relatives' experiences and perspectives. This approach, while not ideal, reflected the reality of how these families typically navigate healthcare interactions. These family members, all adult children or younger relatives of the original interview participants, provided valuable insights into both the practical challenges of supporting elderly relatives with digital healthcare and the broader family dynamics involved in healthcare management.

Table 8: Focus Group Data

Focus Group	Healthcare Professionals	Patients	Patient Representatives	Total	Date	Duration	Format
Focus Group 1	2	3	1	6	13/07/2023	112 min	Online (Zoom)
Focus Group 2	2	2	2	6	16/07/2023	105 min	Online (Zoom)

My role was a moderator-cum-storyteller in the discussions. The participants were encouraged to ask questions about the personas and the discussion flowed naturally from the questions with minimal interference. Initially the discussions were planned for 60 minutes. However, both focus group lasted for almost two hours.

During the session, the 4 initial user personas were presented alongside their stories using story maps (see Appendix IX and X); feedback was solicited from the participants on the acceptability and relevance of each persona, as well as on any additional insights they could provide.

This involved multiple rounds of discussion in line with the focus group guide (see Appendix VI); each focused on refining and validating the personas in 20-minute intervals. In each round, I asked the participants to share their thoughts, reactions, and feedback on the persona. Participants were encouraged to draw on their own experiences and perspectives and to provide specific examples to illustrate their feedback. This collaborative approach allowed for multiple rounds of validation, refinement, and consensus building among the participants to ultimately produce personas that accurately reflect the needs of the target user group.

As the feedback and insights were gained in each round, the personas were refined accordingly using an online whiteboard to visualise ideas and work collaboratively. I updated each persona based on the suggestions and modifications proposed by the participants, seeking agreement from the group members on the revised versions.

The feedback obtained from the focus group sessions was then incorporated into the final iteration of the user personas. I also found that using the personas in the focus group itself brought focus to the discussion and encouraged participation. The discussions were often triggered by questions asked about the scenarios encountered by the persona and patients/patient representatives also tended to relate to the persona with their own experiences and stories.

These sessions were an important step in validating the personas and ensuring that they were grounded in real-world experiences. Overall, group dynamics were productive and respectful, with participants brainstorming and developing ideas raised by each other. Moderation ensured each participant had an opportunity to speak and the group functioned well, even when a mixture of healthcare professionals, patients and patient representatives were present.

Key Themes and Outcomes

Several important themes emerged from the focus group discussions:

1. Healthcare professionals emphasised the need to better represent the diversity of digital literacy levels within the South Asian elderly population

2. Family members highlighted the emotional labour involved in supporting elderly relatives with digital healthcare

3. Patients and their representatives validated the portraits' depiction of cultural barriers to digital healthcare engagement

4. All participants suggested refinements to make the personas more useful for healthcare service design

The focus groups generated substantial modifications to both the narrative portraits and personas, particularly in representing the complex family dynamics involved in supporting elderly relatives' healthcare access. The discussions also revealed previously unconsidered aspects of

remote care barriers, such as the impact of intergenerational tensions around technology use and healthcare decision-making.

The involvement of family members as patient representatives proved valuable in multiple ways. Beyond facilitating communication, they provided important insights into the family-centred nature of healthcare decision-making in South Asian communities and the practical challenges of supporting elderly relatives with digital healthcare services. Their dual perspective - as both caregivers and cultural interpreters - enriched the understanding of how digital health disparities affect not just individuals but entire family units.

The focus group discussions also revealed several areas of productive tension between different stakeholders' perspectives. Healthcare professionals and family members sometimes differed in their interpretation of barriers to remote care access. For example, while healthcare providers emphasised technical literacy as a primary barrier, family members more strongly highlighted cultural factors such as respect for authority and hesitancy to question healthcare providers during video consultations.

These divergent viewpoints particularly emerged during discussion of Saima's user persona. Healthcare professionals suggested that the persona should emphasise practical barriers to technology use, while family members advocated for greater attention to cultural and emotional factors. One notable discussion centred on how to represent the role of family support - healthcare providers viewed it primarily as a practical resource, while family members described it as part of broader cultural obligations and family dynamics.

Resolution of these different perspectives was achieved through careful facilitation and collaborative refinement of the persona. Rather than choosing one viewpoint over another, the persona was expanded to incorporate multiple layers of understanding. For instance, the final persona included both practical barriers to digital access and deeper cultural factors that influence healthcare engagement. This approach acknowledged that different stakeholders' perspectives were complementary rather than contradictory, offering a more complete picture of the challenges faced by my sample.

The process of resolving these differences actually enriched the research findings, revealing how digital health disparities are understood and experienced differently by various stakeholders in the healthcare system. This multi-perspective approach strengthened the final personas, making them more useful tools for healthcare service design and delivery.

4.4.4 Strengths and limitations

Qualitative methods, while well-suited to my research questions, aims, and theoretical perspectives, inherently carry limitations that require careful consideration and reflexive approaches [194]. This study, focusing on the intersectionality of disadvantage in remote health contexts, faces several methodological challenges that I have actively sought to address and mitigate.

Firstly, what could be seen as a limitation from a positivist perspective is the relatively small sample size compared to quantitative studies. However, in constructivist terms, it is the depth and richness of data obtained through in-depth narrative interviews that provide valuable contextual insights, which may not be achievable through larger surveys. The focus in qualitative

research is on data saturation rather than sample size. Nevertheless, a key consideration, noted in section 4.2.3, is the potential lack of representativeness in the sample of older, economically disadvantaged, limited English-speaking individuals. This may affect the transferability of the findings to the broader population with these characteristics, though the aim of this qualitative study was not to achieve statistical generalisability but rather to provide deep, context-specific understanding. However, to enhance transferability, I have provided thick descriptions of participants' experiences and ensured variation in sampling [159]. Nevertheless, it's crucial to acknowledge that the findings remain bounded by the subjective nature of qualitative inquiry and cannot claim to represent universal truths.

A significant concern in qualitative research is the reliance on participant self-reports, which can introduce biases such as selective memory or social desirability [195]. To address this, I focused on building trust and emphasising confidentiality during data collection. Additionally, the use of multiple data sources, including observations, allowed for triangulation of findings. Member checks were also conducted to verify my interpretations with participants, enhancing the credibility of the analysis.

Researcher bias is an unavoidable aspect of qualitative research, and despite engaging in reflexive journaling, my own perspectives inevitably shape the analysis (see Section 4.9). To mitigate this, I engaged in intersubjective meaning-making with participants and applied Yardley's quality criteria [154] to enhance credibility. These strategies helped to ensure that the findings were grounded in participants' experiences rather than my preconceptions.

The complexity of studying intersectionality and digital capital through narratives poses unique challenges for data collection and analysis. Capturing multidimensional disadvantage and digital

competencies is inherently difficult, particularly when language proficiency varies across participants. To address this, I employed multiple strategies. Firstly, I utilised my multilingual skills, conducting interviews in English, Hindi, and Urdu as needed, which allowed participants to express themselves more comfortably and accurately in their preferred language. This approach helped to capture nuanced meanings that might have been lost in translation. Additionally, I used multiple data sources, including observations, to complement the narratives. I also employed an iterative analysis process, revisiting data multiple times to ensure a comprehensive understanding, paying particular attention to language-specific connotations and cultural contexts.

Time and resource constraints posed additional challenges, given the in-depth nature of qualitative research. To manage this, I carefully planned and scheduled data collection to maximise efficiency and set clear boundaries on the scope of the study to ensure depth rather than breadth.

In summary, I have strived to uphold high standards of quality to enhance rigour. The methods chosen are defensible for investigating subjective experiences, but it is crucial to situate the findings within the scope of the study design. By integrating diverse data sources, applying verification strategies, articulating boundaries of interpretation, and maintaining reflexivity, I have aimed to strengthen the overall trustworthiness of the qualitative approach.

4.5 Data management and analysis

This section explains the data analysis methods used and the steps undertaken to analyse the data that was collected. It starts with an introduction to narrative analysis, explaining what it is

and why it was selected for the data analysis. Then it details the steps taken to conduct analysis starting with the audio data preparation for transcription and analysis, followed by familiarisation and coding, concluding with the procedures followed for identifying, analysing and interpreting patterns of data.

4.5.1 Overview of narrative analysis

The qualitative data analysis most frequently employed in narrative inquiry is narrative analysis. It is used to understand how interviewees create stories and narratives based on their own real-world encounters. In narrative analysis, this also denotes a double layer of interpretation; first, the participant interprets their own life through narrative, and then second, the researcher interprets how that narrative was constructed [133].

Here, the interpretative paradigm is used to examine how people interpret the events of their day-to-day lives. Using techniques like narrative inquiry, interpretive research respects context and aims to understand phenomena through the meanings that people assign to them, rather than attempting to predefine variables [196].

According to Rosenweld and Ochberg [197], the traditional social scientific analysis based on realist assumptions and information gathering, is disrupted by narrative analysis. The emphasis here is shifted to examine the creation of narratives themselves as well as the part they play in the social construction of identity, which is in line with the epistemological stance of my study. The stance I have adopted is embodied in their book 'Storied Lives' where they succinctly indicate that personal stories are not merely a way of telling someone (or oneself) about one's life; they are the means by which identities may be fashioned [197].

It is important that the depth of the stories is preserved during data processing when using narrative interviews. The structure and content of the interviewee's account and interactions with the interviewer were both taken into consideration. The narrative approach influenced me to ask questions like "Why is the interviewee narrating this incident in this particular way?", "What is the purpose of the story?", "Why does it occur at this point in the conversation?", "How have I or others present influenced the narration?" or "How does this excerpt fit with other parts of the interviewee's life story as narrated during the interview as a whole?".

Although there are no fixed rules for doing a narrative analysis, a number of narrative researchers have published techniques and guidelines. The four primary categories of analysis, according to Riessman [160], are thematic, structural, dialogic, and visual. According to Riessman [160], thematic narrative analysis is the most common analytic technique. The content, or "what," is highlighted. In addition, the sequencing, particular phrases, and metaphors used to tell a story are all taken into account by structural analysis. The thematic and structural approaches, which the dialogic and visual methodology build on, are the two pillars of narrative analysis, according to Riessman [160]. A more comprehensive interpretative method for oral narrative, dialogic analysis, looks at how conversation between speakers is created and interactively enacted as a narrative. Visual analysis focuses on how people communicate using images, either through telling a story with images or telling a story about images [160].

This study employed a combination of thematic and structural narrative analysis to explore participants' experiences with video consultations and the digitalisation of health services. While the primary focus was on thematic narrative analysis - examining what content the narratives communicated - there was also a significant structural component in the analysis. The thematic analysis was methodical, focused, and detailed, while still retaining a sense of the "whole" story.

This approach is well-suited to generating case studies of individuals and groups, as well as typologies [160]. Complementing this, the structural analysis focused on the "telling" of the story. This included an examination of sequencing, specific language use, pauses, and emotional expressions. By combining these approaches, I was able to carefully examine not only the themes of the participants' stories but also the way in which the stories were told. This dual approach allowed for a more comprehensive exploration of the narratives. The pauses, silences, points of rupture, affect, language choices, and metaphors, among other aspects, enabled a deeper understanding of the whole story, enriching the overall analysis and findings.

One of the proposed outcomes of this study was to provide information that will be useful in shaping more patient-centred and culturally-congruent health services. This required comparing, for example, the different strategies used by individuals to navigate their health journeys remotely. Riessman [133] argues that thematic narrative analysis is fundamentally case centred, but there is scope to develop a typology of strategies used. While the individuals' stories presented in this thesis are examples set in specific contexts of space and time, we may get a sense that they are not idiosyncratic; rather, they may illustrate more general and widespread concerns [134].

Riessman [160] notes that research varies in the extent to which it attends to matters of context, audience, reflexivity and the researcher's role in constructing the narratives that are subsequently analysed. Attention is paid in the subsequent analyses to situating the narratives in the relevant context of time and place, both for the research (early 21st century, Western health structures in the UK such as the NHS) and for the participants in terms of their cultural background, age, socioeconomic status and health concerns. I also wanted to pay attention here to the idea of audience – to whom is the participant talking when he/she is telling his/her story? In some

interviews, the participants specifically refer to information that they want healthcare providers and the larger NHS organisation to know. The audience in these instances therefore is beyond me, as the researcher, encompassing healthcare providers, policy makers and so on, more generally.

Riessman's model includes: attending, telling, transcribing, analysing and reading but she emphasises that 'interpreting experience' should happen through each of the stages of the model. Based on this, one thing I particularly focused on during the analysis was the relationship between the interviewee and the context of their story. Riessman's model focuses on the fact that narratives are ambiguous and incomplete representations of people's experiences. She points out the way in which researchers are invisibly involved in framing the narrative as they conduct the interview and carry out data analysis. Therefore, I kept this in mind and focused on the events as they were narrated in the interview, how the story was structured, and the meanings ascribed by the narrator of the story (i.e. the interviewee).

The narrative approach of analysing interviews is posited to have the ability to capture social representation processes such as feelings, images, and time. Narrative offers the potential to address ambiguity, uncertainty, complexity and dynamism of individual, group, and organisational phenomena. Narrative analysis can be used to record different viewpoints and interpret collected data to identify similarities and differences in experiences and actions. Stories are presumed to provide a holistic context that allows individuals to reflect and reconstruct their personal, historical, and cultural experiences [198]. Stories are essentially individual constructs of human experience and have limitations that may affect objectivity in presentation. Further, participant narratives capture only a limited number of experiences, which I then, as a researcher, use to approximate a coherent story. Thus, I needed to be mindful of what was left out of an individual's

account, as well as inconsistencies across accounts, or the meaning of hesitations or hedging in the accounts. However, a larger number of research participants can provide a more varied representation of experiences, which is why a sample size of 12-17 was initially sought in this study. Importantly, after conducting 17 interviews, it became apparent that no new themes were emerging from participants' stories. This point of data saturation reinforced the adequacy of the sample size for capturing a comprehensive range of experiences and meanings relevant to the research questions.

4.5.2 Transcription process

There are different types of transcription explained in the literature; there is orthographic or verbatim transcription where the researcher transcribes everything that was said in the recording, while the other type of transcription includes more paralinguistic descriptions going beyond spoken words to also include the way they were said [158]. I used orthographic transcription for this study and made sure to schedule enough time for transcribing after each interview to minimise any errors resulting from forgetting what was captured in the recorded data. This was particularly important when the recording was unclear for any reason, ranging from technical issues to the participant's voice being muffled or pronunciation obscure.

The first transcription of the interview was verbatim, including all utterances by both the participant and myself as researcher. Most of these were non-lexical utterances such as "uh huh," "mmmm," "yeah," to encourage the participant to continue with their story and indicate that the listener was following what she was saying [199]. Places where the interviewee sighed, laughed or paused were also noted. Narrative analysis involves immersion in the transcripts and I

considered that this would be aided by undertaking the transcription myself. Although a lengthy process, this enabled me to get a sense of the individuals' stories and how they were told.

Verbatim transcription resulted in extensive transcripts. For example, one transcript was 102 pages with single line spacing. A revised version was then developed where I removed many of my non-verbal or simple affirmative utterances such as "yeah", "uh huh", "mmm" as these did not add anything to the story being told. However, I did keep instances where these were deemed important (for example, stutters at certain points, long silences or pauses, laughs, or sighs). Where I made a comment or statement or asked a question, this remained in the revised transcript, as it is part of the co-construction of the story. Potentially identifying information was removed as promised; I asked the interviewee initially to provide a pseudonym, to give them the choice of what they were called in the research reports. Two participants provided their own pseudonyms and I created pseudonyms for the other participants. I ensured that the pseudonyms did not start with the same letter of the alphabet or have any resemblance to their original names. The text was left in blocks relating to the event or topic about which they were talking, unless there was a significant pause. The sequencing was preserved. The revised transcript, which was slightly re-structured to form a coherent story structure, was sent back to each participant for verification so that they could add any information that they may have thought about following the interview or note any sections that they wanted to be deleted. Additionally, I requested participants to contact me if they recalled further thoughts or details they would like included in their stories.

Given the scope of the study, I regret that I was unable to offer transcripts translated into languages other than English. This limitation may account for why the majority of participants did not provide any revisions or additional information. However, one participant did provide further details about their story, and another requested a paragraph to be deleted from the transcript. I

made a point of also letting each of the participants know that names would be removed in the final version of the transcript and no identifying information would remain. Potentially identifying information that was removed included the participants' name, specific cultural background details and some specific family information.

4.5.3 Narrative thematic analysis

The focus of narrative analysis is the participant's story as a whole rather than segments of text. My narrative thematic analysis process consisted of five stages [195]:

1. Organisation and preparation of the data
2. Obtaining a general sense of the information
3. The coding process
4. Categories or themes
5. Interpretation of the data

I began by holistically reviewing full interview transcripts to grasp participants' experiences and stories as coherent wholes. This aligns with intersectionality's emphasis on understanding individuals' lived experiences in their full complexity. Preliminary memoing captured my initial sense of narrative tone, imagery, metaphors, and affect, while also noting instances that resonated with my theoretical frameworks.

During the coding process, I manually coded the data, using NVivo to organise and analyse anticipated and emergent topics (see coding excerpt in Appendix VIII). Following Glesne's [200] definition of coding as "a progressive process of sorting and defining and defining and sorting

those scraps of collected data ...that are applicable to the research purpose," I re-read the transcripts, looking for words, concepts, or patterns that appeared together frequently.

In open coding, I assigned descriptive labels while staying close to participants' language and metaphors. This approach was particularly important for honouring the voices of marginalised participants, a key tenet of both intersectionality and critical race theory. I utilised gerunds and in-vivo codes to preserve participants' language and remain grounded in the data. Simultaneously, I was sensitised to concepts from my theoretical frameworks, such as:

- Intersectionality: Coding for instances where multiple aspects of identity interacted to shape experiences
- Digital capital: Identifying references to digital access, skills, motivations, and outcomes
- Critical race theory: Noting experiences of racism, discrimination, and power dynamics in healthcare settings

Rather than fracturing narratives by decontextualising coded chunks, I annotated codes directly onto transcripts to retain sequencing and narrative flow. This approach helped preserve the integrity of participants' stories, a crucial aspect of narrative analysis.

A master code list was created after fully coding the first transcript, initially including 65 codes representing recurring patterns. As I moved to subsequent transcripts, codes were either created and added to the master list or retrieved from it. Throughout this process, I wrote memos about connections between codes and narrative segments to grasp how broader stories contextually embed themes.

In the next phase, I grouped codes into logical categories, a word or phrase representing some piece of the data that is explicit. This categorisation process was informed by my theoretical lenses. For example, I examined how different aspects of identity intersected to create unique experiences with digital health services (intersectionality), how various forms of capital interacted with digital competencies (digital capital), and how racial experiences were embedded in broader systemic issues in healthcare (critical race theory).

These categories were then consolidated into 8 overarching themes:

1. 'Video consultations may have weak presence'
2. 'Video consultations may weaken relationships'
3. ‘Video consultations may disrupt continuity’
4. 'Video consultations may compound oppression'
5. 'Remote consultations may erode trust in health providers and systems'
6. 'Remote consultations increase complexity, which may lead to disorientation'
7. 'Engagement with remote consultations may be shaped by previous experiences of perceived racism and discrimination'
8. 'Remote consultations may reduce patient agency'

These themes represent the major conclusions and patterns that emerged from the narrative analysis, capturing the essence of participants' narrated experiences with healthcare digitalisation in a structured way. Each theme was developed with explicit consideration to the theoretical frameworks of this study. For instance, the theme "video consultations may compound oppression" draws directly on intersectionality and critical race theory, while "remote

consultations increase complexity, which may lead to disorientation" incorporates elements of digital capital theory.

To enhance depth, I examined variations within categories and utilised connecting strategies like causation coding to trace relationships among categories. This process helped illuminate how different forms of disadvantage intersect with digital capital to shape experiences of digital health disparities.

Throughout the analysis, I engaged in critical reflexivity through journaling to uncover biases, discussing preliminary findings with supervisors, and using member-checking to assess whether themes accurately represented participants' perspectives.

Additionally, to enhance the intersectional analysis, I incorporated a modified version of the Equity Design Collaborative's meta-empathy mapping approach [201]. This methodology emphasises transformative empathy, facilitating a deeper understanding of both the barriers faced by vulnerable populations and the ways in which healthcare systems can evolve to meet their needs more effectively.

At the core of transformative empathy is the concept of ‘listening to understand while also understanding how we listen.’ This approach not only facilitates awareness and supports the synthesis of diverse user experiences but also reveals how multiple, intersecting factors such as age, ethnicity, digital literacy, and socioeconomic status shape individuals' interactions with digital health technologies.

In practice, I asked myself essential empathy questions during this stage to analyse the intersectional experiences of participants. These questions included ‘how does my identity impact how I understand my participant’s experiences?, ‘what are the important customs and practices at play in my participant’s experience?’ and ‘what are the ways customs and practices work together to include or exclude my participant?’

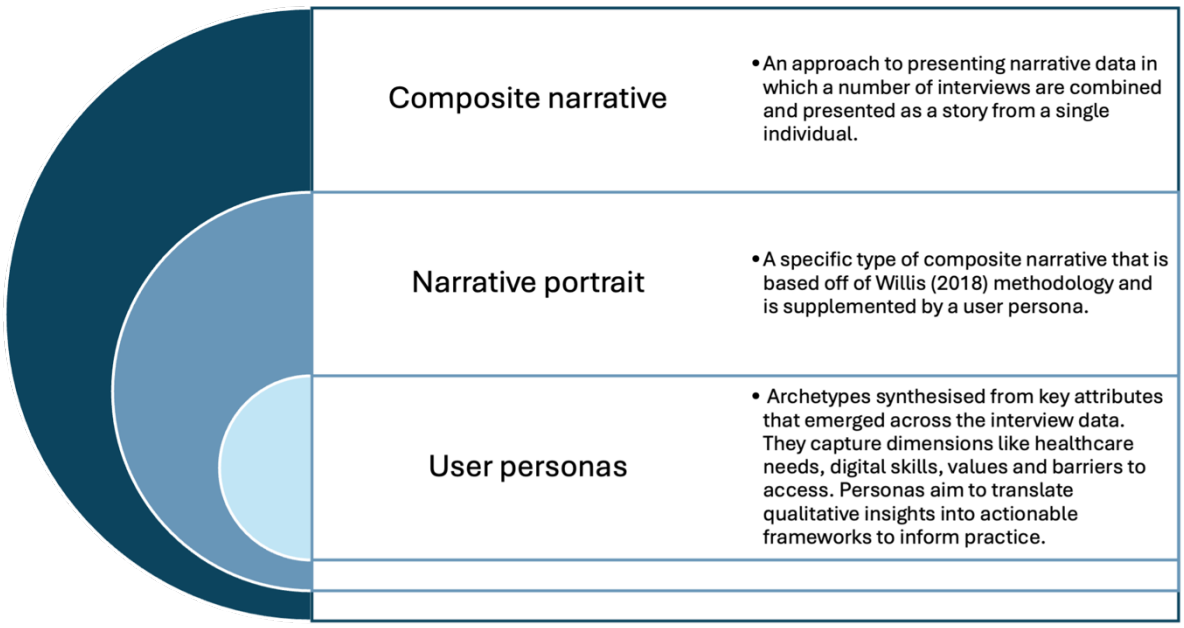
This enhanced my reflexivity as a researcher, helping me recognise how my own background and assumptions could influence my analysis. This heightened awareness contributed to a more nuanced intersectional analysis of digital health disparities.

Finally, I created narrative portraits integrating the aforementioned themes. This narrative synthesis process reconstructs a holistic storyline grounded in the data, preserving the complexity and nuance of participants' experiences.

4.6 Presentation of data

Four narrative portraits and user personas were created as a communication tool to accessibly convey key insights from the qualitative thematic data analysis discussed in the previous section. Figure 3 (see below) explains the various terms being used in this section.

Figure 3: Narrative portraits and user persona definitions



I will now describe my reasoning behind creating narrative portraits and how I arrived at the decision to develop them using Willis's [202] method of 'composite narratives'. I will then discuss the process I engaged in to compose the portraits before moving onto the creation of user personas and further discussing how an intersectionality lens underpinned the complementary personas.

4.6.1 Rationale for creating narrative portraits

Drawing on Riessman's narrative method, participants were encouraged to reflect on their experiences of accessing care remotely. As the interviewer, I was surprised and sometimes overwhelmed by my participants' reflectiveness, with many showing a disarming vulnerability in relation to their personal struggles. I was left with a set of complex and personal interview accounts, and the question of how to do justice to this richness. I came across the term 'composite narratives' [202–205] in which a number of interviews are combined and presented as a story

from a single individual. Though this approach is not widely used, it seemed a good solution to my question of how to present an authentic yet anonymous story.

Given that the aim of this project was to examine the intersectionality of multiple disadvantage through narratives of patients accessing remote care as individuals within a wider system of healthcare, there was a need for a method that allows the complexities of an individual's position to be presented and explored.

As Riessman writes, "narratives are useful in research precisely because storytellers interpret the past rather than reproduce it as it was" [206]. Relatedly, narrative portraits leverage the power of narrative persuasion through emotive storytelling to influence perspectives and actions in ways that statistics cannot. As Shen et al [207] demonstrate, embedding facts within logically consistent and emotionally compelling narratives enhances engagement, comprehension and changes in beliefs and behaviours. The vividness and resonance of stories evoke transportation and identification. Thus, the narrative portraits aim to catalyse empathy and illuminate the need for change by spotlighting authentic patient challenges through immersive storytelling.

Narratives also allow research to be presented in a way which acknowledges the complexities of individual motivations and outlooks, whilst drawing out more general learning and understanding. In this way, the composite accounts play a synthesising role in surfacing key themes across the diverse lived experiences of participants.

A crucial additional advantage of narrative portraits is that by providing contextualised and personalised accounts, they can help to build understanding of particular people and groups, in ways that are accessible to a wide range of audiences. They can serve as 'boundary objects' that

create common ground across diverse perspectives. As Star and Griesemer [208] describe, boundary objects have interpretive flexibility, allowing them to hold different meanings for various groups yet maintain a common identity. Narrative portraits like the ones I present in Chapter seven have the potential to facilitate mutual understanding between patients, researchers, clinicians and policymakers, despite possible divergent standpoints.

For example, my work has proven useful for people who want to work with patients to improve equitable access to care, including clinicians and healthcare policy makers. These composite narratives are based on anonymised conversations, they provide insights that might not be forthcoming if patients were speaking in the public domain. I have presented this research to audiences of researchers and practitioners, who commented that it gave them unique insight into the challenges faced by disadvantaged patient populations. Similarly, many illness narratives aim to provide healthcare practitioners with an understanding of patients' lived experience, thereby improving care practices [180].

4.6.2 Process of creating narrative portraits

The decision to use narrative portraits stemmed from the richness and complexity of the original interview accounts. To do justice to this richness, I decided to use Willis's [202] methodology for composite narratives to construct my portraits. Hence, my narratives are derived directly from the original data, all quotations used are verbatim quotes from the original interviews, and likewise, all the details from the narratives are taken from one or more of the original interviews. Whilst composite accounts have been used previously to prevent breaches of research participant confidentiality and tell more broadly representative accounts of patient experiences [209,210], the link between the original data and the final story is not always clear. The process by which the

original speech becomes a written narrative can often be opaque. Readers are asked to simply put their faith in the researcher's judgement. To a certain extent, all qualitative research faces this issue; researchers must use their judgement to analyse and present unwieldy amounts of 'raw' data in the form of interview data or ethnographic fieldnotes. However, by documenting the way in which the data has been analysed and presented (describing, for example, the process of coding, decisions about what extracts to include, decisions about any categorisation, and so on) I aim to be transparent and build trust in the research process and the subsequent findings.

The five practices that govern the process of composing the narrative portraits are as follows:

1. Each narrative portrait is based on transcripts from interviews. Three to five transcripts are condensed into one narrative portrait. For example, 'Saima' is a composite of five interviews with elderly, first-generation female immigrants who lived in multigenerational households and relied on family support in navigating their healthcare journeys. In contrast, another narrative, 'Rajesh', is a composite of four male interviewees who took part in the virtual pulmonary rehabilitation programme and were loaned devices which they successfully managed to use to participate in video consultations.
2. The eight key themes that emerged from the thematic analysis (4.4.3) were integral to the construction of the narrative portraits. Each narrative portrait was crafted to embody and illustrate these themes in the context of individual experiences. For instance, Saima's' narrative particularly highlighted themes 2, 4, and 8 (4.4.3), showcasing how video consultations weakened her relationships with healthcare providers, compounded her existing disadvantages, and reduced her sense of agency in managing her health. Rajesh's' story emphasised themes 3, 6, and 7 (4.4.3), illustrating disruption in continuity, his

disorientation in navigating complex digital systems, and how his engagement was influenced by previous experiences of discrimination.

3. All quotations come directly from interview transcripts.
4. Other details, such as where the interview took place, how the conversation evolved and any paraphrasing of discussions, are taken directly from one of the source interviews.
5. In the narrative itself, I try to avoid imposing any judgement on the interviewees' experiences and opinions, and do not assume motivations or feelings. Any comments of this nature in the narrative are taken directly from the interviewees. For example, in the composite narrative 'Rajesh', there was much discussion around feeling lost, confused and overwhelmed with trying to figure out how to use a loaned tablet for video consultations. In the narrative, this is reported as follows: 'Rajesh felt disoriented trying to learn how to use the tablet, especially when it came to accessing health services', showing that this is his reading of events, not the researcher's interpretation.

Taken together, these practices ensure that there is a clear link between the original interview transcripts and the final narratives. The only modification is to present data from several interviewees as if it were from a single individual. I use the term 'narrative', not 'fiction', to emphasise the fact that they are derived solely from the data.

Following this approach, I created four composite narratives from 17 interview transcripts. Several different groupings of composites were considered, and of course, the stories could have been combined in a number of different ways. I chose the final groupings as they seemed to me to best convey the range of positions and views that the data showed. As Robert Emerson notes, ethnographic approaches acknowledge the complexities, contradictions, and inconsistencies of real life. They are well equipped to deal with 'messy' behaviour rather than attempt to reduce or

neatly package complex realities [188]. The aim here is for a complex and performative sense of social inquiry that embraces the nuances and nonlinear nature of human experience.

4.6.3 Process of creating user personas

Alongside crafting the narrative portraits, I drew on the eight key themes that emerged from the thematic data analysis (section 4.4.3) to develop user personas that represented the perspectives and experiences conveyed through the narratives. The user personas aimed to synthesise the essence of each of the four narrative portraits into research-based archetypes that capture the variety of identities, positionalities and oppressions in my sample.

The development of the user personas was rooted in my theoretical frameworks, particularly the concept of digital capital and Helsper's corresponding fields model [108]. Building on Ragnedda and Ruiu's [41] definition of digital capital as accumulation of digital competencies and technology, I operationalised digital capital through access, skills, motivations, and outcomes when creating the personas. These provided insights into the accumulation of internalised resources (digital competencies) and externalised resources (digital technology) as experienced by participants [117]. I utilised Helsper's corresponding fields model [108] to further explore the multifaceted dimensions of digital and social exclusion. This model delineates four primary resources: economic, cultural, social, and personal, that influence digital and social inclusion. I drew on aspects of this model in developing the user personas to capture the interplay between digital capital and other forms of disadvantage reflected in the narratives.

The process I used to operationalise theory in the persona development is as follows:

1. For each research participant, I identified key digital competencies, such as:

    a. Ability to access and use necessary technology
    b. Navigating remote consultation platforms
    c. Communicating effectively with healthcare providers through video consultations
2. I assessed participants' access to digital resources, including:
    a. Device ownership (smartphones, computers, tablets)
    b. Internet connectivity (type, quality, consistency)
    c. Access to supportive digital environments (e.g., quiet spaces for video calls)
3. I examined participants' digital skills, including:
    a. Basic digital literacy (e.g., using email, searching online)
    b. Health-specific digital skills (e.g., accessing online health information, using health applications)
    c. Ability to troubleshoot technical issues
4. I explored participants' motivations and attitudes towards digital health services, including:
    a. Perceived usefulness of digital health tools
    b. Confidence in using digital health services
    c. Trust in online health information and digital healthcare providers
5. I investigated how participants' digital capital influenced their health outcomes and experiences, such as:
    a. Ability to access timely care through digital means
    b. Quality of communication with healthcare providers in video consultations
    c. Overall satisfaction with remote care services

6. Helsper's model [108] was crucial in helping me understand how digital exclusion corresponds with other forms of social exclusion. I examined four primary resources and how they interacted with digital capital:
    a. Economic resources: I explored how financial constraints impacted access to devices and Internet connectivity. For example, I found that some participants couldn't afford smartphones capable of supporting video consultations.
    b. Cultural resources: I investigated how language barriers and cultural factors affected engagement with remote care services. This included examining how cultural norms around health and technology influenced participants' willingness to participate in video consultations.
    c. Social resources: I looked at how social networks influenced digital health literacy and support. For instance, I found that some participants relied heavily on family members to navigate remote care services.
    d. Personal resources: I considered how individual characteristics such as age and health status shaped digital health experiences. This included examining how physical impairments might affect ability to use certain devices.
7. Underpinning intersectionality lens:
    a. The user personas were developed with an underlying intersectionality lens [211], which is visually represented by the circular diagram connecting 'Identities', 'Positionalities', and 'Oppressions' at the centre of each persona. 'Identities' refers to the various social categories that an individual embodies, such as age, gender, ethnicity, and religion. For example, with Saima, this includes her identity as an elderly Pakistani woman with limited English proficiency. 'Positionalities' represent how these identities are situated within broader social structures and

power dynamics. In Saima's case, her position as an immigrant in a multi-generational household influences her access to healthcare and technology. 'Oppressions' denote the systemic barriers and disadvantages faced due to these intersecting identities and positions. For Saima, this includes language barriers, cultural misunderstandings in healthcare settings, and digital exclusion.

b. The circular arrangement emphasises the interconnected and mutually reinforcing nature of these elements. It illustrates, for example, how Saima's identities inform her position in society, which in turn exposes her to specific forms of oppression. These oppressions then feed back into shaping her identity and social position. This circular interplay is key to understanding the complexity of Saima's experience with digital health services.

c. In essence, the narrative portraits and accompanying user personas serve as separate outputs that synthesise the eight key themes surfaced through earlier thematic data analysis into accessible archetypal stories. These two components serve complementary purposes when used together. The narrative portraits lend authenticity by giving voice to the nuanced lived experiences of real patients through immersive storytelling. The user personas offer a higher-level distillation of key attributes that capture the intersecting dimensions of participants' identities, positionalities, digital competencies, and access barriers. This distillation into archetypes can inform recommendations for enhancing equitable access to remote care services.

d. While necessarily less granular than the full dataset, the portraits and personas together provide an engaging vehicle to foster understanding among audiences like clinicians and policymakers. When used in tandem with the detailed analytical

findings, they complement the analysis by communicating the complexities underlying patient experiences with remote care services. This multimodal approach balances the need to honour individual perspectives with extracting cross-cutting insights about the interplay of technology and disadvantage.

4.6.4 Incorporating strengths-based approaches

While the narrative portraits and user personas aim to illuminate challenges faced by disadvantaged older adults in accessing remote care services and participating in video consultations, it is crucial to also recognise the strengths and capabilities within this population. To this end, I incorporated elements of strengths-based thinking and appreciative inquiry into my analytical approach and data presentation.

Strengths-based thinking and appreciative inquiry offer valuable counterpoints to deficit-based approaches that solely focus on problems or limitations. As Cooperrider and Whitney argue, appreciative inquiry assumes that every human system has a positive core of strengths [212]. In crafting the narrative portraits and user personas, I made a conscious effort to highlight not just challenges, but also instances of resilience, problem-solving, and successful adaptation to digital technologies. For example, Rajesh's persona illustrates how determination and gradual skill-building can help overcome initial barriers to digital literacy.

This strengths-based lens informed my analysis in several ways. During coding, I specifically looked for examples of participant strengths, coping strategies, and successful navigation of remote care. In developing themes, I considered how participants' existing capabilities could be

leveraged to improve their digital health experiences. The narrative portraits intentionally include moments of empowerment and agency alongside descriptions of challenges.

4.7 Ensuring the study's quality

As mentioned in section 3.9 of the previous chapter, I drew on Yardley's framework to demonstrate quality in my own study. This framework encompasses four essential aspects: sensitivity to the study's context, maintaining a strong commitment and rigorous approach, ensuring transparency and coherence, and assessing the study's impact and significance [145].

4.7.1 Sensitivity

Awareness of previous research of similar topics areas and employing similar methods provided me with sensitivity toward the sociocultural context under study. As outlined in section 4.2, it also helped in considering how these may influence data collection, how participants may respond and how this data is interpreted. In the following section, I have provided a reflective account of my role in shaping the research process and interpretation of data. Ethical considerations of the research have been described in section 4.7 below.

4.7.2 Commitment and rigour

Commitment and rigour have been demonstrated through the research strategy, thoroughness of data collection from a variety of sources using different methods until no new analytic categories emerged that is data saturation [159]; and comprehensive analysis of all data sets. Additionally, to ensure rigour, I routinely referred to the qualitative research checklist 'Consolidated Criteria for Reporting Qualitative Research (COREQ) to continuously evaluate the quality of the study [213]. The Grading of Recommendations Assessment, Development, and

Evaluation Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) checklist was also used (see Chapter two) to determine confidence in qualitative evidence synthesis during the literature review phase of the study [214]. Critical reflexivity through journaling and participation in advanced courses on qualitative methods were also utilised to develop skills in creating audit trails and conducting narrative thematic analysis.

4.7.3 Transparency and coherence

The current chapter provides a careful description of the research process and through the application of narrative thematic analysis, enables readers to discern for themselves whether the interpretations arrived at by the researcher are supported by adequate data [215]. Additionally, researcher reflexivity (discussed in Section 4.9) demonstrates transparency by identifying the experiences and motivations which underlie the research.

4.7.4 Impact of the research

Utilising the evaluative framework of criteria delineated in Table 4, section 3.9 of the previous chapter, I sought to establish the credibility of my research through a multifaceted approach. Firstly, I fostered a collaborative environment by actively involving study participants at various stages of the study and inviting their perspectives and insights. Furthermore, I availed myself of their feedback, and incorporated their voices into the analytical process.

To address the imperative of truthfulness within the research context, I placed substantial emphasis on transparency, striving to render explicit any potential theoretical biases. By openly acknowledging such predispositions, I sought to mitigate their impact and bolster the integrity of the research outcomes.

Moreover, in order to assure the dependability of the research, I conscientiously maintained an exhaustive record throughout the entire investigative process. This documentation encompassed pertinent details and procedural intricacies, facilitating subsequent scrutiny and evaluation of the research methodology and findings. To safeguard the confidentiality and anonymity of the participants, I adhered to the principle of non-identifiability. Only non-personally identifiable information was disseminated, to uphold privacy and minimise any potential ethical concerns.

Lastly, to ensure the confirmability of the research outcomes, I conscientiously refrained from expressing personal views or opinions during the interview sessions. By abstaining from subjective influence, I aimed to preserve the authenticity of the participants' responses, allowing for an accurate reflection of their perspectives and experiences.

4.8 Ethical considerations

Ethical issues relating to this research have been reviewed and approved by the NHS Research Ethics Committee. This was through a substantial amendment (appendix 1) submitted for the larger Remote by Default 2 Study that this doctoral research project falls under in the Department of Primary Care Health Sciences at the University of Oxford. I also obtained a Research Passport to conduct research at the North East London NHS Foundation Trust.

Given the exploratory nature of this research, potential risks may have occurred and affected the overall process. Although nothing of the sort presented itself, I recognised the potential sensitivity around interview and focus group participants talking about personal experiences of accessing health services during (and after) the COVID-19 pandemic. There was potential for this topic to cause distress and as such, this risk was outlined in the information provided to participants (see

participant information sheet in appendix III). All participants were informed that they could withdraw from the study at any point and without having to give any explanation, should they have become uncomfortable.

In conducting the interviews, I was experienced and used to watching for signs of distress and supporting this in an appropriate and sensitive manner. This included pausing or stopping the interview and facilitating appropriate support and follow-up if necessary. It was also possible that health care providers who took part in this research might have disclosed evidence of poor practice (either their own or colleague/ institution's) during an interview. I had a procedure in place to immediately discuss any suspected poor practices with supervisors and, if necessary, communicate with the relevant regulatory authority. Although this did not occur, in the unlikely event that a participant revealed information during an interview or focus group that suggests malpractice, or that they may be at risk of harm to themselves or others, then appropriate action would have been taken in consultation with supervisors. If appropriate, this may have included contacting relevant bodies or authorities to escalate the situation. Wherever possible this would have been done with the permission of the individual involved. Participants were also offered a £25 physical voucher on completion of the interview in line with NIHR guidance.

As for participants, the risk in engaging in this research was minimal. However, I was aware of potential harms and how to minimise these. At the sampling stage, to avoid potential participants to feel pressured in taking part in the research, the gatekeepers (health professionals, family members, etc) were involved in approaching patients for interviews, but the final decision whether to take part in the interview was discussed with the participants themselves, emphasising that participation was voluntary. In all settings, participants were informed about the nature and purpose of the study orally and provided with a written information sheet detailing

the research project in an easy read style. Informed consent was obtained in written or verbal form from each participant for interviews and focus groups (appendix IV). For the analysis and reporting of the findings, participants were anonymised, and any identifying information was removed. As for observations of specific events, since this involved informal conversations with local people or participant attendants, I introduced myself and the study, specifying that the purpose of the research was to understand how the initiative was working, and that no personal information would be recorded.

Another potential risk when doing research in communities refers to generating false expectations regarding benefits from taking part. I ensured that each participant understood that I was not a member of the practice or from NELFT and that my role was purely that of learning through the field research about how remote care worked and whether and how it has impacted the people engaging with it. This was explained in the information sheet and was reiterated during interviews.

Additionally, to ensure no harm resulting from sharing information, I informed potential subjects about the objective of the study, and confidentiality was maintained for the whole process. The findings were thus fed back in anonymised form at the end of the field work and discussed with healthcare staff and admin at NELFT to facilitate shared learning.

4.9 Patient and Public Involvement

This study was nested within the broader Remote By Default 2 (RBD2) project, which had a robust Patient and Public Involvement (PPI) structure. The RBD2 PPI panel consisted of diverse patient representatives who provided invaluable input throughout the research process. Three members

were from South Asian backgrounds themselves, with experience supporting elderly relatives in accessing healthcare, while two members had broader expertise in patient advocacy and digital health engagement. Their involvement was crucial in shaping various aspects of this study, including:

1. Refining research questions to ensure they addressed issues most relevant to patients

2. Reviewing and improving interview guides to make them more accessible and comprehensive

3. Providing insights on recruitment strategies to reach diverse participant groups

4. Offering feedback on preliminary findings to enhance their relevance and applicability

5. Reviewing final user personas following focus group refinement sessions

The PPI members met quarterly throughout the research period, providing ongoing guidance and feedback. While their involvement strengthened the study's relevance and cultural sensitivity, some limitations should be acknowledged. Despite efforts to recruit PPI members outside of the wider RBD2 group, this proved challenging within the DPhil timeline. However, the group's diverse perspectives and experiences provided valuable insights that informed all stages of the research process.

PPI engagement throughout the study demonstrated both the value and challenges of meaningful patient involvement in doctoral research. Having been actively involved with the RBD2 PPI group

prior to starting my DPhil, I had already established strong relationships with several members who later joined my study's PPI group. This existing rapport facilitated deeper engagement and more candid feedback throughout the research process. The PPI members became increasingly invested in the study's aims, often offering perspectives beyond the formal quarterly meetings. One member's community connections proved particularly valuable, introducing me to an imam in London who subsequently facilitated access to the Redbridge mosque community through his professional network. Their involvement shifted from purely advisory to more collaborative, particularly during the development and refinement of the user personas. This deepening engagement enhanced the study's credibility within the communities it sought to understand, while also highlighting the importance of building sustained relationships in research.

4.10 Researcher positionality and reflexivity

Researchers are considered to be the 'human instrument' in mediating data and thus play an integral role in qualitative research. Data collection, analysis and findings are thus directly impacted by a researcher's role and in the way they evaluate and understand study phenomena [157,158]. Background, personal experiences and implicit assumptions influence a researcher's ability to create meaning from data. This does not mean that anything goes in qualitative research, which is a common critique; rather it means that the researcher's story is one among many that could be told about the data set. It is important to note that an effective qualitative researcher uses a range of sources and theory to tell a story about their data.

The focus of this research is a culmination of my previous interest and experiences. Having held an interest in psychology and global health, I undertook a master's in Public Health and a Bachelor's in Biopsychology, Cognition and Neuroscience. I have been a research assistant at the

Department of Primary Care Health Sciences in Oxford for over three years working on UK wide studies including 'Remote by Default' and 'Remote by Default 2' which have allowed me to develop a passion for tackling digital healthcare inequalities and has armed me with a wide network to access key people in my area of study. My ability to speak multiple languages, (specifically English, Urdu, and Hindi) alongside previous volunteering work with refugees and asylum seekers in both the US and UK, has allowed me to foster a relaxed and amiable approach in conducting interviews with many of my study participants. At the beginning of each interview, participants who spoke these languages were asked which language they felt most comfortable using. This approach allowed me to conduct interviews in the participant's preferred language (English, Urdu, Hindi or a mix) enhancing communication and rapport.

The current research has provided me with the opportunity to explore in depth the lived experiences of disadvantaged groups in accessing health services via video consultations. Through this process and the development of this thesis, I feel that I have gained some insight and understanding of what works to improve peoples' health and well-being in the age of digital healthcare.

I kept a reflexive journal throughout the research process, making regular entries on my methodological decisions and the reasons for them, the logistics of the carrying out the study, and reflections on my own thinking, values and interests as they intersected with the data. Reflexivity is considered a key element in a qualitative study in striving for objectivity and neutrality [215] and is broadly defined as a process of self-examination, where the researcher recognises and reflects on their role and participation in social interactions when gathering data [216].

I found this an extremely useful process in helping to understand my own practices as a researcher, reflecting on how I engaged and communicated with participants, and in identifying my own biases (how my own preconceptions, beliefs, values, assumptions and position may have come into play during the research process). For example, I used the journal to record my reflections on interview experiences, focusing on both the social aspects of the interview and practical issues. This typically included notes on how well I thought the interview had gone, my impressions of the person interviewed, the main themes, as well as thoughts on methodological and theoretical implications.

It is also important to acknowledge that a researcher's positionality can affect their access to services and relationships with staff. As a research student, my position as an outsider with no previous relationship to the service providers and staff in the Redbridge Respiratory Service could have had implications for my ability to recruit participants and build relationships with the staff. However, being mindful of my positionality and taking steps to establish trust and rapport with staff was crucial in enabling access to the service and its patients.

For example, I made efforts to build relationships with the staff at the service, such as attending team meetings, spending time at the service, engaging in lunchtime discussions, showing interest in the work and communicating regularly with them. By doing so, I was able to establish a sense of credibility and trust, which allowed me to gain access to the service and recruit participants for the study. Additionally, with the support of staff members, I was able to extend my recruitment efforts beyond the respiratory service. Staff connections with patients helped facilitate referrals of potential participants for interviews.

Furthermore, my positionality may have influenced how staff and participants interacted with me during the research process. For instance, participants may have felt more comfortable disclosing personal information to me due to my outsider status, while staff members may have been more guarded in their interactions with me. Being aware of these dynamics and taking steps to mitigate any potential biases was important in ensuring the integrity of the research and building trust with participants and staff.

The practical points also helped me to consider methodological implications such as how well the interview topic guide was working, whilst the notes on the social elements of the interview helped me to explore my own assumptions, values and beliefs and how these might impact my research. The following extract from my reflexive journal illustrates my initial reflections on my own identity and position as an interviewer following an interview with a Bangladeshi, Muslim woman.

Extract from reflexive journal

This was a really interesting interview. I could tell that she was only comfortable saying certain things to me because she felt that I (as a Muslim, hijabi woman) was like 'them'. She said things like "I'm sure you've encountered issues like this", "you know what it's like being a brown woman here", "this system wasn't built for people like me and you". She was reserved at first but then that feeling that 'we were in this together' allowed her to open up with me over the course of the interview. She felt like I could relate to her experiences and definitely in some instances I could (like when she spoke of her Mum having trouble with the language).

Furthermore, discussing my research with my supervisory team, my colleagues and people independent of my immediate research facilitated my reflection, helping me to gain new perspectives through questioning my assumptions and decisions. I found this to be useful in keeping the focus on my research separate from the larger Remote-by-Default 2 Study, particularly during the data collection and analysis phases and in writing up my findings. The following extract from my reflexive journal describes how talking through ideas with a colleague helped develop my thinking on how to frame and write up my findings.

Extract from reflexive journal

…talked through process for focus group refinements with [DPhil colleague], really nice to get her input and feedback. [DPhil colleague] asked some really insightful questions about what I'm trying to get out of these sessions- this has really helped me to think things through and I can now see that I have to create initial personas to show participants in the focus group in order to really get the greatest value out of these sessions in a few months' time. This feels like a big step forward - taking focus back to data analysis and creation of personas and away from co-production related to TbD-related work….

Reflecting on my preconceptions, my role as a researcher and my role within a larger research team has, I hope, helped me achieve greater insight as well as challenging preconceptions in my own research.

My positionality as a female American Muslim of Indian descent pursuing doctoral study in the UK undoubtedly shaped this research process in complex ways. While I aimed to approach this work reflexively, I recognise my subjectivity stems from a privileged academic vantage point that differs from participants' realities of disadvantage. I have not directly experienced the intersectional marginalisation and barriers to healthcare access that my participants navigate. As an emerging scholar, I had to remain cognisant that my education and research opportunities result from systemic inequities that limit options for minorities from low-income backgrounds.

My intersectional identity created different dynamics with different participants. Drawing on Gunaratnam's [217] work on the complexities of researcher positionality in ethnic and racial research, I found my insider/outsider status was fluid and contextual rather than fixed. Despite the broad category of 'South Asian', I encountered subtle tensions and assumptions across different South Asian communities. Being a younger Muslim woman wearing hijab particularly facilitated trust and openness with elderly Muslim women participants. They often expressed comfort discussing health issues with me that they might have found difficult to share with male researchers or those from different faith backgrounds. Several participants made direct references like "you understand what it's like for us" or "as a Muslim woman, you know how important privacy is." However, this same positioning sometimes created distance with male participants, particularly in discussions about intimate health concerns. I noticed male participants often spoke more hesitantly about certain health issues or would defer to discussing technical rather than emotional aspects of their healthcare experiences.

My ethnic background as a woman of Indian descent also had varied impacts across different South Asian communities. While it facilitated general cultural understanding, I noticed subtle differences in rapport building. With Indian participants, there was sometimes an assumption of

complete cultural alignment that I had to carefully navigate, especially when their experiences or views differed from my own family background. With Pakistani and Bangladeshi participants, there was often initial curiosity about my background that actually served as an icebreaker, leading to rich discussions about shared and different cultural experiences in accessing healthcare.

Being American-born added another layer of complexity. While my ability to speak Hindi and Urdu helped bridge communication gaps, participants often noted differences in my accent and use of language compared to their British-Asian experience. This sometimes positioned me as both insider and outsider simultaneously - culturally familiar yet distinct from their British migration experience. This dynamic often prompted participants to explain aspects of British healthcare navigation that they might have assumed a British-Asian researcher would already understand.

My previous work in public health exposed me to certain health equity discourses that inevitably influenced my research lens. My training attuned me to how language barriers, for instance, impact healthcare access. However, my vocabulary of "determinants" and "disparities" differed from how participants narrated challenges obtaining digitally-mediated care. I aimed to privilege participants' everyday language over academic jargon in honouring their knowledge. Their rich use of metaphors revealed how digital exclusion intersected with ageing, poverty, and other aspects of identity not fully captured through theoretical terminology.

Throughout the research process, I maintained detailed reflexive notes about how these various aspects of my identity appeared to influence different interview dynamics. This helped me remain conscious of both the advantages and limitations my positionality brought to different interview

contexts, while working to ensure all participants felt comfortable sharing their experiences regardless of our similarities or differences.

By reflecting on and writing about my positionality throughout this project, I hope to move toward greater understanding of the limits of my particular perspective. My cultural proximity should not engender assumptions; rather, I centre participants' intersectional perspectives. Still, my choices around research design, data collection, and analysis ultimately impact the narratives produced. Engaging participants in these processes and applying quality checks help strengthen credibility but cannot eliminate the influence of my positionality. By articulating my background and reflecting on how it informs the study, I make visible my role in shaping the qualitative inquiry. Ultimately, I aim for empathetic interpretations that honour participants' intersectional experiences of multiple disadvantage.

Chapter 5 – Impact of remote consultations on continuity and relationships

This is the first of the findings chapters and focuses on how participants with multiple disadvantage navigate relationships with healthcare providers specifically in video consultations, but also within remote care more broadly. I found that experiences of digital health disparities were shaped by presence, continuity and therapeutic relationships.

First, I found that video consultations can create dynamics of 'absent presence', drawing on theorist Kenneth Gergen's conceptual work [218]. Through patients' descriptions of delayed responses, mechanical intonation, lack of eye contact and motionless bodies in video consultations, I found ways in which technology appeared to patients to inhibit healthcare providers' situational presence and attunement. It revealed how these absent presence dynamics disrupt vitality and rhythms underlying effective communication.

Secondly, I found that lacking prior in-person rapport negatively shapes patients' perceptions of subsequent video consultations with unfamiliar clinicians. My findings suggest difficulty forming bonds through screens, highlighting relational foundations for ethical care and therapeutic relationships.

Thirdly, I found that video consultations disrupted established continuities. Participants mourned severed relationships with local providers and fragmented coordination as responsibility diffused across decentralised care nodes that lack interconnectivity. The analysis gives particular focus to fragmentation of relational continuity and the shift to continuity of distributed work.

Finally, I applied intersectionality theory to examine how video consultations compound oppression for those inhabiting intersecting marginalised identities. Following the four themes, final conclusions and recommendations synthesising the central analysis are provided. This structure aims to sequentially build understanding of how video consultations and remote care have influenced patient-provider relationships for my multiply-disadvantaged South Asian participant group.

5.1 Video consultations may have weak presence

5.1.1 Background

The concept of 'presence' in medical consultations has been historically anchored in the physical realm, with scholars highlighting the importance of non-verbal cues, body language and the therapeutic touch in facilitating holistic care [219]. Digital interactions, however, have challenged this paradigm, prompting researchers and clinicians alike to interrogate the nuances of presence in a virtual setting [220]. Recent literature underscores that while digital modalities offer convenience and accessibility, they have significantly altered the intangible yet profound element of human connection—often encapsulated in the term 'presence'. This shift has undermined traditional notions of presence, creating new areas of contention and study [221].

In considering video consultations and remote care, it is important to initially contemplate how technology shapes our social interactions and meaning-making processes. Gergen's [218] concept of 'absent presence' provides a useful lens for this analysis.

Originally describing how technology use can create a sense of disconnection among physically present individuals, I extend this concept to explore how technology-induced absent presence manifests in remote care, particularly video consultations.

Recently, Baym [222] used Gergen's [218] notion of absent presence to contextualise how mediated interactions are ambiguous in nature. Although they may enable us to extend the borders of our social worlds, they can also cause struggles with new forms of interpersonal connection, digital control and constrained autonomy that they simultaneously entail [222].

Gergen's [218] conceptualisation of absent presence, as applied here, denotes a significant problem in terms of divided attention between people when technology is thrown into the mix, and thus, inhibits connection, trust and depth in social interactions [218,222,223]. Nevertheless, using technological modes of communication is a routine aspect of the daily practices of many healthcare professionals [224–227] especially since the COVID-19 pandemic, and one that warrants closer examination with the increased digitalisation of the NHS.

5.1.2 Findings

In this section, I go through three different dynamics of absent presence, which were evident in my interviews: (1) delayed responses, (2) mechanical intonation and (3) a motionless body. These themes are the abductive products of reading through and making sense of participants' descriptions. Analysis across all 17 participants revealed that these dynamics of absent presence manifested with consistency. Delayed responses were reported by 9 participants, mechanical intonation by 5, and concerns about motionless bodies by 6. Together, these manifest as systemic challenges that particularly impact older South Asian immigrants navigating UK healthcare.

5.1.2.1 Delayed Responses

The first dynamic emerged during my interview with Maneshi, a retired factory worker who was part of the migration from commonwealth countries (including India) to England for factory work, which primarily took place during the 1950s and 1960s. This migration was a significant part of the larger post-World War II phenomenon of labour migration from former colonies to the imperial powers' centre.

In the early years, Maneshi worked tirelessly in factories, contributing to post-war rebuilding efforts. He faced the challenges of adapting to a new culture, overcoming language barriers and combating racial prejudice. Migrants like Maneshi faced various challenges, including racism and discrimination. They often took up low-skilled jobs in factories and other industries. Having navigated through language barriers in these roles, Maneshi developed a communication style rooted in directness and immediacy. This historical context becomes important when analysing Maneshi's perception of delayed responses in video consultations, highlighting that his experiences are shaped not only by individual preferences but also by a historical context of resilience and adaptation.

Having picked up a solid grasp of the English language over the years, we spoke in English about a recent video consultation he had with his GP who, prior to the pandemic, he had seen in person.

Maneshi: I strongly believe that when you're having a conversation, especially in a remote doctor-patient setting, it's important to look at the camera. It just doesn't feel right when the doctor is clearly looking at other screens or his notes or doing something else on the side and taking his time to respond to you.

LH: You say it doesn't feel right. Can you elaborate on that?

Maneshi: If my doctor is doing twenty other things on his side of the screen while I'm talking, even if he is technically listening, it just doesn't feel like a genuine conversation to me.

LH: Why is that?

Maneshi: I mean…well… when someone is doing that, it feels like they're not fully present or interested in what I'm saying. It doesn't feel like they are really listening. When I go to the GP in person, those distractions aren't there. I know the GP is looking at me and having a conversation with me.

LH: So it's about paying attention and being present? You use the term 'not fully present,' but can you describe what it means for someone to be 'present'?

Maneshi: It's like what you're doing now—sitting there, making eye contact, and having a conversation instead of being on and off with other things on the side going "... Sorry, what?"

In Maneshi's narrative, when a person is doing other tasks during the conversation and not maintaining eye contact via the webcam, it doesn't feel like they are truly 'listening.' At first glance, this assertion may seem illogical; after all, we listen with our ears, not our eyes. However, Maneshi's statement highlights the cross-modality of perception; individuals immersed in other tasks while having a conversation often exhibit a lack of responsiveness, eliminating the possibility of multitasking, such as reading texts while actively engaging in a conversation. This lack of responsiveness is directly observed in the person's demeanour, appearing 'absent' and preoccupied, leaving the impression that what is being communicated is not interesting enough to capture their attention.

I then asked Maneshi to describe what being 'present' entails. He explained that my being present during our conversation involved sitting across from him, making eye contact, and engaging in conversation. In contrast, he mentioned the disjointed and unfocused nature of video consultations, where a person might intermittently glance at another screen. Describing this

behaviour, Maneshi used the term 'on/off,' indicating a pattern of starting, stopping, and then starting again multiple times.

This 'on/off' pattern Maneshi described poses a challenge to the flow of conversation. In Maneshi's view, everyday conversation relies on a continuous, collaborative exchange, with both parties actively contributing to the dialogue. The intermittent style of delayed responses in video consultations, such as saying, "... Sorry, what?" disrupts this fluid interaction. Maneshi felt this caused a misalignment between speakers and hindered the smooth flow of conversation he was accustomed to in face-to-face interactions.

Maneshi's observations highlight how the technical constraints of video consultations can impact the perceived quality of interaction, particularly for individuals like him who value direct, immediate engagement. His experience suggests that the discontinuity in communication caused by digital interfaces may be especially noticeable and potentially problematic for older patients or those from cultural backgrounds that place high value on direct, personal interactions.

This experience of delayed responses resonated particularly with participants from similar migration backgrounds. Like Maneshi, three other participants who arrived during the 1960s-70s described how their early experiences shaped expectations of direct communication. For example, Dhriti, a 72-year-old Indian homemaker (see section 5.4 for further context on Dhriti's narrative) noted:

"When we first came, you had to learn to speak clearly, directly. Now these video calls, they break all those rules we learned about how to communicate properly here." (Dhriti, 72-year-old Indian female, with diabetes, arthritis, history of FGM, migrated in 1970)

5.1.2.2 Mechanical intonation

While delayed responses disrupted learned communication patterns, the second dynamic - mechanical intonation - challenged deeper cultural expectations of healthcare interactions. This second dynamic unfolded in my interview with Fowzia, a recently widowed immigrant from Pakistan who spoke to me primarily in Urdu (transcript translated). Fowzia's narrative reveals multifaceted healthcare expectations shaped by Pakistan's pluralistic medical system, where multiple approaches to healing coexist. In Pakistan, she engaged with both biomedical and traditional healing practices, where consultations integrated family networks, spiritual elements, and community knowledge. These weren't simply "more personal" interactions, but rather reflected complex social structures where health decisions were collectively negotiated through extended family and community networks.

As discussed in section 4.5.1, this analysis employs a double hermeneutic approach where meaning emerges through two layers of interpretation. First, participants interpret and make sense of their lived experiences through the narratives they construct, selecting specific metaphors, comparisons, and frames of reference that reveal how they understand their changing circumstances. Second, as a researcher, I interpret how participants have constructed these narratives, analysing their choice of language, emphasis, and framing to understand the deeper meanings they attribute to their experiences. This dual analytical process acknowledges that the findings presented here represent an interpretation of participants' own interpretations[133]. This is applied throughout the findings chapters in this thesis.

Over her 33 years in the UK, Fowzia's healthcare expectations evolved through active negotiation rather than passive adaptation. She maintained certain cultural practices - like involving family members in consultations and expecting longer relationship-building conversations with providers - while strategically engaging with UK healthcare norms. For example, she developed ways to incorporate family decision-making within the NHS's individual-focused system:

"Before, we would discuss everything with family first, then GP. Here, my husband came to appointments, we record things on my phone to share with children later. But now with video, there's no space for family conversation - it's just quick questions, quick answers." (Fowzia, 68-year-old Pakistani female, with type 2 diabetes, migrated in 1991)

The shift to video consultations disrupted these carefully developed hybrid practices. The format's constraints - limited time, individual focus, reduced non-verbal communication - conflicted with Fowzia's established ways of sharing health information and making decisions. This wasn't simply about preferring "warmer" [228] interactions, which according to Pols and Moser, refers to the affective, social and relational aspects of health interactions that go beyond the technical and functional delivery of medical services. They argue that warmth in care involves building trust, enabling cultural practices, facilitating social connections, and creating spaces for shared decision-making. For Fowzia, it was this as well as the loss of important social and cultural processes that supported her healthcare engagement.

Her recent widowhood adds another dimension - not just in terms of needing more empathy, but because it disrupted her primary mechanism for navigating healthcare interactions. Her husband had served as both cultural interpreter and co-decision maker. Without this support and faced with video consultation constraints, Fowzia had to rapidly reconstruct her approach to healthcare interactions while processing grief:

"When my husband was here, he knew how to talk to doctors, when to push for more time. Now alone, facing this new …[waves hands around] screen ...how do I explain that I need time to think, to consult my children? The doctor just wants quick answers." (Fowzia, 68-year-old Pakistani female, with type 2 diabetes, migrated in 1991)

She conveyed her perspective on her specialist's inattentiveness during a video consultation in particular.

Fowzia: I've been around for a while, and I can tell when someone's not really there. It's as if they're reading a script rather than connecting with me.

LH: Can you elaborate?

Fowzia: I can't tell if my doctor is looking at my medical charts, or actually listening to my concerns. There's no nodding, no smiles, just a clinical detachment or coldness I don't know how to describe it.

This lack of affirming gestures—those subtle acknowledgments of understanding or empathy—were missed. Furthermore, the absence of eye contact exacerbated this unmooring from familiar assurance, conveying instead "a sense of disinterest".

Fowzia: The absence of eye contact and non-verbal cues makes you feel… I don't know it's off putting. It feels like I'm talking to a computer program instead of a real doctor. They used to, the doctors, they would bring a lot of comfort and assurance; now, it's replaced with a sense of disinterest. It just makes you think you know? Do they even care?

LH: What would help you think that the doctor cares in this situation?

Fowzia: Well, for example, eye contact. When I share with my doctor that I've been struggling lately, I want her to look me in the eye and convey her understanding, rather than just saying, "Yeah. Okay. Hmmm" [uttered with a flat intonation]. Otherwise, it feels like... It's almost like it might as well just be nothing where someone might say, "Yeah. Hmmm," and not truly absorb it. They don't really connect with the situation or fully comprehend. I want them to genuinely understand and care.

Fowzia, emphasised the importance of feeling understood when sharing meaningful or upsetting events with medical providers. Her perspective highlights the cultural and personal significance of empathetic responses in healthcare interactions. She described how in video consultations, healthcare providers often respond with limited verbal cues like "Yeah. Okay. Hmmm." While these responses might seem preferable to complete silence, Fowzia found them inadequate.

She elaborated, "When I share with my doctor that I've been struggling lately, I want her to look me in the eye and convey her understanding, rather than just saying, 'Yeah. Okay. Hmmm' [uttered with a flat intonation]." For Fowzia, these mechanical responses signalled an indifferent registration of facts rather than the deep, empathic understanding she sought.

Fowzia's experience reveals a crucial aspect of absent presence in video consultations: the struggle for recognition. Her need for eye contact and meaningful non-verbal cues in social interactions, similar to Maneshi's experience, was thwarted by the limitations of digital communication. This lack of attentiveness and presence from the provider significantly impacted her perception of the consultation's quality.

This intersection of cultural background, personal circumstances, and the constraints of remote care highlights how absent presence in video consultations can disproportionately affect certain groups like my South Asian study population. Similar mechanical intonation and disengaged responses were evident in four other South Asian participants, who described feeling like they were "just going through the motions" during video consultations. They reported giving brief, perfunctory answers to their clinicians' questions while struggling to convey the full context of their health concerns. This pattern suggests that the format's limitations may particularly impact patients from collectivist cultures where health discussions traditionally involve family members

and require building trust through sustained social interaction. The resulting disconnection risked missing important clinical information while also eroding the therapeutic relationship that many South Asian patients consider essential for effective healthcare.

5.1.2.3 A motionless body

Abed, a 65-year-old Afghan immigrant, arrived in the UK in 1988 fleeing the Soviet-Afghan war. His journey was marked by initial settlement in Bradford's Afghan community before moving to East London in 1992 for construction work opportunities. His transition wasn't just geographical - it represented a shift from Afghanistan's integrated community-based healthcare system to the NHS's more structured approach.

Managing chronic back pain from 25 years of construction work, alongside Type 2 diabetes diagnosed in 2010, Abed had developed a careful routine of healthcare engagement before the pandemic. He visited his GP monthly for diabetes management and attended a pain clinic every two months. These regular in-person visits allowed him to build relationships with healthcare providers who understood both his medical needs and cultural background.

Particularly significant was his relationship with Dr. Ahmed, a Pakistani GP who spoke Urdu. This linguistic and cultural alignment helped Abed navigate complex medication regimens and lifestyle modifications. The transition to video consultations disrupted this personalised support system:

"With Dr. Ahmed, before we would spend first few minutes just greeting properly, asking about family - this is our way. He understood when I explained pain in our language, using our expressions. Now on video, everything is rush-rush, just numbers about sugar levels, quick questions about pain." (Abed, 65-year-old Afghan male, with chronic COPD, migrated in 1988)

He also spoke about a lack of bodily movement during one of his video consultations.

Abed: First of all, there's a very long response time. It takes them a while to answer. And I do that myself. If I'm doing something else while my wife is talking to me, she gets really, really annoyed that I can't just answer her immediately [snaps his fingers]. So it's clear the GP is doing something else but he thinks we can't tell because there's a screen between us.

LH: Because there's a long response time?

Abed: Because there's a long response time, and because the tone of voice may be different. Like, "Yes. That's fine." [uttered mechanically]. It may also have something to do with the fact that he's not looking up. His movements don't signal any interest. I mean I guess that could just be because I'm seeing his face and can't tell over video call how much he's actually moving. But I'm not seeing hand movements or his head moving much you know.

Other interviewees voiced similar concerns over body movement/body language:

"In the old days, when we saw our doctors in person, there was this unspoken understanding, a sense of empathy conveyed through their body language. Now, it's all so clinical and distant, mechanical almost. They don't even look at the camera. It makes me wonder if they even notice me, and it's quite unsettling." (Kamala, 65-year-old Nepali female, with pulmonary hypertension and B12 deficiency, migrated in 1985)

"Back in the day, a doctor's touch and a comforting pat on the back meant so much. Now, it's different, you just hear typing with those hands." (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

"Facial expression and body language is so important. When you talk to people you can see what's wrong and things like that and some of the things you don't know whether when the GP say things, how they mean it because I can't tell over remote. I don't think the whole system is fracturing, I think it's completely collapsing." (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

Like the previous interviewees, Abed emphasises delayed responses ('long response time'), mechanical intonation ('tone of voice'), and a lack of eye contact. However, Abed adds a further concern for movement. When describing his doctor's lack of mobility, he accentuates movements that do not contain vitality or signal 'interest.' A technological device like a laptop can be remarkably fixed and inflexible in its demands on the comportment of its user, which entails being both hands-on with the keyboard and face-to-face with the screen. This constrains one's body

language and allows only a limited range of facial expressions, precluding any head nodding or smiling (even frowning and eye-rolling). Absent presence, in other words, renders one's conversational partner unresponsive. It leaves them in a state of suspended animation with all the vitality of a mannequin. Only the fingers are moving while typing. This idea of an almost motionless body puts a new perspective on both lack of eye contact and the noticeable delay between utterance and response; silence is sometimes perceived as a sign of reflection and deliberation, but this mostly happens when it is accompanied by a thoughtful expression of some sort. In the case of absent presence, however, a high latency and a fixed stare do not signal thoughtful hesitation, but simply make one seem 'uninterested' in what the person is trying to communicate. This conspicuous lack of vitality is detrimental to social interaction.

In the context of healthcare consultations conducted via video, participants consistently highlight the significance of downcast eyes as a prominent aspect of absent presence. The absence of eye contact emerges as a distinctive fourth dimension of absent presence. It is important to recognise that, despite the undeniable importance of mutual gaze in social interaction, interpreting the eyes as a gateway to a deeper state of mind, as in the saying 'the eyes are the windows to the soul,' oversimplifies their role. Instead, we should view them as integral components of a broader network of mutually interacting bodies that contribute to the dynamics of vitality.

The dynamics identified in this study highlight how certain interaction styles and behaviours contribute to a sense of 'absent presence' in remote settings. My interviews revealed three key dynamics that characterise absent presence in video consultations: delayed responses, mechanical intonation, and a perceived lack of body language. These factors collectively signal a perceived inattentiveness of healthcare professionals, despite their virtual presence.

Maneshi described the importance of immediate responses and eye contact in conversations. He used the term 'on/off' to describe the disjointed nature of video consultations, highlighting how this interrupted flow contrasts sharply with his expectations of direct, continuous engagement. Maneshi's experience underscores how cultural background and generational factors can influence perceptions of video consultations.

Fowzia, emphasised the importance of feeling understood during medical consultations. She found the lack of eye contact and meaningful non-verbal cues in video consultations particularly distressing. Fowzia's comment, "It feels like I'm talking to a computer program instead of a real doctor," reveals how the absence of these cues can depersonalise the healthcare experience, especially for those from cultures that value high-context communication.

Abed noted the lack of bodily movement during his video consultation, stating, "His movements don't signal any interest. I mean I guess that could just be because I'm seeing his face and can't tell over video call how much he's actually moving." This observation highlights how the limited visual field in video consultations can exacerbate the sense of absent presence.

These issues manifested consistently across my participant group as well. Of the 17 participants, 9 specifically described experiencing delayed responses during video consultations. This was particularly pronounced among participants with limited English proficiency, such as Najma, Fowzia, and Fatima who primarily spoke Urdu and Pashto. The language barrier amplified their sensitivity to delayed responses, as they often needed additional time to formulate their thoughts in English. Mohammad, a Tamil-speaking convenience store owner, explained how delays compounded his communication challenges: "When there is a gap, I lose my train of thought. Then I must start again in English."

Mechanical intonation emerged as a concern for five participants. For example, Kamala, a 65-year-old Nepali singer, was especially attuned to this issue, noting how the flattened affect of video calls stripped away crucial emotional resonance. This sentiment was echoed by Bangladeshi participants Tasneem and Hamida who both described how the mechanical nature of digital communication conflicted with cultural norms of expressive conversation.

The issue of motionless body language was raised by six participants, crossing all ethnic and linguistic backgrounds. However, it held particular significance for older participants like Mohan (82) and Fatima (81), who emphasised how physical presence and movement were integral to their understanding of healthcare interactions. Ramnik, a 78-year-old retired statistician, provided a detailed analysis of how the static nature of video calls eliminated subtle physical cues that he had relied on throughout his life to gauge medical professionals' engagement.

The impact of these dynamics varied based on participants' backgrounds and circumstances. For example, homemakers like Najma and Basmah, who traditionally relied on in-person community networks for health support, found the transition to remote care particularly challenging.

The intersection of gender and cultural background also shaped experiences significantly. Female participants, especially those from traditional households like Fowzia and Samiyah, described how video consultations disrupted culturally important aspects of doctor-patient relationships. Many had grown up with healthcare systems where physical presence and touch were integral to medical care, making the transition to digital interactions particularly jarring.

Educational and professional backgrounds influenced how participants articulated their concerns. Shruti, a retired teacher, and Hasan, a mechanical engineer, provided more analytical critiques of

the technology's limitations, while others like Mohammad and Mohan, who had worked in service industries, focused more on the practical challenges of building rapport through screens.

These findings suggest that absent presence in video consultations disproportionately affects older South Asian immigrants, particularly those who are linguistically diverse. The combined effect of delayed responses, mechanical intonation, and motionless body language creates barriers that resonate differently across various cultural backgrounds, socioeconomic situations, and personal histories represented in the participant group.

These findings prompt me to consider whether the absence of face-to-face interaction contributes to less meaningful conversations and reduced empathy in healthcare settings. While my data doesn't directly answer this question, it suggests that the technological mediation of video consultations can create barriers to effective communication, particularly for patients with multiple disadvantage.

In conclusion, these findings suggest that absent presence in video consultations is not merely about physical distance, but about how technology mediates and potentially disrupts expected patterns of social interaction.

5.2 Video consultations may weaken relationships

5.2.1 Background

An integral component of the patient experience is the engagement between patients and physicians, emphasising a relationship-centred care approach. This approach recognises how communication and emotional sharing between patients and physicians progressively influence

patients' overall experiences [229,230]. The level of empathy displayed by physicians significantly moulds the patient-provider relationship and influences patient satisfaction [231]. Relatedly, therapeutic relationships encompass the human connection, rapport, positive regard and mutual understanding built through ongoing patient-provider interactions [232].

In the context of video consultations, these relationships take on new dimensions and challenges. My findings explore how the shift to video consultations affects the bonds between patients and healthcare providers.

5.2.2 Findings

The interviews suggest that having an existing relationship with the clinician prior to video consultations was an important factor influencing patients' experiences. Participants felt that video consultations worked better when there was already rapport established through previous in-person appointments.

Rashid, a 65-year-old retired telecommunications worker from Mauritius, presents a unique perspective as someone who experienced both the digitalisation of British Telecom in the 1990s and the NHS's recent shift to remote care. Having worked at BT from 1987 until retirement, he draws direct parallels between corporate depersonalisation through employee numbers and what he perceives as healthcare depersonalisation through video consultations. Despite being comfortable with English and technology from his career, he finds video consultations particularly challenging for managing his chronic back pain and anxiety.

Living in one of London's most deprived areas (IMD decile 2), Rashid's experience is further complicated by unreliable internet connectivity and limited access to suitable devices. His older

Samsung phone with a cracked screen and intermittent data access exemplifies how digital healthcare can inadvertently exclude patients despite their technological literacy. Having never met his current GP in person due to pandemic-era registration, his situation illustrates how digital-first approaches can prevent the formation of therapeutic relationships, particularly affecting those who, like him, must carefully balance healthcare needs against technological constraints and financial limitations.

“The thing is, I've not actually physically seen the GP in person at all. It was all done online or over the phone. I've never actually met my doctor at all. If I had seen him in person first maybe that relationship would’ve been there.” (Rashid, 65-year-old Mauritian male, with chronic back pain and high blood pressure, migrated in 1987)

Another participant who did had a positive video consultation experience highlighted that it was largely due to already knowing the clinician. Hasan, a 73-year-old retired mechanical engineer from Bangladesh, offered a complex perspective on his healthcare experiences shaped by both his technical background and his experiences of racial discrimination in the UK medical system since arriving in 1975. Despite his professional familiarity with technology and fluency in English, he maintains deep scepticism toward video consultations, except with providers he already trusts. His relationship with Gary, a physiotherapist who treated his chronic obstructive pulmonary disease (COPD) through six months of in-person pulmonary rehabilitation before transitioning to virtual sessions, represents his sole positive experience with remote healthcare.

"It just so happened that I got lucky and did the rehab sessions with Gary, who I knew from the service, and there was that rapport there already. It would be interesting to see what it would be like for somebody with an acute problem who doesn’t know Gary. It would be hard honestly for me.” (*Hasan, 73-year-old Bangladeshi male, with COPD, migrated in 1975)*

In contrast, many participants who had video consultations with new or unfamiliar clinicians described fewer positive experiences. Samiyah, a 69-year-old Pakistani homemaker who speaks

only Urdu, had established a long-term relationship with her diabetes specialist over five years of regular in-person appointments. However, when her GP practice transitioned to primarily video consultations in 2020, she found herself navigating unfamiliar digital systems and interacting with new providers who didn't know her medical history or communication preferences. Her experience with these contrasting scenarios - video calls with her familiar specialist versus unknown GPs - highlights how pre-existing relationships significantly impact remote care experiences:

“You stay in the online waiting room being all confused and then they let you into the call. And its someone you’ve never seen before. And he just wants yes or no. Then it’s finished. You can go. That's it. You know? So I don't know. I don't like it. I don't. This is why I don't want to see the GP unless it’s really bad. When I did it [VC] with my own specialist it wasn’t like this. That time was good because he knew me and I knew him" (Samiyah, 69-year-old Pakistani female, with diabetes, migrated in 1982)

Other patients voiced a desire for occasional in-person visits to establish a connection and “friendship” with clinicians to improve video consultation experiences. Fatima, an 81-year-old Urdu-speaking homemaker, fled Afghanistan in 1977 during early political upheavals, initially settling in Pakistan for five years before migrating to the UK in 1982. Her healthcare experiences span three distinct systems: traditional Afghan practices, Pakistani medical services, and the NHS. This layered migration history complicates her healthcare expectations, as she holds idealised memories of Afghan healing traditions from over 45 years ago - memories that likely diverge significantly from contemporary healthcare practices.

Living in North East London's Afghan community, Fatima maintains cultural practices based on these preserved memories. Managing hypertension, osteoarthritis, and diabetes through monthly in-person consultations, she measures healthcare experiences against an amalgamation of remembered South Asian traditions and pre-pandemic in person consultations with a familiar

healthcare provider at her local practice. Her longing for "friendship" with providers reflects not just South Asian cultural patterns, but also the familiarity she had built with this provider over the course of a few years. The pandemic's shift to video consultations disrupted these ties, challenging both her practical healthcare management and her sense of cultural continuity maintained through medical relationships.

"It'd be nice if they could see a person like myself every three months or normal patients at least once every six months. Yeah, so you know, so then you know them. So that builds up some, like, friendship as well. Now there's no friendship. But that's why, you know, it's important we get to know who the person is. Here there's no chance to do that ". (Fatima, 81-year-old Afghan female, with hypertension, osteoarthritis, diabetes, migrated in 1982)

Some participants stressed the value of having an ongoing relationship with one clinician, with one noting that her positive video consultation experience was thanks to her specialist "Divia" who knew her well. Tasneem, a 67-year-old Bangladeshi woman managing multiple chronic conditions including rheumatoid arthritis and fibromyalgia, had struggled with frequent healthcare transitions until meeting Dr. Divia through a specialist referral in 2019. Speaking Bengali with limited English, Tasneem had found her various symptoms often dismissed or misunderstood by providers unfamiliar with her communication patterns. Through two years of in-person consultations before the pandemic, Dr. Divia had learned to recognise subtle changes in Tasneem's voice and expression that indicated pain flare-ups, making their transition to video consultations notably different from her other remote healthcare experiences:

"Then God sent this lady, Divia, my specialist. Thank God for her, she's the reason I'm ok with it. She's done so much for me, bless her, I see her regularly and she knows me... Imagine if it was a new person how would they know my voice sounded different?" (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

The quality of patient-provider relationships in video consultations emerges as fundamentally shaped by pre-existing rapport, continuity of care, and intersecting sociocultural factors. Analysis of participant narratives reveals how these elements interact in complex ways, creating varied experiences of remote healthcare engagement that cannot be reduced to single factors like technical access or language ability.

While pre-existing relationships appear to serve as an important foundation for successful video consultations, this manifests differently across varying intersectional identities and social positions. For participants managing complex health conditions, like Tasneem with her rheumatoid arthritis and fibromyalgia, an established relationship enabled providers to interpret subtle communicative cues even through digital interfaces. Her successful transition to video consultations with Dr. Divia demonstrates how sustained in-person interaction can create communication patterns robust enough to translate into digital spaces.

Conversely, participants encountering new providers through video consultations often described experiences of disconnection and misunderstanding. Rashid's case particularly illuminates this dynamic - his experience of never meeting his GP in person has created a persistent sense of disconnect that technical literacy cannot bridge. Despite his background in telecommunications, the absence of established rapport fundamentally shapes his perception of video consultation efficacy.

The data suggests that language and cultural backgrounds interact significantly with relationship continuity. Samiyah's contrasting experiences with her long-term specialist versus unfamiliar GPs highlight how established relationships can transcend language barriers in digital spaces. Speaking only Urdu, she finds video consultations workable with providers who know her communication

patterns but describes profound disconnection with new providers, regardless of technical platform quality.

Age and immigration status further complicate these dynamics. Fatima's experience illustrates how immigration history shapes expectations of medical relationships. Her concept of healthcare "friendship," developed through transitions between Afghan, Pakistani, and British healthcare systems, demonstrates how cultural expectations evolve rather than remain static. The digital transition has disrupted her carefully constructed adaptations to UK healthcare, challenging both practical healthcare management and cultural continuity.

The socioeconomic positioning of participants adds another dimension to understanding relationship dynamics in video consultations. Hasan's trajectory from successful engineer to economic precarity, complicated by caring responsibilities, demonstrates how class position influences digital healthcare experiences in ways that go further than technical literacy. His acceptance of video consultations only with Gary, his physiotherapist, suggests that trust emerges through relationship continuity rather than technical or socioeconomic status.

These findings indicate that successful video consultations require more than technical infrastructure or cultural concordance. They depend on complex interactions between personal histories, socioeconomic trajectories, and institutional trust developed through sustained healthcare relationships. This analysis highlights how therapeutic relationships translate differently into digital spaces based on intersecting social factors.

Moreover, the data suggests that healthcare providers may want to consider how historical patterns of healthcare engagement influence current digital interactions. The variation in

experiences among participants with similar language abilities or cultural backgrounds indicates that simplified categories of analysis may miss crucial factors in remote care success. Understanding these nuanced dynamics becomes important for developing effective digital healthcare delivery systems that can accommodate diverse patient needs and experiences.

5.3 Video consultations may disrupt continuity

The disruption of continuity emerges as another critical dimension of digital healthcare transition, building on earlier findings about presence and relationships. While the previous section highlighted how Tasneem successfully maintained therapeutic relationships with her specialist Dr. Divia through video consultations, her broader healthcare experiences reveal more complex patterns of continuity disruption. Despite having established strong relationships with multiple providers over decades of managing rheumatoid arthritis and diabetes, Tasneem found these carefully cultivated connections threatened by digitalisation. Her contrasting experiences with different providers illustrate how video consultations can simultaneously maintain and disrupt continuity. While her relationship with Dr. Divia demonstrated successful translation of rapport into digital spaces, her long-standing relationship with Dr. Talib became lost during the transition to remote care:

"Doctor Talib had seen me through so much. I could speak to her about anything, and she really listened and understood me." (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

The subsequent shift to rotating providers through video consultations left Tasneem struggling to maintain the continuity she had previously relied upon. Her distress becomes evident in her description of video consultations with unfamiliar doctors:

"I don't even know my doctor's name. How can I trust someone I don't even know?" (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

This disruption of continuity carries particular significance for Tasneem, whose complex health conditions require coordinated care across multiple providers. Her experience demonstrates how digital healthcare can fragment previously integrated care networks, even when individual digital relationships succeed. The contrast between her experiences with Dr. Divia and other providers suggests that continuity in digital healthcare depends not just on technological adaptation but on sustained attention to relationship maintenance across the entire healthcare network.

Like Tasneem, other participants cherished the familiarity of seeing known providers at each visit. But new digital systems churned through random clinicians with little coordination. Rashid, a 65-year-old retiree, explained his frustration:

“It’s becoming less and less personal. It’s like you are not a person there you are just a face. For example, the company I work for we went through the same sort of process, I joined in ’87 with BT and then in 1993 they brought this employee individual identification numbers they’re called right, so you’re given a nine-digit number and then after that whenever you wanted to talk to the HR department or pay group or something like that, that’s the thing that you gave them and that’s it. So you only become a number, in this case you’re only becoming a face to the GP, always a new number, new face, new GP, it’s not who you are or what you are.” (Rashid, 65-year-old Mauritian male, with chronic back pain and high blood pressure, migrated in 1987)

He also recounted an incident when one specialist changed his medication after a video consultation without consulting his regular GP, resulting in complications.

“A lot of information was getting missed. Ok, so my GP should be the linking point between everything, but they aren’t.”

Participants viewed this fragmented remote care as associated with risks. Basmah, a 73-year-old Bengali woman relied on her endocrinologist to adjust her insulin needs regularly. Having moved

to London in 1978 after getting married, she spent her early years managing not only her new domestic and child rearing responsibilities but also an unexpected diagnosis of Type 1 diabetes at age 30. Through decades of careful management with a consistent endocrinologist and GP, she developed personalised strategies for maintaining stable blood glucose levels while observing religious fasting during Ramadan and accommodating traditional Bengali dietary practices. Though she learned enough English for basic communication, she relies on Bengali for discussing the nuances of her diabetes management, particularly during periods of stress or illness when her glucose levels become more volatile.

Prior to the pandemic, Basmah had established a routine of monthly endocrinology visits and quarterly GP check-ups, with her insulin dosage tuned through years of face-to-face consultations that accounted for both her medical needs and cultural practices. The shift to video consultations and rotating GPs disrupted this balance:

“Ordering repeat medicine with the GP always main problem. They are, you know, taking so long and even sometimes they don't know your condition there because communication, everything is so broken. They just forget everything. Like you are the new person to them. You know that's the problem with the GP always.” (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

"They don't know my history or me. I feel scared they'll make a mistake with the dosage but what can I do?" (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

She worried about hypoglycaemic episodes but felt powerless against the system. For patients like Basmah, disrupted continuity threatened her agency in managing complex conditions. Basmah expressed a deep-seated fear of potential mistakes in dosage due to the lack of continuity and shared history with the healthcare providers. Her worry about hypoglycaemic episodes highlights the sense of powerlessness within a fragmented system. This further showcases how

disrupted continuity not only impacts the ability to manage complex health conditions but also threatens the agency of patients like Basmah, particularly when intersecting factors, such as linguistic and cultural nuances come into play with remote care.

Ramnik, a 78-year-old retired statistician whose analytical mindset shaped both his career at a London insurance firm and his approach to healthcare, represents how even technically sophisticated patients struggle with fragmented digital care. Originally from Gujarat, India, he arrived in the UK in 1965 to pursue postgraduate studies, eventually establishing himself professionally while managing hypertension and early-stage kidney disease. His background in statistical analysis led him to maintain meticulous records of his blood pressure readings and medication effects over 20 years, developing strong relationships with local providers who appreciated his systematic approach to health management.

Prior to COVID-19, these detailed records formed the basis of productive consultations with providers who knew his history intimately. However, the transition to digital triage and rotating providers disrupted this carefully constructed system:

"…before, you know, they knew everything already. They knew you. And they had my history. Whereas. Where I am now, as I said, the first five minutes of any session are taken up with me explaining who I am, what my situation is. And then, you know, explaining what the problem is, why I'm seeing them all the rest. And this is repeating after filling out a whole econsult first. It's a right shame." (Ramnik, 78-year-old Indian male, with hypertension, early-stage kidney disease, migrated in 1965)

This experience resonates with Shruti's observations, suggesting a broader pattern of disrupted continuity. As a 66-year-old retired teacher who spent three decades in London's state schools, Shruti brings a unique perspective shaped by her experience navigating both education and healthcare bureaucracies. Despite her professional background and fluent English, she finds the

new digital systems particularly frustrating when managing her arthritis and recently diagnosed hypertension. Her career educating diverse student populations gave her sophisticated communication skills, making the current need to repeatedly explain her conditions to new providers especially frustrating:

"This is what I find very frustrating because the first five minutes will be taken up with me explaining everything from scratch every single time. And there were obviously times when it would have been nice to see a regular provider who already knew who I didn't have to describe everything to. And so it just seemed like it took longer for me to explain what's going on." (Shruti, 66-year-old Indian female, with arthritis and hypertension, migrated in 1975)

For both Ramnik and Shruti, whose professional careers equipped them with strong system navigation skills, these new barriers to continuity of care prove particularly frustrating. Their experiences challenge assumptions that digital healthcare primarily disadvantages those with limited English or technical literacy. Instead, they demonstrate how digitalisation can undermine carefully developed strategies for healthcare management, regardless of patients' professional backgrounds or communication abilities.

Building on Mohammad's earlier experiences of fragmented communication (section 5.2) during video consultations, where delays and language barriers compounded his challenges his struggle with administrative forms reveals a deeper erosion of healthcare relationships. His inability to name his current GP represents more than administrative confusion - it symbolises the systematic dissolution of personal healthcare connections that previously anchored immigrant patients' experiences with the NHS.

His reflection on defaulting to a retired GP's name shows this shift:

"On the forms I'm supposed to answer who's your GP? I have no idea what to write in that line. But now they're more accepting to the fact that you can just write the GP Street name, that's fine, but years ago you had to write the name of the GP. And as I said at one point I vaguely knew one GP name from my surgery so I just keep writing that and I only later on realised that he actually retired a few years ago, but I was still putting his name down on the form." (Mohammad, 70-year-old Sri Lankan male, with long COVID, migrated in 1988)

While section 5.2 demonstrated how some participants maintained continuity through specialist relationships which they had established before digitalisation of their services, Mohammad's case reveals how digitalisation has fundamentally altered the conception of primary care relationships. This evolution to complete disconnection from provider identity suggests a progressive erosion of relationship-based care. His experience indicates that the very notion of having a personal GP has become obsolete for some patients, replaced by institutional relationships with practices rather than individual providers. This shift carries particular significance for older immigrant patients who, like Mohammad, historically relied on personal relationships and verbal communication to navigate healthcare systems, indicating that digitalisation may be eroding not just individual relationships but entire models of healthcare engagement that served marginalised communities.

Beyond fragmented primary care, participants described similar disruption in specialist services. Hamida, a 75-year-old Bangladeshi homemaker, arrived in the UK in 1985 through family reunification after her husband established a small grocery business in East London. Her early years were marked by isolation and limited healthcare access due to language barriers, leading her to rely heavily on informal community networks for medical advice. Managing multiple chronic conditions including severe rheumatoid arthritis and recently diagnosed heart problems, Hamida had gradually built a complex web of care relationships across primary and specialist services over three decades.

Though she developed basic English proficiency over the years, she relies on Bengali for nuanced medical discussions, particularly when describing pain levels or medication side effects. Prior to the pandemic, she maintained a balance of in-person appointments with providers who understood her communication patterns and complex medical history.

"Now my specialist has also now changed. Three of them I went through. At the moment one, I think one is they know she's the main one. She was good, but now I don't know which one. Last two weeks ago they giving me one medicine which is a high dose they asked me to stop and they my daughter she sent a lot of e-mail to her but she don't reply anything here so this one [the new specialist] I think she's not so good. Communication is not good. You keep chasing them, you know? Yeah. So otherwise other three specialist in seven-year they are very good with me. But this one I don't know maybe she's new or something." (Hamida, 75-year-old Bangladeshi female, with rheumatoid arthritis, hypertension, heart problems, migrated in 1985)

Hamida recounted an incident where a new specialist prescribed her a high dose of medication without proper communication, resulting in distressing side effects. For her this represented yet another example of remote care systems fracturing continuity, now extending across primary and specialty settings. Her experience reveals how marginalised patients passed between providers without holistic coordination, are left disoriented and struggling to access appropriate care.

Building on Kamala's earlier insights about mechanical intonation in video consultations (section 5.2), her experience with fragmented B12 treatment reveals deeper systemic issues. As a professional singer of traditional Nepali music for over four decades, Kamala first noticed symptoms of B12 deficiency when she struggled to maintain pitch control during performances at cultural events. The diagnosis in 2021 explained her increasing fatigue and vocal difficulties, leading to a treatment plan of bi-weekly B12 injections that had restored both her energy and singing ability. Her distress over the uncoordinated cessation of B12 treatment illustrates how digital fragmentation can disrupt even basic care coordination:

“One of the new doctors I’m seeing currently, she stopped my B12 for no reason. Right, so what happened they had to boost me up every other day. Then I saw my regular GP after long time and he asked why did you stop and I said I didn’t stop, they stopped, right, this happened again they stopped my B12. They didn’t talk to each other so he didn’t know. So nearly two weeks I’m very low in energy and I am very sick.” (Kamala, 65-year-old Nepali female, with pulmonary hypertension and B12 deficiency, migrated in 1985)

For Kamala, who performs at weekly community gatherings and teaches traditional singing to younger generations, the two-week interruption of B12 treatment had far-reaching consequences. Beyond the physical symptoms of fatigue and weakness, the disruption affected her ability to fulfil important cultural roles in London's Nepali community. Her regular GP understood the cultural significance of her singing and had carefully timed her B12 injections around important performance dates. The new provider's unilateral decision to stop treatment, made without this contextual understanding, demonstrates how digital fragmentation can disrupt care plans that integrate medical and cultural considerations.

Building on Maneshi's earlier experiences with delayed responses and communication challenges in video consultations, his struggles with fragmented care coordination reveal deeper systemic issues. For Maneshi, who we previously saw developing direct communication patterns through his factory work experience, the burden of repeating information across disconnected healthcare services proves particularly frustrating. Managing long COVID alongside his existing diabetes and hypertension requires coordination across multiple healthcare settings:

“The health system as a whole there is a lack of communication and sharing between the different functions. I mean I've got access to a long COVID clinic. Then I also deal with my GP and there should be some information exchange between the two. Not me filling them both in on my own. And then with the hospital, they're not connected in a way that they can get anything from my GP to the hospital and it has been very frustrating.” (Maneshi, 83-year-old Indian male, with diabetes and heart disease, migrated in 1960)

His situation illustrates how digital fragmentation compounds existing challenges. While section 5.2 showed how Maneshi struggled with delayed responses in video consultations, this experience demonstrates how such communication barriers extend further than individual appointments to affect entire care networks. As an elderly immigrant managing multiple chronic conditions, the additional labour of manually coordinating between services contradicts his learned patterns of direct, efficient communication. His frustration with information silos reflects not just technological disconnection but a fundamental mismatch between healthcare systems and the communication practices he developed through decades of navigating British institutions.

This bureaucratic burden carries particular weight for Maneshi, whose previous experiences taught him the importance of clear, immediate information exchange. His observation about the lack of direct record sharing between GP and hospital services highlights how digitalisation can create new forms of disconnection that particularly impact marginalised South Asian patients managing complex conditions.

The experiences conveyed by Maneshi and other participants highlight how the abrupt shift to remote care has disrupted continuity for many marginalised older adults who relied on familiar in-person interactions. As another participant reflected, video consultations with random clinicians felt like *"just a different version, different colour, different name...more an assembly line, one in, one out"* contrasting the personalised care he had come to depend on.

The disruption of care continuity through digitalisation emerges as a complex phenomenon shaped by intersecting historical, cultural, and systemic factors. Analysis of participant narratives reveals how continuity disruption manifests differently across varied social positions and

healthcare needs, while highlighting common patterns of fragmentation that particularly affect marginalised older South Asian adults.

The experiences of Tasneem and Basmah illustrate how this disruption threatens carefully constructed healthcare management strategies developed by patients with complex conditions. Tasneem's contrasting experiences with Dr. Divia and rotating providers demonstrate that while individual digital relationships can succeed, broader system fragmentation undermines holistic care coordination. Similarly, Basmah's balance of diabetes management with religious practices, developed over decades since her diagnosis at age 30, becomes precarious when faced with rotating providers unfamiliar with her specific needs. These cases reveal how digitalisation can simultaneously preserve and destroy continuity, with success often depending on pre-existing relationship strength.

Professional background and system navigation skills also prove insufficient shields against continuity disruption. Ramnik's health records and Shruti's educational expertise highlight how even those well-versed in institutional systems struggle with fragmented video consultations. Their frustration with repeatedly explaining medical histories challenges assumptions that remote care primarily disadvantages those with limited English or technical literacy. Instead, their experiences suggest that it fundamentally alters the nature of healthcare relationships regardless of patient capabilities.

The erosion of relationship-based care manifests particularly strongly in primary care settings. Mohammad's inability to name his current GP represents more than administrative confusion - it symbolises the systematic dissolution of personal healthcare connections that previously anchored immigrant patients' experiences. This shift from personal to institutional relationships

carries special significance for older immigrants who historically relied on verbal communication and personal trust to navigate healthcare systems.

The impact of disrupted continuity also extends past primary care to specialist services, as demonstrated by Hamida and Kamala's experiences. Hamida's struggle with rotating specialists and medication changes reveals how video consultations can disrupt even carefully constructed specialist care networks. Kamala's case of B12 treatment interruption illustrates how discontinuity threatens not just medical care but cultural participation, demonstrating the broader social implications of healthcare fragmentation.

Maneshi's experience with long COVID management exemplifies how video consultations compound existing challenges for patients managing multiple conditions. The additional labour of manually coordinating between disconnected services contradicts efficient communication patterns developed through years of system navigation.

This analysis suggests that digitalisation has fundamentally altered the nature of healthcare relationships and continuity of care. While some pre-existing relationships successfully translate to digital spaces, the broader system changes threaten carefully developed care management strategies and support networks. These disruptions affect patients across social positions and capabilities, though their impacts manifest differently based on individual circumstances and needs. The findings indicate a need for healthcare systems to consider how the scale up of video consultations affects not just individual appointments but entire networks of care relationships that support patient wellbeing.

5.4 Video consultations may compound oppression

5.4.1 Background

Intersectionality emphasises the intricate shaping of individual experiences at the micro-level by the intersection of multiple, interlocking systems of oppression. These systems are co-constructed and situated within specific temporal and spatial contexts. Particularly in the UK, with its complex history of colonialism and post-colonial migration, social identities like race and gender gain meaning through their interaction with established power structures. For example, being a South Asian woman becomes significant not through these characteristics alone, but through their lived experience within Britain's post-colonial healthcare system and broader societal hierarchies.

My analysis revealed that video consultations often exacerbated existing forms of oppression and inequality experienced by marginalised older adults. These manifestations of oppression were multifaceted and interconnected, reflecting the complex identities and social positions of study participants.

5.4.2 Findings

In this findings section, I will present a singular, short narrative from my participant data. This deliberate choice to focus on one rich scenario aims to intricately highlight the nuanced intersections within the framework of intersectionality, allowing for a more in-depth exploration of the participant's unique experiences and perspectives.

Dhriti, a 72-year-old homemaker from Gujarat's Bohra Muslim community, arrived in the UK in 1970 through marriage. Her early experiences with the NHS were marked by trauma - during childbirth, medical staff's insensitive handling of her FGM status led to both physical and emotional complications. While FGM is rare in India overall [234],[235]occurring almost exclusively within the small Bohra Muslim community (estimated 400,000 women, less than 0.1% of India's female population), it affected approximately 80% of women in Dhriti's specific community [235]. These experiences, combined with initial language barriers, fostered a deep-seated distrust of UK healthcare systems. Though she eventually learned English well enough to communicate independently with healthcare providers, the early traumatic experiences continued to shape her healthcare interactions.

Over three decades, she gradually built trust with a small circle of female providers at her local practice who helped manage her diabetes and arthritis. However, her husband's death in 2021 disrupted these carefully cultivated healthcare relationships, as he had remained her key supporter in medical decisions despite her English fluency. When a routine ultrasound revealed a possible ovarian cyst in 2022, Dhriti delayed seeking care for six months, her anxiety about discussing intimate health matters heightened by the shift to video consultations and the loss of her longtime female GP who understood her history.

Regarding the initial video consultation regarding a possible ovarian cyst with Doctor Kaur, an Indian female obstetrician, Dhriti expressed feeling more distant over video and perceived the physician and herself to be of different social classes, making it hard to relate.

“Doing this by video makes it harder. If I met her in person, maybe we could connect more…but I know women like her, that’s not to say in a bad way, just that she doesn’t really struggle with the same things that I do, it’s very different when two women come from…I don’t know how to say…

just that…she's of a different social class…. if that makes sense." (Dhriti, *72-year-old Indian female*, with d*iabetes, arthritis, history of FGM*, migrated in 1970)

While taking a medical history, Doctor Kaur asked about and Dhriti disclosed that she has a history of female genital mutilation. Dhriti explains the video interface means Doctor Kaur has no context for deeply understanding her trauma. She also expresses that due to their different social backgrounds and because she assumes Doctor Kaur has no personal experience of this condition, there is no way for Doctor Kaur to understand her circumstances and her experiences.

"I told her, don't mind me saying this Doctor Kaur, but you don't really know what it's like, you come from a different background or world whatever you want to call it [laughs], you know medically sure, but over video you can't grasp it, you won't understand because you don't have it either, my condition, what surrounds it, that sort of thing...[trails off]"

Dhriti insists an in-person visit in India would provide "better understanding" of her condition and desires care from someone with personal context versus the detachment of a video consultation.

"It's better I go back home for this…you know, it's it's just the doctors there you know, they see this thing a lot, some of them went through it themselves, they just have a better understanding of this type of thing, they know you know, how to deal with it better."

The intersection of video consultations with existing power structures reveals complex patterns of marginalisation that warrant examination through multiple analytical lenses. Dhriti's experience highlights how video consultations can amplify historical traumas, reinforce institutional barriers, and create new forms of healthcare inequity. Dhriti's narrative highlights particular challenges for patients whose healthcare experiences are shaped by colonial and post-colonial power dynamics. Dhriti's traumatic early encounters with NHS providers regarding her FGM status created enduring patterns of mistrust that video consultations appear to intensify rather than ameliorate. Dhriti's belief that returning to India would provide better care for her FGM-related health needs reveals a complex interplay of nostalgia and misconception that

warrants examination. Her assertion that "doctors there...see this thing a lot, some of them went through it themselves" reflects an idealised vision of Indian healthcare that diverges significantly from reality. Given that FGM affects less than 0.1% of India's female population and is concentrated almost exclusively within the small Bohra Muslim community, the likelihood of finding providers with extensive experience treating FGM-related complications, let alone personal experience with the practice, is extremely limited. This assumption appears to stem from what sociologists term the "imagined homeland" phenomenon [236], where long-term immigrants construct an idealised version of their country of origin frozen in time from their departure.

Moreover, Dhriti's faith in finding more understanding care in India overlooks significant developments in both countries. While she bases her expectations on memories from 1970, both Indian healthcare practices and approaches to FGM have evolved considerably. Contemporary Indian medical education may not necessarily provide better preparation for treating FGM complications than UK training, and Indian providers may be equally unfamiliar with the specific needs of Bohra Muslim women. The desire to return "home" for care appears to represent more about Dhriti's need for cultural understanding and validation of her trauma than a realistic assessment of medical expertise. This reveals how video consultations can heighten feelings of cultural disconnection to the point where patients construct idealised alternatives, even when these alternatives may not align with current realities.

The video consultation format also appears to amplify existing power differentials within healthcare institutions. Despite shared Indian heritage, Dhriti perceives an insurmountable social distance between herself and Dr. Kaur, highlighting how digital interactions can heighten awareness of class distinctions. Her widowhood adds another crucial dimension - the loss of her

husband as healthcare advocate coinciding with the shift to digital delivery created a double displacement from institutional support systems. This intersection of personal loss and systemic change particularly affects older immigrant women who historically relied on family-mediated healthcare interactions. The digital format's constraints on non-verbal communication and relationship building appear to disproportionately impact patients like Dhriti who require trauma-informed care approaches that typically rely heavily on physical presence and careful trust building.

This analysis demonstrates how video consultations cannot be understood simply as a neutral technological shift but must be examined within broader historical and social contexts. The digital format appears to interact with existing power structures in ways that particularly disadvantage patients in the South Asian community navigating multiple intersecting marginalisations.

5.5 Synthesis of findings

The findings in this chapter reveal how remote care, particularly video consultations, have the potential to disrupt continuity of care and threaten the cultivation of meaningful therapeutic relationships for marginalised South Asian older adults managing complex health needs.

Firstly, participants reported experiences that could be described as absent presence in video consultations. Their accounts revealed three key dynamics: delayed responses, mechanical intonation, and a perceived lack of body language. These experiences, understood through the lens of microsocial interaction studies, contributed to a perceived inattentiveness of healthcare professionals, negatively impacting patient-provider social interactions. Participants described a

mismatch between their expectations and experiences with healthcare providers in remote settings, leading to a sense of indifference and diminished situational presence.

Secondly, the examination of video consultations within the context of patient-provider relationships revealed that the quality of these relationships is significantly influenced by pre-existing rapport, continuity of care, and intersecting factors such as cultural background, language, age, and immigration status. Participants consistently reported that video consultations were more effective when there was an established relationship with the healthcare provider through previous in-person appointments. However, the importance of these pre-existing relationships varied based on intersecting factors like language proficiency and age.

Thirdly, the digitalisation of healthcare services has significantly disrupted continuity of care for many marginalised older adults. Participants described fragmented care, loss of personal relationships with providers, and increased burden of care coordination falling on patients themselves.

Applying an intersectional lens to remote patient-provider interactions revealed how these interactions can compound existing forms of oppression and inequality. Dhriti's story illustrated that even when there is alignment in terms of ethnicity and gender between patient and provider, other factors such as perceived social class and personal experiences can create significant barriers to understanding and effective care. The remote environment was found to accentuate these disconnects, especially for those facing multiple systemic barriers.

These findings underscore the need for caution as remote care adoption accelerates. They highlight the importance of considering the diverse needs and experiences of marginalised

populations in the design and implementation of remote care services. While digitalisation promises greater accessibility and information flow, my findings suggest that they can simultaneously disrupt the relational and coordinated aspects of care that are crucial for marginalised older adults.

Moving forward, healthcare systems need to consider how to balance the benefits of digitalisation with the preservation of meaningful continuity across all dimensions. This may involve developing strategies to maintain relational continuity within video consultations, improving coordination across different healthcare services, and ensuring that community-based care relationships are not lost in the transition to remote care. Furthermore, an intersectional approach in healthcare delivery is crucial to address the complex interplay of factors that shape patients' experiences in digital healthcare settings.

While this analysis surfaces potentially problematic dynamics introduced through remote care, definitive conclusions cannot be drawn from such limited exploratory insights. Further research is needed to establish the frequency and scope of these concerns across diverse medical settings and patient demographics. Nonetheless, these findings provide valuable insights into the challenges and opportunities presented by remote care, particularly for marginalised South Asian older adults.

Chapter 6 – Impact of remote consultations on patient orientation, agency, discrimination and trust

This is the second of the findings chapters and builds upon the previous chapter's analysis of how video consultations impact presence, relationships, continuity and oppression. While Chapter 5 focused on the immediate effects of remote care on patient-provider interactions, this chapter examines the broader systemic impacts and downstream consequences for marginalised South Asian patients.

Drawing on the same narrative interview data, I explore how the disruptions to presence, relationships and continuity identified in Chapter 5 contribute to four interconnected themes that further impact patient experiences. First, I examine how these disruptions can erode trust in healthcare providers and systems, extending beyond the relationship impacts discussed previously to affect patients' broader engagement with healthcare. Second, I analyse how remote care's introduction of multiple pathways and contact points creates new navigation challenges that compound the continuity issues highlighted in Chapter 5. Third, I investigate how previous experiences of racism and discrimination shape engagement with remote care, building on the intersectional analysis from Chapter 5 to examine temporal aspects of marginalisation. Finally, I show how these three factors combine to reduce patient agency in ways that go beyond the immediate consultation dynamics explored in the previous chapter.

Together, these themes reveal how the immediate impacts documented in Chapter 5 cascade into broader consequences for the marginalised South Asian patients in my study sample and their ability to effectively engage with and navigate increasingly digital healthcare services.

6.1 Remote consultations may erode trust in health providers and systems

Building on Chapter 5's findings about absent presence and disrupted continuity, this section examines how these factors contribute to broader erosion of trust in healthcare providers and systems. While Chapter 5 revealed how video consultations can create dynamics of disconnection through delayed responses and mechanical interactions, here I explore how these immediate impacts cascade into deeper issues of institutional trust and therapeutic relationships.

My analysis highlights how video consultations, particularly, have changed the nature of their interactions with healthcare providers. These findings reflect the specific experiences of the particular sample of participants in this research (South Asian, elderly, first-generation immigrants, limited English), as video consultations may not impact trust and therapeutic dynamics in the same ways for all patients. Nevertheless, their accounts illustrate the potential for distrust to develop when personal connections are strained in remote care delivery.

Kamala, whose experiences with B12 treatment disruption were discussed in Chapter 5, provides insight into how these technical limitations translate into trust issues:

"The personal connection is not the same. I miss the stuff that didn't require words, stuff you could just see and feel and the comfort of being physically there in the same room. It's harder to build that trust through a screen." (Kamala, 65-year-old Nepali female, with pulmonary hypertension and B12 deficiency, migrated in 1985)

Her observation connects directly to the absent presence dynamics identified in Chapter 5, showing how the loss of embodied communication affects not just immediate interactions but longer-term therapeutic relationships.

While some participants highlighted the convenience and accessibility of video consultations, they also expressed concerns about the loss of personal connection and the challenges of building rapport with healthcare providers through a digital medium. They emphasised the importance of non-verbal cues and physical examinations in establishing trust and understanding, which were perceived to be lacking in video consultations.

This is echoed by Tasneem, who we saw in Chapter 5 successfully maintaining trust with her specialist Dr. Divia while struggling with other providers:

"It's about them [HCPs] listening to you and being attentive. Things like nodding, asking about your family, showing you care that's how you build trust but you can't do that unless you're face to face with them." (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

Basmah, whose management of diabetes was detailed in section 5.3, reveals how the mechanical aspects of video consultations compound existing trust issues:

"I mean why should I take it [the medication], ok yeah, they prescribe it but they don't even bother listening to me, click clacketing away at their keyboard, not even looking at the screen, they think they know what's wrong with me just like that? I don't trust it one bit course I'm not gonna take it." (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

Her experience shows how the disruption of established care patterns identified in section 5.3 can lead to serious consequences for medication adherence and trust in treatment plans.

The erosion of trust appears particularly pronounced for participants managing complex health conditions through multiple providers. Rashid, who is highlighted in Chapter 5 as someone who had never physically met his current GP, reflects on this tension:

"I appreciate the ease of video consultations – no more long journeys and waiting times. But, you know, it's different. The personal connection is not the same you can't talk to the GP in the same way you would face to face." (Rashid, 65-year-old Mauritian male, with chronic back pain and high blood pressure, migrated in 1987)

His situation exemplifies how the absence of initial in-person rapport, discussed in section 5.2, can undermine the foundation for trust-building. His background in telecommunications gives him unique insight into how digitalisation can depersonalise relationships, drawing parallels between his experiences at British Telecom and the NHS's digital transformation.

"Video calls are alright, I guess. They save me a trip. But there's something about being there, in the room with the doctor. It's just better in a lot of ways and I do miss it." (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

This theme of eroding trust through fragmentation resonates strongly with Mohan, the 82-year-old Indian retired supermarket worker who discussed the importance of body language in consultations in section 5.1.

"Thing is you can't even think about trusting the GP now even if you wanted to this way [over video consults]. These things take a lot of time, beta, my old GP, I knew him for 10 years, every small flu, back ache, little cold he knew it all. I don't even know if I have another 5 years left in me and if I keep seeing a different GP over a different platform where does that leave me, beta?" (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

Mohan's narrative bridges the concerns about motionless bodies in video consultations raised in section 5.1 with deeper anxieties about trust and mortality. Living with his wife and adult children, his role as a family elder makes the erosion of long-term medical relationships particularly distressing.

Najma, who previously discussed *struggling with delayed responses and language barriers in video consultations, brings a unique perspective shaped by her experiences as a community health advocate in Pakistan before migrating to the UK in 1983. As a trained dai (traditional midwife) in her village near Peshawar, she had developed strong beliefs about the importance of physical*

presence in healthcare relationships. Now at 66, managing hypertension and early-stage glaucoma, she finds the shift to video consultations particularly jarring given her background:

"Virtual not good for trust. In-person, better. Now, it's like they not really see me. Trust go down, maybe they miss things." (Najma, 66-year-old Pakistani female, with COPD, early-stage glaucoma, migrated in 1983)

Speaking to me in broken English, Najma explains how her experience as a dai influences her view of remote care. Having spent years using touch and physical presence to build trust with expectant mothers in Pakistan, she finds the detachment of video consultations fundamentally at odds with her understanding of healthcare relationships. Though she stopped practicing as a dai after moving to the UK, her past continues to shape her healthcare expectations.

Her situation is further complicated by her glaucoma, which makes screen interactions physically challenging. While she had developed effective ways to communicate her symptoms to her previous GP despite language barriers, the visual limitations of her condition combine with the technical constraints of video consultations to create new barriers to trust and understanding.

The fragmentation of care across multiple GPs and digital platforms, along with loss of longitudinal continuity of care, emerge as significant factors exacerbating the erosion of trust and therapeutic continuity for marginalised patients. The findings support the hypothesis that the medium of video consultations, when coupled with a lack of provider continuity, are mutually reinforcing in creating a barrier to establishing trust.

Narratives from participants also reveal a deep-seated distrust towards the healthcare system, particularly the NHS. This distrust often has complex historical roots that intersect with participants' migration histories and early healthcare experiences. One particular example comes

from Dhriti, whose traumatic early encounters with the NHS, described in section 5.4, profoundly shaped her subsequent healthcare relationships.

Dhriti's first major interaction with the NHS in 1970 involved medical staff's insensitive handling of her FGM status during childbirth, leading to both physical and emotional complications. This experience, occurring when she was newly arrived from India and still learning English, created deep patterns of mistrust that continue to affect her healthcare engagement decades later:

"You don't wanna be a part of this system. Like you can't trust these people in the NHS." (Dhriti, 72-year-old Indian female, with diabetes, arthritis, history of FGM, migrated in 1970)

The phrase "these people" takes on particular significance given Dhriti's background. Having experienced the NHS during a period when cultural awareness of FGM was limited and staff were often unprepared to provide culturally sensitive care, her use of distancing language reflects decades of feeling othered by the healthcare system. Her experience exemplifies how early traumatic encounters can create enduring patterns of institutional distrust that video consultations appear to intensify rather than ameliorate.

This profound distrust has had concrete impacts on Dhriti's health management. As noted in Chapter 5, when a routine ultrasound revealed a possible ovarian cyst in 2022, she delayed seeking care for six months. The shift to video consultations, combined with the loss of her longtime female GP who understood her history, heightened her existing anxieties about discussing intimate health matters:

"My daughter thinks I have anxiety because I don't want to deal with the NHS. I don't know, maybe I do. But to me it's more about the fact that they can't be trusted." (Dhriti, 72-year-old Indian female, with diabetes, arthritis, history of FGM, migrated in 1970)

Her daughter's suggestion of anxiety perhaps misses the deeper historical context - Dhriti's avoidance stems not from general medical anxiety but from specific traumatic experiences that have never been properly addressed. The loss of her trusted female GP and the transition to video consultations have stripped away the accommodations she had developed over decades to manage these trust issues.

The complexity of healthcare distrust is further illustrated through Kamala's experience. As discussed earlier, Kamala is a 65-year-old Nepali singer whose relationship with the NHS has been significantly shaped by her professional identity. Her initial B12 deficiency diagnosis in 2021 came after she noticed difficulties maintaining pitch control during performances at cultural events - symptoms that she felt were initially dismissed by healthcare providers unfamiliar with the specific demands of classical South Asian vocal performance.

This history of feeling misunderstood informs her current distrust of video consultations:

"Because I need the GP, but to be honest, I don't trust that like you know, she's not very good and she doesn't really care, right? That's the impression I get so I try not to go but then it gets worse."

The depth of this distrust becomes clearer in the context of her role as both performer and cultural educator. As noted in Chapter 5, her B12 injections had been carefully timed around important performance dates by her previous GP, who understood the cultural significance of her singing in London's Nepali community. The disruption of this carefully managed care plan during the transition to video consultations, when an unfamiliar provider unilaterally stopped her B12 treatment, severely impacted both her health and her ability to fulfil important cultural roles.

Her statement about her GP not being "very good" and not caring stems from this specific experience of having her cultural and professional needs overlooked. The resulting avoidance of care ("I try not to go") reflects not just a general distrust, but a specific fear that remote providers will fail to understand the interconnection between her medical needs and her role as a cultural performer and educator. As her symptoms worsen ("then it gets worse"), this creates a cycle where her ability to maintain her prestigious position in the Nepali community is increasingly compromised, yet her distrust of the healthcare system makes her reluctant to seek help.

Analysing Dhriti and Kamala's accounts reveals how distrust in video consultations emerges through complex intersections of historical trauma, cultural disconnection, and systemic marginalisation. While both express profound distrust in the NHS, their paths to this position differ significantly, highlighting how video consultations can amplify various forms of healthcare alienation.

Dhriti's distrust is rooted in colonial and post-colonial power dynamics. Her traumatic childbirth experience in 1970 represents more than individual clinical insensitivity - it embodies the broader cultural violence experienced by immigrants encountering British healthcare systems during this period. Her use of "these people in the NHS" suggests an unresolved historical trauma that positions the NHS as an extension of colonial power structures that failed to recognise or respect her cultural identity. The transition to video consultations appears to reactivate these deeper patterns of institutional distrust by removing the careful accommodations (trusted female GP, physical presence, community support) she had developed to manage healthcare interactions.

In contrast, Kamala's distrust emerges from the NHS's failure to recognise and accommodate her cultural capital as a classical South Asian vocalist. Her experience with B12 deficiency reveals how

video consultations can perpetuate what medical anthropologists term "structural erasure" - the systematic overlooking of cultural knowledge and practices in healthcare delivery [173]. By disrupting her carefully timed B12 treatment schedule, remote providers effectively delegitimised her professional identity and its connection to her health needs. This represents a subtler form of cultural marginalisation than Dhriti's experience, but one that similarly undermines trust in remote healthcare delivery.

The temporal aspects of trust-building emerge as crucial in both narratives. Dhriti's decades-long effort to build a workable relationship with the NHS through specific trusted providers was undermined by the rapid shift to video consultations. Similarly, Kamala's professional adaptation to B12 deficiency, developed through coordination with understanding providers, was disrupted by the immediacy of digital transformation. This suggests that video consultations not only create new barriers to trust but can rapidly erode trust built over years of patient work to navigate healthcare systems.

This analysis suggests that addressing trust issues in video consultations requires more than technical solutions or cultural competency training. It requires recognition of how digital healthcare transformation intersects with historical patterns of marginalisation and cultural dismissal. The experiences of Dhriti and Kamala indicate that successful implementation of video consultations should consider both historical trauma and cultural identity in ways that current approaches may fail to consider.

This analysis reveals that distrust in healthcare is not a simple or singular phenomenon, but rather a complex interplay of personal experiences, perceptions, and systemic factors. The consequences of this distrust are significant, leading to disengagement from healthcare services

and non-adherence to treatment plans, potentially exacerbating health disparities among already marginalised populations.

This is further exemplified through Fatima's complex relationship with healthcare systems which can be understood through her layered migration history and experiences across multiple healthcare systems. As introduced in Chapter 5, Fatima is an 81-year-old Urdu-speaking homemaker who fled Afghanistan in 1977 during the early political upheavals. Her healthcare experiences span three distinct systems: traditional Afghan practices, Pakistani medical services, and the NHS. This layered migration history profoundly shapes her distrust of digital healthcare:

"Well, people, ethnic minorities, people with disabilities, do not trust the NHS like me. I don't trust them at all, which is why I bear with the NHS as little as possible." (Fatima, 81-year-old Afghan female, with hypertension, osteoarthritis, diabetes, migrated in 1982)

This takes on deeper meaning when contextualised within her life experience. In Afghanistan, Fatima had been part of Kabul's educated urban class, but political upheaval forced her to flee, first to Pakistan where she experienced being a refugee in an overwhelmed healthcare system, and then to the UK where she faced the additional challenges of ageing in a foreign healthcare system. Managing hypertension, osteoarthritis, and diabetes through monthly consultations, she measures current healthcare experiences against an amalgamation of remembered healing traditions and pre-pandemic in-person consultations with a familiar healthcare provider at her local practice.

Her categorisation of herself alongside "ethnic minorities, people with disabilities" reflects more than simple demographic alignment - it reveals how forced migration and displacement have shaped her understanding of institutional marginalisation. The physical limitations imposed by

her arthritis, which make digital interfaces challenging to navigate, compound her sense of systemic exclusion. Her strategy of minimal NHS engagement ("bear with the NHS as little as possible") represents distrust as well as a learned response to repeated institutional disappointments across multiple healthcare systems.

The transition to video consultations has particularly disrupted Fatima's connections with local healthcare providers. As discussed in Section 5.1, her belief that healthcare requires "friendship" reflects not just cultural preferences but also the carefully developed strategies of a twice-displaced person seeking stability in medical relationships.

6.2 Remote consultations increase complexity, which may lead to disorientation

6.2.1 Background

The concept of process multiplicity, as developed by Pentland et al. [237], provides a useful lens for understanding challenges around complexity in remote care. Process multiplicity refers to the idea that a process, such as a healthcare service, can unfold in many different ways, representing a duality of "one" (the overall process) and "many" (the possible paths the process can take). Pentland et al. [237] define the "many" as the space of possible paths encompassed by a process. They argue that when a process is seen as a multiplicity, even small changes can lead to a significant expansion or contraction of the space of possible paths, making the process more difficult to navigate and manage.

The concept of process multiplicity resonates with the continuity of distributed work domain in Ladds and Greenhalgh's continuity framework which is defined as the essential coordination of ‘tasks undertaken by a multidisciplinary team of clinical and non-clinical professionals, the patient, and their family or carers, often separated in space and time, and by artificial care distinctions, for example, primary/secondary care boundaries in order to generate a coordinated experience of coherent care for the patient’ [238]. When this coordination is lacking, patients may feel lost and unsupported, struggling to navigate the complex web of digital interactions and disconnected care pathways.

In both cases, there is an overarching whole (the process, the patient's care) that emerges from the collective efforts of multiple actors (actions in the process, members of the care team). Maintaining continuity and coherence requires ongoing effort to coordinate between these actors and knit together their various contributions.

Digitalisation increases the complexity of achieving this continuity of distributed work. Remote care delivery introduces new actions and actors into healthcare processes. This expands the space of possible paths a care process could take; for example, a remote consultation could lead down very different paths from an in-person visit. Managing more possibilities requires more effort to maintain coherence. In the following section, I draw on the concept of process multiplicity and the continuity of distributed work domain to highlight how digitalisation can increase complexity and lead to gaps or breakdowns in the continuity of distributed work, which ultimately leads patients to feel disoriented in the remote care space. I also aim to illustrate the challenges that patients face in the context of accessing healthcare services remotely and the ways in which the proliferation of possible paths can contribute to these experiences of disorientation and fragmentation.

6.2.2 Findings

Attempting to access and use remote services like video consultations often engendered a profound sense of disorientation among participants. Traditionally, patients had traversed a familiar and well-defined path characterised by scheduled appointments and in-person visits to their known healthcare provider. They now found themselves grappling uneasily with the intricacies of multi-modal pathways and processes of a digitalised service. For instance, they might need to use the NHS app for booking appointments and accessing medical records, while separately managing their GP surgery's own online portal for prescription renewals. Video consultations could run through yet another platform like Attend Anywhere or AccuRx, each with its own technical requirements and login processes. For urgent care, patients might need to navigate NHS 111 online, complete e-consultation forms, or use asynchronous messaging services. Their GP practice website might direct them to different digital triage tools, while hospital appointments could involve separate patient portals and communication systems. Adding further complexity, some services remain telephone-based while others require in-person visits, creating a hybrid landscape where patients must constantly judge which access route is appropriate for their needs. This patchwork of digital and traditional services, each with different interfaces and requirements, can be particularly overwhelming for patients used to the straightforward process of calling or visiting their GP surgery. The lack of integration between these various systems means patients often need to navigate multiple passwords, interfaces, and processes just to access different aspects of their healthcare. As such, all the participants in my sample felt disorientated accessing care services to some extent. Their digital skills and experience were usually limited and they found it difficult to articulate their concerns or symptoms effectively within these different modes. The additional challenges described in the following sections,

further contributed to an overwhelming sense of disorientation, exacerbating the feeling of being 'lost at sea' amidst the digital expanse.

"Everything seemed so complicated online. I couldn't figure out where to go or what to do next. They make it so hard that you kind of just give up even trying" (Translated from Hindi, Shruti, 66-year-old Indian female, with arthritis and *hypertension, migrated in 1975)*

"I felt like I was drowning in all the options, do I call the practice, do I do this econsult thing, do I use the NHS app, do I first check the website, but then the website it too complicated anyways and then I'm back to square one. It's overwhelming, especially when you're already struggling with other things, this is the last thing I should have to worry about." (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

These quotes from Shruti and Tasneem highlight the disorientation and frustration that patients can experience when trying to navigate remote healthcare services. Shruti's frustration is significant given her career history. Having taught during the initial computerisation of British schools in the 1990s, Shruti had successfully adapted to previous waves of technological change. However, the multiplicity of healthcare platforms presents different challenges. Despite her professional experience with institutional systems and fluent English, she finds herself overwhelmed by what she describes as unnecessarily complex digital barriers.

Tasneem's experience reveals a different dimension of disorientation. As discussed in Chapter 5, the 67-year-old Bangladeshi homemaker manages multiple chronic conditions including rheumatoid arthritis and fibromyalgia.

As Pentland et al. [237] explain, digitalisation expands the space of possible paths a healthcare process can take. The plethora of options mentioned by Tasneem - calling the practice, using an e-consult, checking the NHS app or website - represent just a few of the many possible entry points and trajectories through the system. It is important to note that these options relate to the

broader process of accessing healthcare services through digital means, rather than specifically to video consultations. This distinction is crucial as it highlights the complexity of navigating the healthcare system digitally, which occurs even before a patient might engage in a video consultation. While these options are meant to increase access and convenience, they can also make the process more complex and difficult to navigate, especially for patients who may be less digitally literate or already struggling with other challenges.

In contrast, the challenges specific to video consultations, such as technical setup issues and difficulties in virtual communication, present a separate set of hurdles that patients face once they have successfully navigated the initial digital access points. These video-specific challenges, as illustrated by Fowzia's experience (below), include problems with setting up the call, language barriers exacerbated by the digital medium, and feelings of exclusion during the video consultation.

The sense of being "overwhelmed" and "drowning in all the options" described by Tasneem suggests a breakdown in continuity of distributed work as well. In an ideal patient scenario, the various digital tools and remote modalities would be seamlessly integrated, allowing the patient to smoothly transition from one step to the next with clear guidance and support. However, when this coordination is lacking, the patient is left to navigate the complex maze on their own, leading to the kind of frustration and despair expressed by Shruti, who felt that "everything seemed so complicated online" that they "just give up even trying". As Pentland et al. [237] note, even small changes in a process with high multiplicity can significantly impact the patient experience.

Take Najma, whose disorientation with video consultations is significant when considered alongside her history as a former dai introduced earlier in this chapter. As a 66-year-old Pakistani

woman who once held a position of medical authority in her community, her current feelings of powerlessness in digital spaces represent a profound role reversal:

"I have so many health issues, but it's hard to explain them over video. I feel like my concerns aren't being heard. And I just can't with this digital stuff. I just feel lost in this sea of [waves hands over laptop], like I'm flailing in the water, I stopped using the NHS for some time and just made do because it's too much for me." (Najma, 66-year-old Pakistani female, with COPD, early-stage glaucoma, migrated in 1983)

Speaking to me in Urdu, her metaphor of "flailing in the water" carries weight given her transition from healthcare provider to struggling patient. Her early-stage glaucoma, which makes screen interactions physically challenging, compounds this sense of displacement.

Maneshi's experience offers a different perspective on this disorientation. As explored in Chapter 5, Maneshi is a retired factory worker who was part of the significant migration from commonwealth countries to England for factory work in the 1950s and 1960s. His experience with video consultations reflects the disconnect between his learned patterns of direct communication, developed through years of factory work, and the abstracted nature of digital interaction:

"I sat in front of the screen but I felt like I was floating, like I wasn't even there, disconnected from my doctor and my care. I don't know how to describe it, but it's a lonely feeling." (Maneshi, 83-year-old Indian male, with diabetes and heart disease, migrated in 1960)

Both narratives reveal how disorientation intersects with participants' historical relationships to healthcare and authority. For Najma, it represents a loss of professional identity and agency, while for Maneshi, it disrupts carefully developed patterns of institutional communication. Their experiences suggest that digital healthcare transformation may be particularly challenging for older immigrants whose previous roles and adaptation strategies are rendered ineffective in

digital spaces. The difficulty in effectively communicating health concerns over video and the lack of physical presence contribute to patients feeling unheard and detached from their care, leading to a sense of being "lost" or "floating" in the remote healthcare landscape.

Fowzia's experience with video consultations must be understood within her broader trajectory of healthcare engagement in the UK. As introduced in Chapter 5, Fowzia is a recently widowed immigrant from Pakistan whose healthcare expectations were shaped by Pakistan's pluralistic medical system, where multiple approaches to healing coexist. Over her 33 years in the UK, she had developed strategies for incorporating family-based decision-making within the NHS's individual-focused system:

"I wouldn't know the first thing about doing a video call. He [son] set it up for me, clicked some stuff, and had it up and running and I just sat there. They did all the talking without me, but it probably was for the best anyways because I don't know if I could've even said what I needed to properly, the language issue, the screen issue, just looking at it all was too much for me." (Fowzia, 68-year-old Pakistani female, with type 2 diabetes, migrated in 1991)

This highlights the intersectional challenges faced by some individuals when engaging with video consultations (including the process of setting up a video consultation). In this case, Fowzia's age, technological literacy, and language barriers converge to create a sense of exclusion and disempowerment during the video consultations. Her reliance on her son to set up and manage the video consultation underscores the digital divide that can exist across generations, potentially limiting older patients' autonomy and engagement in their own care. Furthermore, Fowzia's comment about the "language issue" suggests that linguistic barriers can be exacerbated in the context of video consultations, leading to a feeling of being overwhelmed and unable to effectively communicate their needs.

This is similar to Rashid's perspective on the matter, especially when viewed through his unique professional lens. As mentioned earlier (section 6.1), this 65-year-old retired telecommunications worker from Mauritius brings valuable insight from experiencing both the digitalisation of British Telecom in the 1990s and the NHS's recent shift to remote care.

"It's frustrating not being able to see the GPs expressions or body language. It's like talking to a complete stranger. How do you talk about personal things like constipation and this pain or that pain with someone like that, a random face on a screen that's you don't even know is looking at you or not. It just messes with your head even more that's why I avoid it at all costs now." (Rashid, 65-year-old Mauritian male, with chronic back pain and high blood pressure, migrated in 1987)

His observation about "a random face on a screen" carries particular weight given his professional background. Having witnessed how BT's transition to employee numbers stripped personality from workplace relationships, he sees parallel patterns in NHS digitalisation.

From the perspective of process multiplicity, in this account, the introduction of remote consultations can be seen as expanding the space of possible paths that the healthcare process can take. Whereas in-person consultations follow a relatively predictable script, with the patient and practitioner meeting face-to-face in a clinical setting, remote consultations open up a range of new possibilities and variations. The consultation may take place over video or phone, with different technological platforms and setups. The patient and practitioner may be in different locations, with different levels of privacy and environmental control. These variations can introduce new challenges and points of friction, as illustrated by Rashid's experience of feeling disconnected and unsure if the practitioner is fully engaged. His frustration around not being able to see the GPs expressions or body language also link back to the concept of absent presence discussed in Chapter 5.

Moreover, the sense of talking to a "random face on a screen" suggests a breakdown in the continuity of distributed work. This fragmentation can be particularly problematic when dealing with sensitive or personal health issues, such as constipation or pain. These issues often require a high degree of trust and comfort to discuss, which can be difficult to establish in a one-off remote consultation with an unfamiliar practitioner. In a more continuity-rich system, the patient might have the opportunity to discuss these issues with a practitioner with whom they have an ongoing relationship, either in-person or through a series of remote consultations.

"Not having the money to go private adds another layer of hard to the mix. I can't afford the luxury of choosing the most convenient healthcare option. No. Instead, I'm forced to navigate through a patchwork of NHS resources that takes weeks, months, even years and it's just getting worse because they're trying to move things online now and my brain is already just scattered from long-covid first and then the mess that is the NHS trying to be something they aren't so this is just the cherry on top. [laughs] To be honest, it puts me off the whole thing and I don't even want to deal with them but my kids get after me." (*Mohammad, 70-year-old Sri Lankan male, with long COVID, migrated in 1988)*

Mohammad's reference to long COVID and cognitive challenges ("my brain is already just scattered") can be seen through the reference of a small business owner during the pandemic. Having kept his shop open as an essential service while managing his own illness, Mohammad experienced firsthand how socioeconomic pressures can force engagement with risk. His inability to afford private healthcare represents not just financial limitation but perhaps some irony - despite providing essential services during the crisis, he cannot access timely care for resulting health conditions.

The phrase "the NHS trying to be something they aren't" reflects his unique perspective as someone who understands both customer service and community needs. As highlighted in Chapter 5 when discussing his inability to name his current GP, Mohammad has witnessed the systematic dissolution of personal healthcare connections that previously anchored immigrant

patients' experiences. His laughter after mentioning "the cherry on top" suggests a wry recognition of how digitalisation can compound existing inequities.

His children's involvement ("my kids get after me") echoes earlier discussions about changing family dynamics in healthcare engagement, but from a different angle. As a business owner accustomed to independence and authority, relying on his children for healthcare navigation represents a particular kind of role reversal that challenges his sense of autonomy.

This account further illustrates the intersectionality of socioeconomic status, health conditions, and the digitalisation of healthcare, creating compounding barriers to accessing care. Mohammad's inability to afford private healthcare, coupled with the challenges of navigating a fragmented and increasingly digitalised NHS, creates a barrier to receiving timely and convenient care, exacerbating the cognitive and emotional burden of managing his health.

At the clinical level, video consultations themselves fragment senses critical for diagnosis and rapport vital for engagement. As Basmah shares:

"You lose so much over video especially when your connection isn't good and you struggle to catch the words. I feel dumb to keep asking him to repeat especially when you can tell they in a rush. I can't show them exactly where I'm having pain either unless I stand and walk back so I'm fully in the camera it's just, it all feels very disjointed." (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

Basmah's account aligns with findings from Shaw et al.'s [239] study on video-mediated interaction in clinical settings which identified challenges in conducting physical examinations and dealing with disruptions to conversational flow due to technical issues. Their work highlighted how video technology can alter the dynamics of patient-clinician interactions, potentially impacting the quality of care.

However, this study extends this understanding by applying an intersectional lens and CRT to analyse these challenges. This approach allows me to examine how various dimensions of disadvantage - such as race, class, age, and digital literacy - intersect to shape patients' experiences with video consultations. For instance, Basmah's account not only reflects the technical challenges of video consultations but also hints at power dynamics and feelings of disempowerment that may be particularly acute for marginalised patients.

My use of critical race theory further illuminates how the shift to video consultations may inadvertently reinforce existing health inequities. For example, the need to "stand and walk back so I'm fully in the camera" may pose additional barriers for patients with mobility issues or those living in cramped spaces, issues that may disproportionately affect certain racial or socioeconomic groups.

Moreover, while Shaw et al.'s [239] work provided valuable insights into the interactional challenges of video consultations, my research adds to this by exploring how these challenges are experienced and navigated differently by patients from diverse backgrounds. This intersectional approach reveals how the "disjointedness" of video consultations may be felt more acutely by those who already face multiple barriers to healthcare access.

For some participants, the cumulative effects of escalating fragmentation and complexity felt profoundly disorienting. As Mohan describes:

"It's mad just how things have gotten just in the past few years. I'm left on my own trying to make sense of all these complicated different pathways and appointments. The advice changes all the time one day this one day that. I almost do feel lost you know, I'm not ashamed to say it, trying to keep afloat of it all. Like I was stuck in an online waiting room for ages the other day and I have no idea if he's [GP] even gonna show. I told my wife ok I'll wait another 5 minutes and then just

leave like what else am I meant to do." (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

Of note, this account especially exemplifies an important point in that virtual spaces may lack the taken-for-granted social and material affordances/constraints ordinarily found in face-to-face (in-clinic) encounters that would guide and orientate patients (as well as create a sense of mutual awareness that the patient is waiting and the clinic is running late), made worse by the multiple processes and pathways that technology introduces to 'attend' a remote consultation. The absence of these familiar cues and constraints can leave patients feeling disoriented and unsure of how to proceed, exacerbating the sense of being "stuck" and unable to effectively engage with their care.

6.3 Engagement with remote consultations may be shaped by previous experiences of perceived racism and discrimination

6.3.1 Background

Critical race theory (CRT) serves as the guiding theoretical framework for this theme where I explore past and present experiences of discrimination and marginalisation within healthcare settings as described by participants. Originally developed within legal scholarship to critically examine how policies and laws perpetuate racial inequity, CRT has expanded across disciplines as a radical lens to interrogate the role of racism across society's institutions [15,120]. The framework centres race and racism as defining, endemic elements of societal structures, including institutions like healthcare that espouse scientific objectivity and equitable access as central tenets. Core principles of CRT include embracing the intersectionality of race and racism with other forms of subordination, rejecting notions of racial progress and colour-blindness, and

elevating the experiential knowledge of marginalised groups through storytelling and counternarratives [121]. It scrutinises claims of neutrality, objectivity and meritocracy across social systems.

To expand on this, critical race theory has several main tenets. First, is the concept of ordinariness: racism is an everyday experience for people of colour that is not acknowledged and therefore difficult to address or eliminate [120]. The lack of acknowledgment of this reality manifests as colour-blindness—a pervasive ideology that operates at individual, institutional, and structural levels [120]. At the individual level, it appears as the dominant notion that a (white) person "does not see race" and therefore "is not racist" because they do not display overt prejudice. However, colour-blindness extends far beyond personal attitudes to shape institutional policies and structural arrangements [120]. Healthcare institutions may claim "race-neutral" policies while ignoring how standardised practices, resource allocation, and service design can disadvantage racial minorities. For example, the shift to video consultations may be framed as a "colour-blind" innovation benefiting all patients equally, while overlooking how digital barriers disproportionately impact certain racial and ethnic communities. At a structural level, colour-blindness manifests in the healthcare system's resistance to acknowledging how historical patterns of racism continue to shape present-day inequities in access, treatment, and outcomes. Critical race theory therefore suggests that because racism is defined so narrowly—often limited to individual prejudice rather than institutional policies and structural arrangements—whites have little to no language to discuss racism as a systematic and widespread ideology that permeates all levels of society [120]. The second tenet is the concept of “interest convergence” that racism results in accumulation of material and psychological power for whites [120]. In other words, society's rules and attitudes have not changed because the majority group has little incentive or interest in working toward changing racism, because it benefits them both

economically and psychologically. The third tenet of critical race theory is that race is a social construct, with no basis in genetics, which leads to the categorisation and stratification of groups of people as subject to those in power. The categories and definitions about race lack any one "truth" about what race is and are regularly shifted and manipulated to the benefit of the non-racialised dominant group [121]. The theory insists race-conscious transformative solutions at structural and ideological levels are imperative to actualise equity.

Within healthcare, CRT elucidates how supposedly impartial institutions (and people acting in those institutions) charged with caring for all, can pathologise, silence and disempower minority patients through routinised practices rooted in unexamined biases [22]. It centres voices of those directly impacted by systemic forces. CRT further links clinician-patient power imbalances to broader societal postcolonial hierarchies built to privilege particular groups as authorities over racialised 'others' [240].

In this context, CRT provides a lens to critically analyse the interconnectedness of racial injustice and the health care experiences of older, limited English-speaking individuals with low-socioeconomic status. By focusing on their experiences, the aim is to centre their voices while simultaneously identifying how race and systemic racism construct their healthcare realities.

6.3.2 Findings

In applying critical race theory to disadvantaged patients' healthcare narratives, I highlight dimensions of racial discrimination present in their experiences with healthcare. One of the central arguments of CRT scholars is that racial issues and racism are so ingrained in our system and structures that we fail to perceive them as such-they have become "normal life" [120,121].

As a result of this, in the current analysis I use CRT to uncover dimensions of racial discrimination and racism that are present in healthcare "standard practices," while demystifying the ideology of colour-blind healthcare system – the notion of a racially neutral and democratic social order that works for all people [26].

This quote from Mohammad when discussing his recent experiences post-surgery, reveals perceptions that differential treatment would occur based on racial identity and socioeconomic status, highlighting racism and classism interplaying in lived experiences.

"Well, yes. At the end of the day, yes, I do think that if I was a white person from a rich background, instead of brown and poor, I might have been treated differently." (*Mohammad, 70-year-old Sri Lankan male, with long COVID, migrated in 1988)*

At the first level of interpretation, Mohammad makes sense of his healthcare experiences through his own intersectional understanding. His choice of language—particularly the deliberate contrast between "white person from a rich background" and "brown and poor"—reveals how he theorises his position within the healthcare system. The repetition of "yes" and the phrase "at the end of the day" suggests a reluctant but firm conclusion drawn from accumulated experiences rather than a single incident.

At the second level of interpretation, as a researcher, I analyse how Mohammad's narrative construction itself reflects his understanding of systemic inequalities. His use of the hypothetical "might have been treated differently" rather than describing specific incidents suggests he interprets discrimination as a pervasive, systemic issue rather than isolated events. The way he pairs racial and economic identities without prompting indicates he has developed his own understanding how different forms of marginalisation interact within healthcare settings.

This double layer of interpretation [133] reveals how Mohammad's experiences span both in-person and remote healthcare settings, suggesting he interprets systemic inequalities as persistent across different modes of care delivery.

CRT also challenges notions of racial progress, a principle echoed in Mohammad's observation about the lack of progress on equity and unchanged racist ideas carried across generations and settings, contesting healthcare's supposed impartiality.

"This as a society, there are inherent biases and things that they think some people deserve less care, less medical attention, just less health care in general, and the bottom line is the idea hasn't moved on in the last 100 years from that, it hasn't changed just because things have now shifted to online, the platform changes [laughs] the ideas don't." (*Mohammad, 70-year-old Sri Lankan male, with long COVID, migrated in 1988)*

This insight aligns with CRT's critique of superficial changes that fail to address underlying structural racism. It suggests that the shift to remote technologies like video consultations has not fundamentally altered the deep-seated biases and inequities that have long plagued healthcare. His statement that "the platform changes, the ideas don't" powerfully stresses how technological advancements alone are insufficient to dismantle the entrenched racism that permeates the healthcare system. It further implies that video consultations may simply provide a new avenue for these "inherent biases" to manifest, as the underlying belief that some people deserve less care based on their race and socioeconomic status remains unchanged.

CRT posits that racism is an ordinary, everyday experience for people of colour, often unacknowledged due to the prevalence of colour-blind ideologies. This concept is starkly illustrated by participants who reveal a resignation to interpersonal racism from staff being an accepted norm, rather than an extraordinary breach of ethical standards.

“Look, sometimes you can tell they’re a little bit…racist, but it's OK, it's not a big deal like that.” (Translation from Urdu, Samiyah, 69-year-old Pakistani female, with diabetes, migrated in 1982)

“And sometimes you get certain doctors who are racist. But it’s whatever, I'm used to that.” (Dhriti, 72-year-old Indian female, with diabetes, arthritis, history of FGM, migrated in 1970)

Both participants acknowledge that they sometimes encounter healthcare providers who are racist, suggesting that these experiences are not isolated incidents but rather a recurring feature of their interactions with the healthcare system, rather than isolated incidents or specific encounters via video consultations. This suggests a pervasive issue that spans various healthcare interactions over time.

Moreover, their resigned statements that "it's OK" and "it's whatever, I'm used to that" aligns with CRT’s assertion that racism is so ingrained in societal structures that it becomes an inevitable reality rather than an egregious violation of professional ethics [120]. This normalisation of interpersonal racism highlights the pervasiveness of discrimination within healthcare and the way in which repeated exposure to such mistreatment can lead to a sense of resignation and diminished expectations among marginalised patients.

The fact that these participants feel compelled to downplay or brush off the severity of the racism they encounter ("it's not a big deal," "it's whatever") also underscores the power imbalances at play, as they may feel pressured to minimise their own experiences of discrimination to maintain access to needed care.

Najma, the 66-years-old Pakistani homemaker and former midwife suggests occasional perceived differential access is influenced by religious-racial identity specifically.

“It doesn't happen always [feelings of discrimination], but it’s just possible that it wasn't given to me because the person knew I was from a Muslim background and they don’t want to bother giving it to me. Yeah, but I wouldn't label it. Let it label it too much. But yeah, it its it is there.”

Her careful hedging - "it doesn't happen always" and reluctance to "label it too much" - highlights a complex awareness of how discrimination operates in healthcare settings. As someone who once held authority in healthcare delivery, her hesitation to definitively name discrimination suggests not naiveté but a thoughtful understanding of how religious and racial bias can manifest in subtle, deniable ways.

The phrase "they don't want to bother giving it to me" carries weight given her former role. Having transitioned from being a respected healthcare provider in her community to experiencing potential discrimination as a Muslim patient, she recognises how provider attitudes can influence care decisions without leaving clear evidence. Her experience suggests that video consultations may make these subtle forms of discrimination harder to challenge, as the distance and technical barriers provide additional cover for differential treatment.

This suspicion of religiously-motivated discrimination adds another layer to her earlier expressed difficulties with video consultations. While previous discussions focused on her physical challenges with screen interactions due to glaucoma, this revelation suggests that technical barriers may compound existing patterns of religious-racial marginalisation.

Another participant conveys challenges naming racially differential treatment, though it was perceived indirectly through patterns.

“It’s just a feeling, that’s the best way I could put it down. You know, the fact that there's cases where it just feels like you're kept waiting for longer than necessary. Other people who are in the exactly the same position are treated better. You know that, that sort of thing, I mean. I would say

you got the other healthcare staff, things like that who are directly racist, but that's not the whole institution. That's other people, but it's all been sort of indirect. You just get the feeling that you know things would be a lot easier, a lot better if you were like them." (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

Mohan further provides an account that expands on the above and links racism prevalence to socioeconomic hierarchies, where privileged physicians perpetuate biases against poorer minority patients. This aligns with CRT's concept of interest convergence [121], suggesting that racial equity is only advanced when it aligns with the interests of the dominant group.

"You know, I've been here since I was about 37, you know, so I've experienced my share of racism. It's actually a lot less now. But you know it's still there. And to be honest, it's never gonna go away. Especially if you're not so well off and dark skinned. So like, so everybody thinks, you know, that they are the best especially if you're a well-off GP. And there's always somebody lower. So they would look down on you. And those people we can't get away from that, you know?"

His reference to arriving at age 37 (in 1979) places his observations within an important period of NHS history. Having worked in a supermarket while witnessing the professionalisation and increasing social status of medical practitioners, he brings insight into how class hierarchies intersect with racial discrimination. His characterisation of "well-off GPs" reflects individual attitudes as well as systemic changes in healthcare delivery that have widened the social distance between providers and certain patient populations.

The phrase "can't get away from that" is interesting given his earlier expressed concerns about digital healthcare feeling like "an assembly line, one in, one out." His suggestion that racism is "actually a lot less now" but persists especially for those who are "not so well off and dark skinned" reveals how video consultations might simultaneously mask and reinforce existing power dynamics.

This perspective adds deeper context to his earlier description of feeling "lost" in digital healthcare systems. For someone who has spent decades navigating racial and class hierarchies through careful attention to social cues, the removal of physical presence through video consultations may represent not just practical challenges but the loss of hard-won strategies for managing discriminatory treatment.

It also aligns with CRT's critique of incremental progress that fails to address fundamental power structures. It suggests that while overt racism may have decreased, systemic inequities persist, especially for those who are both racially marginalised and economically disadvantaged.

CRT highlights how racism often manifests in subtle, everyday interactions. In some instances, participants discuss facial expressions and tone shifts which suggest prejudicial treatment based on racial identity from the moment patients enter healthcare settings.

“When you go to hospital, there are sometimes you go in there and they are greeting properly so nicely because that's how they treat everybody and that’s natural that's fine and then me, I go in I’m not white and their face changes. Even at GP office, you go to the reception, and you see the first person who's got some the computer with your information and you can tell that the moment you walk in they sort of so rude to you, even to actually say, just sit down no hello. You see the change, the behaviour, not that they any extra busy. Then some other white guy comes in and then they treat him so much differently, chit chatting, smiling. Yeah. And this is just at a simple level then even.” (Maneshi, 83-year-old Indian male, with diabetes and heart disease, migrated in 1960)

Maneshi’s observation of behavioural shifts - from "greeting properly so nicely" to faces changing - reflects skills honed through decades of navigating racist encounters. Having experienced the transition from direct racism in 1960s factories to more subtle contemporary forms, his attention to micro-level interactions like greetings and facial expressions reveals certain strategies for detecting discrimination.

This analysis adds context to his earlier discussions about delayed responses and mechanical interactions in video consultations. While Chapter 5 explored how digital interfaces disrupted his expectations of direct communication, this account suggests that video consultations may introduce new forms of microaggression while making traditional ones harder to identify and challenge.

His emphasis on "this is just at a simple level" suggests an understanding of how surface-level discrimination indicates deeper systemic issues. For someone who witnessed British healthcare's evolution from post-war reconstruction to digital transformation, these persistent patterns of differential treatment represent more than individual prejudice - they suggest institutional resistance to meaningful change.

This description of subtle changes in facial expressions and demeanour aligns with CRT's focus on microaggressions - brief, commonplace indignities that communicate hostile or negative attitudes toward marginalised groups [120]. These experiences, while often dismissed as minor, contribute to the cumulative impact of racism on health and well-being. Another further participant illustrates a common microaggression of colour-blind ideology, where dismissal and unwelcomeness are attributed to anything but racial biases.

"I mean, you know when you just get a frosty reception from someone? I mean, I'm talking English. I don't believe that I've got an accent or anything, but it's just. But you know, it seems to be … you just don't feel welcome. You don't feel as if they want you to be there and it's odd to get that feeling when you're in your own home just doing a video call with him [HCP]. But it's just very dismissive. They want you to get away as quickly as possible. And then you see other people where it's all smiles and everything's yeah a lot better." (Tasneem, 67-year-old Bangladeshi female, with rheumatoid arthritis, fibromyalgia, migrated in 1980)

Another participant contrasts experiences with permanent versus temporary providers, perceiving greater dismissal and hurriedness from white locum GPs.

"If the GP is locum and not permanent…because permanent GP you tend to know them and they know you so the relationship is fine…but with locum GP and it happens to be a sort of a white guy, you sort of feel he/she just going through the motion and trying to get rid of you. (Translated from Urdu, Abed, 65-year-old Afghan male, with chronic COPD, migrated in 1988)

This suggests that the intersection of provider continuity and race can shape patient experiences, with white locum GPs perceived as more dismissive and rushed compared to permanent providers. This highlights how the lack of an established therapeutic relationship may exacerbate the impact of racial biases, leading to experiences of diminished care quality for minority patients seeing temporary physicians.

Maneshi's account further goes on to evidence patterns of perceived disparate treatment for racially minoritised patients versus white patients even in identical healthcare contexts.

"When you go in for treatment for example, recently I had some. There are two people so one takes you initially and the person that they had taking me was completely, completely, completely different attitude towards me. Now it's quite possible that they is always like that rude or something, but I'm not sure because the other person who came after me she was so nice to, completely different you know. And all I'm saying is you find people like this in the NHS all the time." (Maneshi, 83-year-old Indian male, with diabetes and heart disease, migrated in 1960)

CRT emphasises the importance of counter-narratives that challenge dominant perspectives [241]. The following narrative serves this purpose, shares an instance of perceived linguistic discrimination, naming the mocking of her English abilities.

"One day in the GP, what happened with me that girl at reception was first ignoring me then talking down on me, then I raised my voice, I said, why don't you listen to me? You can't speak to me like that. I go there, ask for another blood test because GP said I need to go every two weeks I need to give blood test. But ladies at reception said no you can't and I said you don't know my

condition. Everything in the computer, I always come and take the blood test and now it's a different thing. And then they just stop talking to me and they're behind the counter there they are laughing at me, you know. And that time I was so angry. I may be from India but you'should respect each other and they was laughing and then they said they know something about me my because my English is not good and there you know. Right to make fun of it and I understand. Then I said why you don't listen to me. Why you laughing? They said no, we are not laughing at you. And I said I can understand. I can see your body language also. Then I just a little bit spoken then come out. You know they gave me the stiff and then come and that day I was so upset I was thinking they're like my sister. They're like my daughter. Even they have a mother and everything. How can they do with their own people like this in so you know. This country some people know who the English they are, you know, own people, they behave badly. That's not good enough. So that's why I told my children if you find someone who can't speak, try to help them nicely. Don't laugh. Don't make fun of them. It's not nice, you know? So that's the one days. Very hard. But I just forget, you know, forgive them. Whatever." (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

The mockery Basmah faced here due to her language barrier exemplifies how racism can manifest through linguistic discrimination, demonstrating the intersectionality of oppression where race, immigration status, and English proficiency interact to create compounded barriers to equitable care.

In another instance, Mohan talks about gatekeeping appointment access based on the language ability of his wife and perceived capacity to self-advocate as a discrimination mechanism.

"They make it such that you know she's not given one [appointment for his wife]. If you know what I mean. It's I think it's easier for them to treat people who, for example, who they can see is very much quite different. For example, if you have really great English and you're able to communicate, you're able to get your points across, you won't deal with it [racism] as much as you will for example, if, it's just ok. Like my wife, she's got bad English, they know that she's not going to do anything or not able to do anything if they do something, so they can get away with being racist." (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

In another account, he discusses a specific example of a video consultation where the physician appeared dismissive, sarcastic, and unwilling to fully address the patient's concerns. Mohan and his wife perceived the interaction as unprofessional and potentially influenced by racial biases.

“Not too long ago my wife she had a video appointment because she had an issue with the hand. So the doctor like any questions we asked, he was just reluctant to answer and he had the, you know, the sarcasm. He said oh she might got some nerve damage because she puts her elbows on the table. So I said well, she doesn't do that because she don't have a desk job or anything. So, you know, she doesn't do that. So, then how can we improve her problem? And he said stop putting the elbow on the table. He said that five times. So you telling us? Not to do the stuff that we're not doing? He didn't answer. He just ignored and was rushing. Wrote some tests and dropped us. So you just know where some doctors, you don’t know whether it's racist or not, but like because we call it that because we feel that way. Who knows, maybe it’s nothing maybe he just had an argument with his wife or whatever. I don't know. But he should not be talking to anybody like that whether he's had an argument or not. That's not professionalism.” (Mohan, 82-year-old Indian male, with heart disease and chronic COPD, migrated in 1979)

Video consultations can become a flashpoint where pre-existing distrust in the healthcare system manifests in new ways. Samiyah, whose previous experiences with medication errors had already made her wary, describes her heightened vigilance:

“I swear now I'm very vigilant. I will check every single medication. I will read the leaflet 3 times, I will Google it because I don't trust these people they already prescribed the wrong one [medication] to me once before.” (Translated from Urdu, Samiyah, 69-year-old Pakistani female, with diabetes, migrated in 1982)

While Samiyah's vigilance around medication predates video consultations, this existing distrust directly shapes how she engages with remote appointments. In her subsequent video consultations, she reported feeling unable to properly scrutinise medication decisions, noting "At least in person I could see what they're writing and ask questions right there. On video, they just send prescriptions after and I worry what mistakes they've made." This suggests how the physical separation in video consultations can intensify existing trust issues - without the immediate ability to clarify prescriptions face-to-face or observe the documentation process, patients like Samiyah who already question provider reliability may find video consultations particularly anxiety-inducing. Her case illustrates how prior negative experiences don't just create general system distrust, but can specifically undermine confidence in video consultations as a safe space for making medication decisions.

Najma also expressed concern about potential wrongdoing and a lack of accountability, emphasising a disillusionment with healthcare staff's responsiveness to grievances.

"Because you're, you're putting your life in their hands and then they could do whatever they want with it, and often they do something wrong. They get away with it because the country is there to help them get away with it. Like I said, when I complain to the staff, they didn't listen." (Najma, 66-years-old, Pakistani immigrant)

This was similar to Kamala who felt compelled to covertly record phone calls related to her father's affairs. Despite acknowledging the impropriety of such actions, the pervasive feelings of animosity and distrust compelled her to adopt this measure as a perceived necessity.

"Since all that I have had to because I hate that NHS, I don't trust them. I had to secretly record all these telephone calls. And I'm not supposed to. I know I'm not supposed to, but when you have so much hatred and distrust, the people like you around, you've got no choice. But so I record every single call that my I had to deal with my dad's stuff." (Kamala, 65-year-old Nepali female, with pulmonary hypertension and B12 deficiency, migrated in 1985)

This underscores a deep-seated lack of trust in healthcare providers, asserting a preference for personal autonomy even if facing a life-threatening situation. Kamala expresses a strong aversion to relying on what she perceives as incompetent individuals within the healthcare system, recounting a negative hospital experience marked by perceived neglect, rudeness, and overall unpleasantness.

"This is what I mean. And that's why I can't trust these people with your life. You can't. You can't. You you'd rather die than trust some idiot with your life because you're gonna die anyway. So what's the point? You might as well be in your own bed and die rather than be in the hands of these idiots who are gonna ruin you anyway. So I ended up on oxygen and the hospital was shit. They were so nasty. They were mean they wouldn't see me. They wouldn't talk to me. It was just the worst experience in my entire life." (Kamala, 65-year-old Nepali female, with pulmonary hypertension and B12 deficiency, migrated in 1985)

The intensity of these emotions is striking and deeply concerning. Kamala and Najma use words like "scared," "anxious," and "hate" to describe their feelings towards the NHS. One participant even stated that they "suffer from PTSD" due to their experiences. This suggests a level of emotional distress that goes beyond mere dissatisfaction or frustration, pointing to deeper psychological wounds inflicted by repeated negative interactions with the healthcare system.

The fact that these emotions are directed at the NHS as a whole, rather than specific individuals, highlights the systemic nature of the problem. Participants seem to view the NHS as a monolithic entity that is untrustworthy, unaccountable and even malevolent. For example, Kamala expresses a belief that the NHS, and the country at large, enable wrongdoing and protect staff from the consequences of their actions. Similarly, her statement that she "hates" the NHS and does not trust "them" suggests a generalised animosity towards the institution. This institutional distrust is likely rooted in a history of negative experiences, including perceived neglect, mistreatment, and deception.

The emotional toll of this distrust, rooted in a range of negative experiences, including perceived neglect, rudeness, and lack of communication from healthcare staff, cannot be overstated. Kamala's account of her hospital experience, where she felt staff were "nasty," "mean," and unwilling to engage with her, is a particularly stark example. Living in fear, anxiety, and hatred of the very institution meant to provide care and healing is a heavy burden to bear. This distrust may also be rooted in the legacy of systemic racism and discrimination within healthcare institutions. These accounts suggests that these individuals from marginalised communities have experienced repeated instances of suboptimal care or prejudicial treatment, leading them to disengage from the NHS as much as possible. This highlights the critical importance of addressing systemic inequities and cultivating cultural competence among healthcare providers to rebuild trust. For

marginalised communities who may already face numerous challenges and inequities, this emotional distress can compound existing vulnerabilities and further undermine health and well-being.

6.4 Remote consultations may reduce patient agency

6.4.1 Background

Building on the earlier themes in this chapter, this final section examines how the fragmentation and disorientation experienced in the remote healthcare space can diminish patients' sense of agency, particularly for those facing intersecting disadvantages. This diminished agency may be further compounded by limited trust (in the provider and the system) and the cumulative impact of past experiences of racism and discrimination within healthcare settings. The analysis foregrounds how these can all undermine the patient's ability to independently identify appropriate access points, navigate their care journey, effectively communicate their concerns, and maintain a cohesive understanding of their treatment plan. This disorienting complexity often necessitates reliance on informal caregivers or other agents to activate services on patients' behalf.

Critical race theory also provides further context on how new digital barriers may disproportionately disempower minority patients already contending with structural discrimination within healthcare settings. The recurring instances of perceived bias, dismissal, and mistreatment (exemplified in the previous section) can erode patients' confidence in advocating for their needs and asserting their rights within a system that has, they feel, consistently marginalised and devalued them. Thus, the intersection of technological barriers and institutional

racism may create a double burden that disproportionately undermines the agency and empowerment of minority patients in navigating increasingly digitalised healthcare landscapes.

By examining narratives of diminished self-advocacy amid disjointed remote care services, I use this section to emphasise how systemic complexities introduced by remote care can paradoxically diminish the very access and empowerment these innovations intend to promote.

6.4.2 Findings

Across interviews, patients articulated feelings of disempowerment stemming from remote consultations and navigating digital care pathways. Diminished agency manifested in difficulties identifying appropriate entry points within multi-channel systems, inability to establish therapeutic connections remotely, fears of inaccurate video consultations assessments, and reliance on carers activating fragmented services. Collectively, these depictions reveal disrupted continuity, coordination and information flows prompting dependency.

As Samiyah noted, navigating various digitalised entry points causes disorientation impeding self-advocacy, necessitating family assistance.

"I can't tell you how many times I've tried using website or app and just ended up more, how do you say it….confused? Which link do I click? How I even describe my symptoms in the writing? I don't know half these medical terms they keep asking. My English is no good. After…after that I just give up and tell my son to do something for me instead." *(Samiyah, 69-year-old Pakistani female, with diabetes, migrated in 1982)*

Having arrived in the UK in the early 1980s during a period of significant Pakistani migration, Samiyah had developed personal strategies (detailed in section 5.2) for navigating in-person healthcare through relationship-building and non-verbal communication. The shift to digital

interfaces disrupts these hard-won adaptive strategies, forcing reliance on her son not just for language translation but for fundamental system navigation. The disorientation and confusion that she experiences in navigating these virtual entry points impedes her ability to self-advocate and effectively communicate her needs, ultimately leading to a reliance on family members to mediate her healthcare interactions.

Others expressed unease exercising agency effectively without personal rapport or physical examination components during video consultations.

Basmah who struggles with managing her diabetes and has had previous negative experiences with providers worries about inaccurate assessments remotely limiting her care options:

"I mean doctors have it tough now seeing us all through video calls. But it almost feels pointless for me. He's just staring at notes on some other screen barely listening. I can't really show him what's going on with my body in a genuine way. And to be quite honest it just feels like he's already decided before properly hearing me out." (Basmah, 73-year-old Bengali female, with diabetes, migrated in 1978)

The lack of physical presence and personal rapport makes it seemingly difficult for Basmah to fully convey her symptoms, leading to a fear that the doctor may make hasty or inaccurate assessments without truly listening, stressing how video consultations can exacerbate power imbalances and diminish patients' confidence in shaping their own care outcomes. Basmah's situation is particularly complex given her history, discussed in Section 6.1, of carefully managing diabetes through established relationships with specific providers. Her observation about the doctor "staring at notes on some other screen" suggests more than simple technological friction - it represents the erosion of carefully cultivated therapeutic relationships that previously allowed her to exercise agency in her care decisions. The phrase "already decided before properly hearing

me out" takes on added significance given her previous experiences, detailed in Section 6.3, of feeling dismissed by healthcare providers.

*For Maneshi, the 83-year-old Indian immigrant whose experiences with racism were detailed in Section 6.3, the loss of autonomy in healthcare navigation represents a particularly bitter*sweet *role reversal:*

"At my age, it's impossible to keep track of the different numbers to call or steps to do appointments online. My children handle everything now - they email test results, book consultations, order medications for me. I feel so helpless relying entirely on them, but I don't really have much of a choice." (Maneshi, 83-year-old Indian male, with diabetes and heart disease, migrated in 1960)

His use of the word "helpless" takes on layered meaning within South Asian cultural contexts where intergenerational care and family interdependence are traditionally valued. While relying on adult children aligns with cultural expectations of filial piety and family-centred healthcare decision-making, the nature of this dependency feels fundamentally altered in the digital healthcare landscape. Rather than the organic, culturally-affirming involvement of family in medical matters, Maneshi experiences this technologically-forced reliance as a loss of personal dignity. Having developed strategies for maintaining agency while navigating racist encounters in 1960s factories through attention to social cues, he now finds himself dependent on his children not by choice or cultural practice, but by technological necessity. This creates an internal tension where the welcomed involvement of family in his healthcare simultaneously represents an uncomfortable erosion of his autonomous engagement with the system.

Others describe profound feelings of disempowerment when interacting in a video consultation.

“He [the GP] don’t even look at me. No one tells me what’s happening. The GP talks fast, I cannot understand…they are not interested in discussing with me—after all, who am I? [laughs].” (Translated from Urdu, Fowzia, 68-year-old Pakistani female, with type 2 diabetes, migrated in 1991)

This highlights the sense of disempowerment that can arise from video consultations, particularly for patients facing language barriers or other disadvantages. The GP's lack of eye contact, rapid speech, and apparent disinterest in engaging the patient in meaningful dialogue all contribute to a feeling of being dismissed and devalued within the clinical encounter. The rhetorical question "after all, who am I?" highlights the erosion of agency and self-worth that can occur when patients are reduced to passive recipients of information rather than active partners in their own care.

The intersection of age, technological access, and economic constraints creates particularly stark challenges for some participants. As Rashid explains:

“We don’t have good Internet like that or one of those fancy smartphones they keep saying to use, you see that phone? [points to older Samsung phone with cracked screen] That’s what I have and it only works when we can pay for the you know [data]. My nephew always talking about this gadget and that, we just can’t afford it. I know they started some phone video service during corona, but it wasn’t for me. It feels like they are saying either we have to use this stuff or else we don’t deserve to get treatment.” (Rashid, 65-year-old Mauritian male, with chronic back pain and high blood pressure, migrated in 1987)

This highlights how the lack of access to up-to-date devices and reliable Internet can significantly undermine the agency of older patients in navigating remote care. The shift towards remote modalities, such as video consultations, presumes a level of technological access and literacy that is not universally available, particularly for those facing socioeconomic disadvantages. Rashid's situation exemplifies structural violence [1] as discussed in Chapter 1 - the way social arrangements put individuals and populations in harm's way. His background in telecommunications makes his current digital exclusion particularly interesting. Having witnessed

British Telecom's digital transformation from the inside, he now finds himself marginalised by similar technological changes in healthcare.

For Rashid, the inability to afford "one of those fancy smartphones" or consistent data plans means being effectively excluded from these new modes of care delivery.

The above findings illustrate how the fragmentation and disorientation resulting from disjointed digital pathways and services undermine patients' ability to independently navigate their care journey.

Several key themes emerge from the patient accounts that align with the finding that as a result of distrust, disorientation and discrimination, remote consultations can constrain patient agency, particularly for those facing intersecting disadvantages. Patients describe difficulties identifying appropriate entry points within the multi-channel digital systems, expressing confusion and disorientation when attempting to access care through websites, apps, and online portals. This disorientation is exacerbated for those with limited digital literacy, English proficiency, or familiarity with medical terminology, necessitating reliance on caregivers to activate services on their behalf.

Furthermore, patients expressed unease with video consultations, perceiving an inability to effectively convey their concerns and establish therapeutic connections without the personal rapport and physical examination components of in-person visits. The absence of these familiar continuity elements appears to foster fears of inaccurate assessments and a sense of disempowerment, with some patients feeling that clinicians have already formed judgments before fully hearing them out.

The accounts also highlight how the disruptive nature of fragmented remote care coordination can override personal agency, particularly for marginalised elderly individuals lacking digital skills. Participants recounted feeling helpless and entirely dependent on family members to navigate the complex online processes for booking appointments, sharing test results, and managing medications. This reliance on informal caregivers clearly constrains individual autonomy in managing their healthcare journey.

Moreover, some patients face outright exclusion from remote consultations due to lack of access to necessary technology or financial resources for devices and data plans. This digital divide reinforces existing disparities, with patients perceiving the implication that those without means for engaging with remote care services are undeserving of treatment.

The distrust, disorientation and discrimination experienced in remote consultations as described by patients reveal systemic barriers that prompt heightened dependency and undermine agency.

6.5 Synthesis of findings

The findings presented in this chapter highlight the complex and often detrimental impact that remote consultations can have on marginalised patients. Through the lens of four interconnected themes - erosion of trust, disorientation amidst complexity, the shaping of digital engagement by experiences of discrimination, and diminished patient agency - a troubling picture emerges of how the scale up of remote consultations risks exacerbating existing inequities.

Several accounts point towards diminished trust and satisfaction in video consultations compared to in-person interactions. This breakdown of trust within this relationship can have profound

consequences. It can perpetuate existing power imbalances, leaving patients feeling disempowered and voiceless in decisions that directly affect their well-being. One aspect of intersectionality that should also be considered here is the impact of systemic racism and discrimination within the healthcare system. Patients with multiple disadvantage (especially those who are elderly, limited English speaking and of low socioeconomic status) who distrust the healthcare system may have negative experiences with providers or institutions that have historically marginalised and excluded people of their race or ethnicity. This distrust can lead to a reluctance to engage with remote care and digital technologies, as they may perceive these as part of a healthcare system that has failed to meet their needs in the past.

Compounding this distrust is the disorientation that many patients feel when trying to navigate the complexities of an increasingly digitalised healthcare system. The proliferation of access points, platforms and pathways can be overwhelming, especially for those with limited digital literacy or English proficiency. This fragmentation of services leads to a loss of continuity, leaving patients feeling unsupported and adrift in a sea of remote interactions. Patients grapple with the complexities of navigating fragmented remote care systems, often lacking the necessary digital skills and experiencing barriers related to age, language, and socioeconomic status. The absence of physical presence and nonverbal cues in video consultations further exacerbates the sense of disconnection and isolation, making it challenging for patients to effectively communicate their needs and engage with their care. Moreover, the lack of coordination and continuity across multiple providers and platforms places a significant burden on patients, who must navigate the complexities of the healthcare system while managing their own health. The cumulative effects of this fragmentation can be profoundly disorienting, leaving patients feeling lost and unsupported. The dispersal of care processes across multiple routines and actors may also

contribute to a sense of ethical blindness, where the patient's experience and well-being are not prioritised.

Critically, these experiences of distrust and disorientation cannot be separated from the wider context of structural racism and discrimination that permeates the healthcare system. The patient accounts powerfully illustrate how remote consultations can amplify experiences of prejudice and entrench marginalisation, with providers' biases and dismissive attitudes being perceived even through a screen. The intersection of racism with other forms of disadvantage, such as poverty, linguistic barriers and immigrant status, creates a particularly toxic environment that deters many from engaging with remote healthcare services.

The findings presented provide disturbing yet unsurprising evidence consistent with critical race scholarship on the prevalence of institutionalised discrimination within contemporary healthcare systems. Thus, the analysis examines patient experiences at the intersection of multiple marginalised identities. It privileges personal narratives exposing racism within healthcare encounters, particularly in the context of the scale up of remote consultations. Critical race scholars have long documented racial microaggressions as commonplace verbal or environmental slights rooted in unconscious biases that continually invalidate and demean minority groups in harmful ways that accumulate over time [120]. The accounts reveal patients regularly perceiving clinicians as gatekeepers to services who control healthcare decisions, information, appointment pace, time allotted, and more. This imbalanced expert-layperson power differential appears substantially amplified for marginalised patients.

The participant narratives also describe experiences of racism and differential treatment based on the intersection of their race, socio-economic status, and other salient social identities such as

class, gender, nationality, language, and religion. For example, one participant directly linked his perception of differential treatment to the intersection of his racial identity and socioeconomic status, stating, "if I was a white person from a rich background, instead of brown and poor, I might have been treated differently." This quote highlights how race and class interplay to shape healthcare experiences, with those furthest from dominant identities facing the greatest barriers.

Moreover, he goes on to suggest that the shift to remote consultations has not altered these underlying biases, noting, "the platform changes [laughs] the ideas don't." This points to how deeply entrenched structural racism persists across healthcare settings, including remote spaces. The introduction of remote consultations appears to exacerbate these inequities by further disadvantaging marginalised patients.

The inherent limitations of the virtual medium may heighten communication barriers, cultural misunderstandings, and the inability to build trust and rapport, particularly for those at the intersections of multiple forms of oppression. One participant shares an instance of perceived discrimination due to language barriers, recounting how reception staff mocked and laughed at her English abilities. This experience underscores how limited English proficiency can magnify experiences of racism and exclusion, especially when compounded by immigrant status and skin colour.

Similarly, another participant describes how his wife's limited English proficiency intersects with her racial identity to create barriers to accessing appointments, noting, "Like my wife, she's got bad English, they know that she's not going to do anything or not able to do anything if they do something, so they can get away with being racist." He goes on to recount a specific video consultation where the physician appeared dismissive and sarcastic, rushing through the

appointment without fully addressing their concerns. This account illustrates how video consultations can exacerbate power imbalances and communication breakdowns.

While the above data illustrate critical race theory's focus on intersectionality and the interlocking nature of race-based oppression with other forms of marginalisation, they also offer novel insights into how video consultations specifically can contribute to these experiences of disadvantage. The scale up of remote consultations risks amplifying the structural racism already embedded in healthcare delivery by creating additional layers of inequity for patients who are already marginalised across multiple dimensions of identity. In this way, the increasing use of video consultations can be theorised as a mechanism that contributes to the recursive nature of institutional racism, perpetuating disparities through seemingly neutral, everyday practices that are in fact deeply shaped by racial biases. The participant narratives highlight the need to interrogate how the design and implementation of video consultation platforms may be exacerbating these inequities and to develop strategies to centre the needs and experiences of marginalised communities in the rollout of digital health technologies.

The cumulative impact of these factors is a worrying reduction in patient agency, especially for those facing multiple axes of oppression. The challenges of self-advocacy in a fragmented remote system, coupled with the erosion of trust and the spectre of discrimination, leave many marginalised patients feeling powerless and dependent on others to navigate their care. This loss of autonomy is a dire consequence that threatens to widen health disparities.

Additionally, these accounts mainly derive from marginalised people, reflecting crisis points after cumulative neglect. Trauma articulated by minorities remains concerning, indicating profound fissures in fulfilling the affective foundations of care for them. Ultimately, the longing expressed

for restorative human bonds suggests that it is a continued necessity. But blanket technophobic stances are unproductive; thoughtful digitalisation balancing efficiency and understanding merits exploration. As Pols and Moser [228] argue, it is not the technology itself that is inherently 'warm' or 'cold', but rather how it is used and the kinds of relationships it enables or constrains. Technologies can mediate both positive and negative affective relations depending on the values they enact and the interactions they facilitate. For marginalised patients who have experienced discrimination and disempowerment, thoughtfully designed technologies that prioritise relational continuity and patient-centred values may help rebuild trust and social connection.

6.6 Conclusion

This chapter has explored the perspectives and experiences of marginalised patients in the landscape of evolving healthcare systems as they continue to become more digitalised, drawing on qualitative data and theoretical frameworks of process multiplicity, continuity and critical race theory. The analysis has revealed several critical themes that warrant consideration including addressing issues of trust, continuity, disorientation, discrimination and agency as essential to ensure that remote consultations do not inadvertently exacerbate existing inequities or create new barriers to accessible and equitable healthcare.

Broadly speaking, the more markers of disadvantage an individual had, the more difficulty they faced navigating the ‘digital front door’ and video consultations. For some, the combined effect of profound disorientation resulting from complexity, loss of interpersonal relationships and continuity of care, and loss of trust in particular providers and the system, leads to a cycle of disengagement and diminished agency. This deters them from seeking healthcare or engaging in treatment plans at a time in their lives when such care was greatly needed. As healthcare

increasingly digitalises, maintaining 'warm care' [228] depends on creatively aligning technological affordances with the affective and relational foundations of healing. And while seeking efficiencies, sustaining enduring human relationships and dismantling structural disadvantages remain vital to nurture trusting, just systems that empower the marginalised.

Building on the critical themes and insights surfaced in this chapter, the next chapter aims to further humanise these findings by presenting in-depth narrative portraits of individual study participants. These will provide a deeper, more personalised look at how the issues of trust, continuity, disorientation, discrimination, and agency play out in the complex lived realities of marginalised patients navigating an increasingly digitalised healthcare landscape. By centring the voices and stories of those directly impacted, these narrative portraits will serve to ground the theoretical discussions in tangible examples, driving home the importance of attending to the intersectional challenges and circumstances of disadvantaged groups in the pursuit of equitable digital health.

Chapter 7 – Narrative Portraits

Building on the insights surfaced in the previous chapters, I use narrative techniques in this chapter to present in-depth portraits and personas which both analyse and illustrate the complex lived experiences of South Asian older adults facing multiple forms of disadvantage. First, I present narrative portraits, which are composite accounts derived directly from interview data. These portraits combine verbatim quotes and details from multiple participants to create anonymised yet authentic stories. Second, I introduce user personas, which are research-based archetypes that distil key characteristics and experiences from the narrative portraits into more generalised representations. While the narrative portraits provide rich, contextualised accounts of individual experiences, the personas offer a higher-level synthesis of patterns across participants. Both techniques are grounded in the original data but differ in their level of abstraction and purpose: narrative portraits aim to preserve the nuance and authenticity of individual stories, while personas serve to highlight common attributes and experiences that can inform service design and policy recommendations. Through combination of close analysis and portrayals of the data, my intention is to provide insight into the lived experiences, intersectionality and complexity that shape the health care experiences and digital health disparities of my study participants while situating earlier analysis chapters within diverse human contexts.

Chapter 5 explored how remote services are reshaping patient-provider relationships and continuity of care for South Asian older adults, highlighting how cultural expectations, language barriers, and traditional healthcare practices shape their experiences. The analysis highlighted how this participant population perceived video consultations as creating dynamics of absent presence and as eroding healthcare providers' situational attentiveness and attunement to them as patients. I found that some participants reported less positive perceptions of video

consultations with unfamiliar clinicians compared to those with whom they had established prior in-person rapport. Moreover, the scale up of remote consultations fragmented established relational and informational continuities. An intersectional lens helped highlight the potential for video consultations to compound experiences of oppression for patients navigating multiple, intersecting forms of structural disadvantage.

Chapter six further revealed several interconnected issues including the erosion of trust in healthcare providers and systems, particularly for marginalised South Asian patients who have faced historical mistreatment and discrimination; the disorientation and fragmentation that can arise from navigating complex remote healthcare pathways, the ways in which engagement with remote consultations may be shaped by previous experiences of racism and discrimination; and the potential for remote consultations to reduce patient agency, especially for those facing intersecting disadvantages.

Underpinned by an intersectional lens, the personas illustrate the challenges multiply disadvantaged South Asian individuals face when accessing and receiving care through remote modalities. These challenges include limited economic, social, and linguistic resources, weak relationships, disorientation, weak presence, dependency on family, racial discrimination, low digital, health, or system literacy, and impairments resulting from physical illness and advanced age. These factors combine and reinforce one another, leading to varying degrees of success in navigating digital healthcare systems.

Together, the narratives and user personas serve complementary purposes: the narratives provide authenticity and nuance, giving voice to real South Asian patient experiences. The personas synthesise key attributes into archetypes that offer potential to inform

recommendations for improving access and equity in remote care. Used together, they allowed me to balance honouring unique South Asian experiences with analysing multiple and intersecting dimensions of disadvantage, including how cultural beliefs, migration histories, and traditional healthcare practices intersect with digital health barriers.

Moreover, these narratives serve to centre the voices and embodied knowledge of South Asian older adults in alignment with the principles of critical race theory, highlighting how their specific cultural, linguistic, and migration experiences shape their encounters with remote healthcare systems. By privileging the experiential insights of those most directly affected by digital inequities, this chapter aims to challenge dominant discourses in health policy and digital health literature that may minimise or overlook the challenges faced by disadvantaged groups in the scale up of remote consultations.

Specifically, this approach counters prevailing techno-optimistic narratives in digital health research and policy that often emphasise the potential benefits of digital health technologies without adequately addressing the barriers faced by marginalised communities. It also challenges the 'digital by default' rhetoric in healthcare policy that assumes universal readiness and access to digital health services [168]. By foregrounding the lived experiences of disadvantaged individuals, this chapter contributes to a growing body of critical literature [242–245] that calls for a more nuanced and inclusive approach to digital health implementation.

My intention is to deeply immerse and sensitise the reader to the importance of understanding the intricate tapestry of human lives within the realm of digital health disparities through an intersectionality lens that brings attention to a person's multiple identities, positionalities and oppressions. This chapter thus deals in complex people, living complex lives, echoing the remit of

this thesis to understand intersectionality and lived experience narratives around digital health disparities from those living with multiple disadvantage.

The methods used for this component of my work are described in Chapter 4, section 4.5.

7.1 Narrative portraits and personas

7.1.1 Saima

"It's from Kalaam!" Saima proudly declares to me as she hands me a small floral teacup, yellowing with age and brimming with chai. It wasn't long before I started noticing how her eyes would brighten and her tone would rise energetically as she fondly reminisced about her time living in Kalaam with her husband and two young boys. She sits down on an orange footstool near the small window beside the couch and picks up a yellowing leaf that had fallen from her money plant vase on the windowsill. "In Kalaam, my money plant vines would start from one side of the ceiling, and they grew all along to the other side of the ceiling" she sighs softly and rubs the dying leaf between her thumb and forefinger. "How long were you living there?" I ask, my eyes wandering over to the windowsill which housed a colourful arrangement of chipped mugs, old spice canisters, and empty juice cartons all overflowing with various assortments of plants and flowers. "15 years", she states, "aur meri zindagi ke sabse acche saal thai" (translated from Urdu: 'and they were the best years of my life'). (Excerpt from field diary)

Saima is 72; she has lived in the UK for 40 years. She and her husband moved from Pakistan with their two young boys in 1983 in search of a better job for him. She sees herself simultaneously as an elderly person, a mother, a wife and a Pakistani Muslim woman. Although Saima was reluctant to move, she put aside her feelings but has never fully adjusted to life in the UK. As her children grew up and moved away, Saima felt a significant loss of purpose in her life. Her mental health and (subsequently) her physical health declined, and she developed hypertension, arthritis, diabetes and an inflamed gallbladder.

"I wouldn't call this place [UK] home. As a mother and wife, I did what was best for my family and moved at the time. But now the children have grown up, my days are empty and I am always sick here. It's all catching up to me in my old age".

Following her husband's death, Saima moved in with her eldest son and his family. This transition brought both relief (easing of financial pressure) and a sense of cultural fulfilment, as there was an expectation for eldest sons to assume responsibility for their ageing parents. However, it also had an unintended consequence: she became reliant on her son, Aamir, for all her needs. Saima found herself becoming a passive participant in her own healthcare, with Aamir taking charge of booking appointments, speaking to healthcare providers and making decisions on her behalf. With the onset of the COVID-19 pandemic, Aamir quickly adapted to digital ways of working (e-consults, telephone consultations, video appointments) to ensure his mother's healthcare needs were met efficiently. She had maintained a close relationship with her former family doctor in Pakistan, still calling him occasionally for advice about traditional remedies and health concerns. This transnational care connection represented both her trust in culturally-informed healthcare and her resistance to fully engaging with the UK system. While she had managed with minimal NHS contact for years, the onset of new health issues during Covid forced her into more frequent interactions with the UK healthcare services. The sudden shift to a technologically-driven system during this already difficult transition made her feel even more detached from her providers and services. The contrast between her trusted long-distance relationship with her Pakistani doctor - who understood her cultural practices and preferences for traditional medicine - and the impersonal nature of video consultations with unfamiliar UK providers heightened her sense of displacement and disconnection.

"I don't know how any of this works. Aamir takes care of all this booking my appointments, he does it online, I don't know how to do any of it. It's very confusing. I get scared to do it myself."

With Aamir by her side, Saima did have a video consultation with her GP a few months ago, but it left her feeling disillusioned. As she was used to seeing familiar GPs in her local practice prior to the pandemic, she felt unnerved seeing a strange floating face on her son's laptop asking about

her arthritic knee. The Wi-Fi connection was unstable, causing lapses in communication and she did not recall any small talk or pleasantries exchanged. The experience left Saima feeling upset and disconnected.

"He [the GP] didn't even look at me. No one tells me what's happening. The GP talks fast, I cannot understand…they are not interested in discussing with me—after all, who am I? [laughs]."

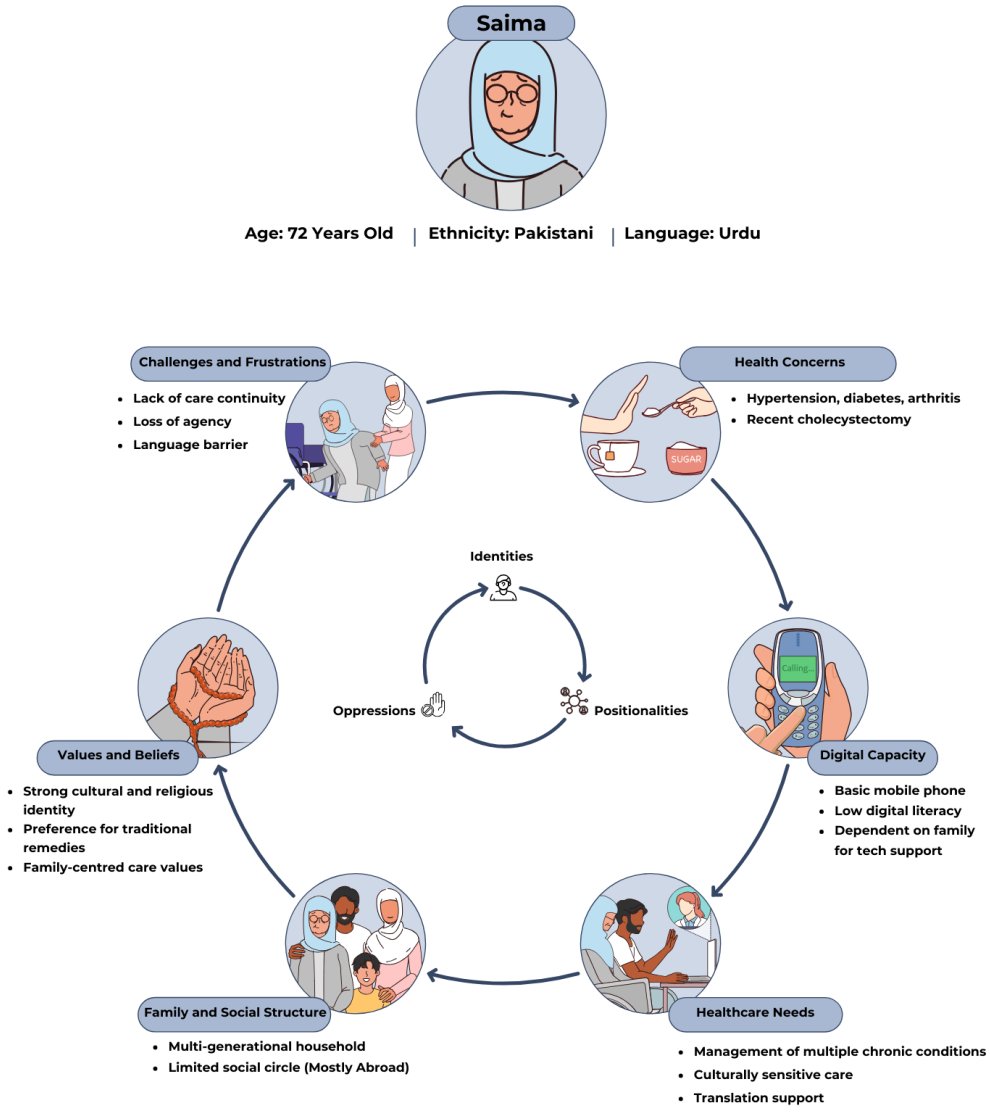
Saima's long-standing reliance on a known GP, alongside her limited digital literacy, preference for traditional remedies, and cultural taboos surrounding mental health, combine to present substantial obstacles for her in adapting to a technology-driven service with an unfamiliar GP.

"…. I don't even know my doctor's name. How can I trust someone I don't even know?"

"Why should I see some random GP? They don't know what I need, I know what I need; they think I have some different issue but it is just my BP going high. I can fix it [with herbal remedies], I don't need treatment."

Over time, these and other factors have led Saima to distrust the healthcare system. She is reluctant to engage in remote consultations or have any involvement with the NHS. Previously, Aamir would accompany Saima to her face-to-face appointments and she would have an opportunity to see and talk to nurses and GPs. The shift to remote care has made her feel misunderstood, disconnected and inadequately cared for.

Figure 4: Saima's User Persona



Analysis

Saima's narrative portrait illustrates the complex interplay of factors that shape healthcare experiences of South Asian older adults, particularly first-generation Pakistani Muslim women, in the context of increasing digitalisation of services. Her experiences are deeply rooted in cultural expectations around family obligation and elder care within South Asian communities, revealing both strengths and challenges as these traditional systems interact with Western healthcare models.

The shift in Saima's living arrangements - moving in with her eldest son after her husband's death - reflects the traditional South Asian cultural practice of 'joint family living' where elderly parents are expected to live with their adult children, particularly sons. This arrangement embodies important cultural values of intergenerational support and collective care, providing both emotional and financial security. However, within the context of digital healthcare navigation, it has had complex implications for Saima's agency. While her son Aamir's involvement reflects valuable family support networks common in South Asian communities, her increasing dependence on him for navigating digital healthcare services highlights how systems designed around individual autonomy can inadvertently diminish elders' direct engagement with their own healthcare when mediated through family members.

Saima's strong preference for traditional herbal remedies represents both a connection to valuable cultural health knowledge and a point of tension with Western medical practices. Her statement 'I know what I need; they think I have some different issue but it is just my BP going high. I can fix it [with herbal remedies]' reflects not just resistance to Western medicine, but an assertion of her own health knowledge and agency. However, the shift to remote consultations

has made it harder for her to discuss these traditional practices with healthcare providers, leading to further disconnection from formal healthcare services .

Particularly noteworthy is how Saima's resistance to remote healthcare is shaped by her idealised memories of medical care in Pakistan. Her narrative reveals a common pattern among first-generation immigrants where memories of 'home' become somewhat frozen in time, anchored to the point of departure. When Saima declares 'They don't know what I need,' she is comparing current video consultations not just to in-person care, but to her recollections of Pakistani healthcare from four decades ago. These memories, while meaningful to her lived experience, may not reflect how healthcare delivery has evolved in contemporary Pakistan, where telemedicine and digital health services are increasingly common, particularly in urban areas.

This temporal anchoring of healthcare expectations adds another layer to her discomfort with video consultations. For Saima, the shift to digital care represents not only a departure from traditional in-person visits but a further divergence from her crystallised memories of 'proper' healthcare - memories that have become more idealised over her 40 years in the UK. Her statement that in Kalaam 'they were the best years of my life' suggests how these memories of home, including healthcare experiences, have become repositories of cultural identity and belonging. The introduction of video consultations thus represents more than just technological change; it threatens her connection to these cherished memories of healthcare 'as it should be,' making acceptance of new modalities particularly challenging.

However, this is not to dismiss Saima's critique of digital healthcare as merely nostalgia. Rather, her comparison of past and present healthcare experiences offers valuable insights into what elements of care might be lost in digital translation - the unhurried consultations, the cultural

understanding, the relationship-building - aspects that might benefit contemporary healthcare design regardless of delivery mode.

The language barriers Saima faces are also specifically tied to her experience as a first-generation Pakistani immigrant, revealing how remote systems can amplify existing inequities. Her limited English proficiency, combined with the fast-paced nature of video consultations, creates particular challenges in virtual healthcare settings where visual cues and non-verbal communication - often relied upon by South Asian elderly patients with limited English - are restricted. While family translation support represents a valuable community resource, its effectiveness is compromised in digital spaces that weren't designed with collective approaches to healthcare in mind.

Moreover, Saima's self-perception and experiences of ageing need to be understood within specific social and cultural contexts. While she refers to herself as 'elderly', this likely reflects her particular lived experiences—including her early marriage, becoming a grandmother at a relatively young age, and the societal expectations placed on South Asians to take on caregiving roles and familial responsibilities early in life. Additionally, cultural perceptions of ageing in South Asian communities often associate elder status with wisdom, authority, and a sense of being "settled," milestones that may occur earlier than in other cultures. Physical demands and health challenges faced by individuals like Saima in these contexts, compounded by limited access to resources or healthcare, might also contribute to an earlier sense of ageing. These factors, along with the cultural reverence for elders, may lead to identifying as 'elderly' at an earlier stage in life.

Saima’s hesitation with digital technologies also appears connected to multiple factors: her limited previous exposure to such tools, her reliance on established in-person healthcare

relationships, and her son's role in managing family healthcare decisions. This suggests that digital health systems need to consider how individual life circumstances and family dynamics, rather than presumed cultural norms, shape engagement with new technologies.

Her resistance to learning digital skills seems less about cultural beliefs regarding age-appropriate activities and more about the practical and emotional barriers she faces, including language difficulties, lack of confidence from limited formal education, and negative experiences with healthcare providers. This highlights how digital health systems often fail to account for the complex personal histories and circumstances that influence technology adoption among older adults from migrant backgrounds.

Saima's engagement with remote care is further complicated by her limited digital capital. Beyond just technological literacy, this encompasses restricted access to devices (relying solely on her son's laptop), minimal digital skills, and low motivation to engage with digital platforms. However, framing this purely as individual deficit obscures how healthcare systems privilege certain forms of capital while devaluing others. While Saima may lack digital capital, she possesses rich social and cultural capital through her family networks and traditional health knowledge - resources that current digital health systems fail to recognise or leverage.

The intersection of Saima's low digital capital with other aspects of her identity - her age, limited English proficiency, and cultural preferences - creates compounded barriers to accessing remote health services. Yet this is not simply about individual limitations but rather reveals how digital health systems are designed around assumptions of universal access and individual technological autonomy that don't reflect the realities of many South Asian elders' lives and preferences for collective healthcare engagement.

7.1.2 Rajesh

Climbing up the creaking metal staircase to Rajesh's council flat in East London, the weight of years and neglect was palpable. Cracks in the plaster creep up the walls like an uninvited vine, and a damp, musty smell lingers in the air. Rajesh's wife greets me at the door, her friendly eyes and warm smile immediately putting me at ease. She wears a simple sari, its colours bright and contrasting against the somewhat faded background of their home. "Come in, come in," she says, her voice lilting with the distinct cadence of her homeland, as she ushers me further inside. It was clear that, in this household, she was the primary caretaker as she bustled around the small kitchen, making chai and offering me Parle-G biscuits. I eagerly took the plate from her, a surge of nostalgia enveloping me, transporting me back to a moment in Delhi's humid embrace when I last savoured these treats. As I move past the modestly furnished living room, my attention is drawn to Rajesh. He sits on a worn-out brown sofa, a cloud of smoke swirling around him, giving the room a slightly hazy atmosphere. In his hand is a lit cigarette, its end glowing an intense red every time he takes a drag. The TV in front of him blares a Bangladeshi news station, the blue glow illuminating the worn-out patches on the sofa where the upholstery has started to thin. Rajesh looks up and nods at me in acknowledgment, his eyes narrowing slightly as a dry cough seizes him and he signals to his wife for a glass of water. The ambience of the room is one of comfortable familiarity, the kind where life's simple routines take centre stage. (Excerpt from field diary)

Rajesh is an 83-year-old Bangladeshi man who lives with his wife in a council flat in East London. A retired repairman, Rajesh does odd jobs now and then to earn extra money, driven by his strong belief in self-reliance. To him, being able to provide, even in his old age, is a testament to his own worth.

"I've seen times change rapidly," Rajesh says during our first visit, "from manual labour to machines, from telegrams to telephones, and now this age of digital everything." He jokes about how, back in Bangladesh, men didn't need machines; they relied on their hands. This view sometimes made it difficult for him to adapt to how things are done in England, but it has always been a deep-rooted part of his identity.

Recently, Rajesh developed pulmonary sarcoidosis. His GP referred him to participate in some new VPR classes being offered. Though sceptical at first due to his inclination towards traditional ways of consulting, Rajesh accepted. A healthcare provider came to his home, providing him with a tablet to use for the 6-week VPR program.

When recalling that day, Rajesh muses, *"Back in Bangladesh, I never imagined there would be a day where a doctor could check on me through a screen. It's not how things were done."*

At first, Rajesh felt disoriented trying to learn how to use the tablet, especially when it came to accessing health services. The various apps and interfaces were unlike anything he had ever encountered. But with time, guided by his own principle of self-reliance, he overcame his initial apprehension and built his digital confidence. *"It was like learning a new language, but once you get the hang of it, it's quite convenient,"* he remarks.

Six months later, however, Rajesh had a pulmonary fibrosis flare-up marked by increased shortness of breath, persistent wheezing, fevers and bouts of fatigue that left him drained even after minimal activity. When he called his GP, he was put through to a different GP for a phone consult. The new GP offered him a video consultation, unaware that Rajesh no longer had the loaned tablet. *"I thought the system would have this information,"* Rajesh ponders out loud to me, feeling a bit lost in the bureaucratic shuffle.

Not being able to afford his own smartphone or laptop, and without the loaned tablet, Rajesh asked for an in-person appointment instead. He did not want to admit to the new GP that he did not have a device to do the video consultation on.

A few days later, Rajesh, feeling considerably unwell, undertook the long commute with three bus changes to visit his GP in person. His swollen and painful joints (a key symptom of his condition) made the commute that much harder. Curious, I inquired why he had not updated his address to register with a nearer GP. Rajesh explained that he had attempted to, but faced obstacles. *"It*

seems I'd need to suck up to the NHS to get it sorted," he said with a hint of frustration, *"I'd rather endure the longer commute than do that."*

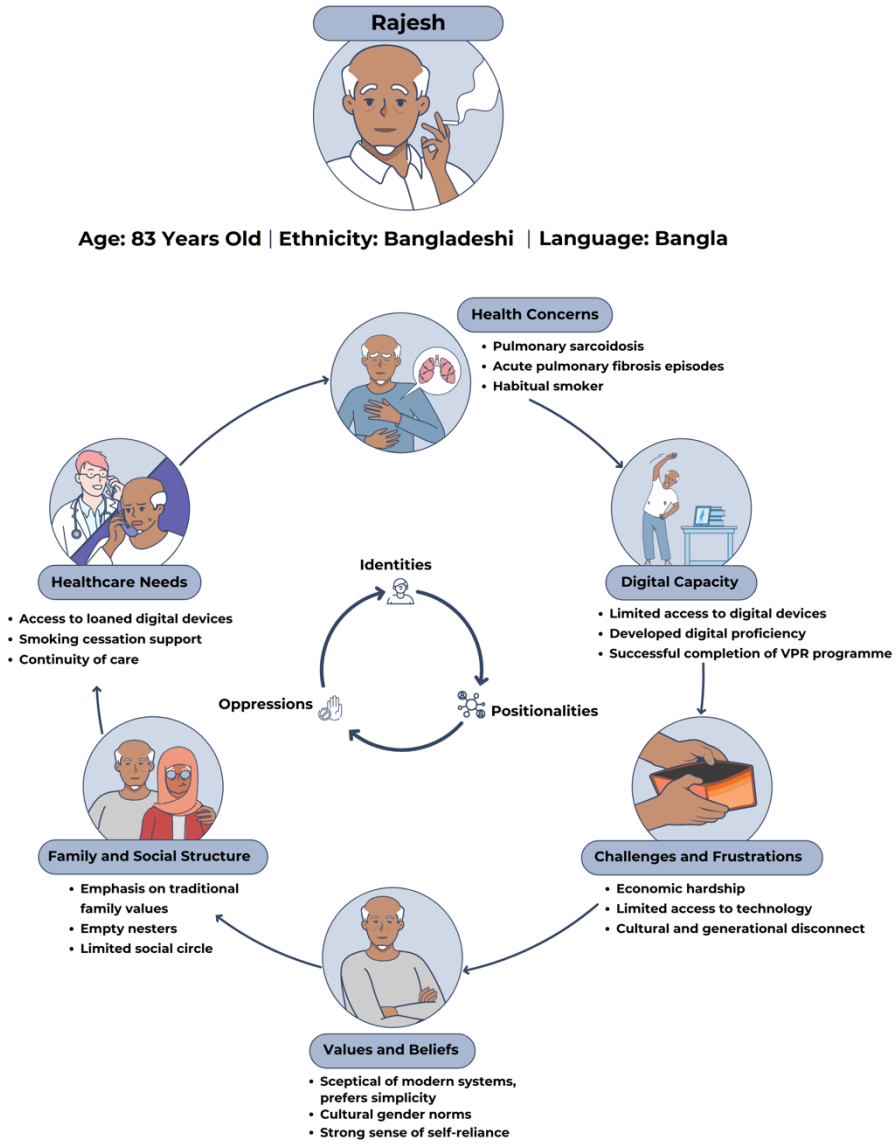
I asked Rajesh to elaborate on what he means by this.

“There's a lot of people that feel like they have to suck up to the NHS. That's the problem with us ethnic minority. Some of us feel -not me personally, I'd never suck up to the NHS- but some people feel like they have to suck up to the NHS just to get what they want.”

There was a moment of pause as I scribbled notes in my diary. *“You know what I mean by suck up, don't you?”* he asked me pointedly*. “Like ohhh you are so amazing, ohh I'd be so grateful to you if you could... I just find it stupid and pathetic personally. But I can understand why our people feel like they have to do that.”*

In our conversations, the intricacies of Rajesh’s life unfold like the chapters of an age-old story. Here was a man, firm in his beliefs, navigating a world that was evolving faster than he could grasp. While his journey exemplifies resilience and adaptability, it also underscores the multifaceted challenges faced by immigrants. The delicate balance between holding on to one's roots and adapting to a new environment, between embracing technology and longing for simpler times, were evident in Rajesh's narrative.

Figure 5: Rajesh's User Persona



Analysis

Rajesh's narrative reveals complex intersections between digital healthcare transitions, power dynamics, and continuity of care. His experience with video consultations exemplifies several key themes around absent presence, disrupted continuity, and compounded disadvantage that emerged across Chapters 5 and 6. As an 83-year-old Bangladeshi man who has lived in the UK for five decades, Rajesh's experiences also reveal how class consciousness, racial hierarchies, and gender intersect with remote healthcare access, while challenging simplistic cultural explanations for healthcare engagement patterns.

Unlike Saima, whose narrative centred on cultural disconnection and maintained transnational healthcare ties, Rajesh's fifty years of NHS navigation reveals different forms of resistance to digital transitions. His objections stem not from unfamiliarity with British healthcare systems or preference for traditional medicine, but from intimate knowledge of how digital systems can reproduce and amplify existing power imbalances within the NHS. This distinction is important - where Saima's resistance reflected broader cultural disconnection, Rajesh's critique emerges from long-term engagement with UK healthcare systems.

Rajesh's digital capital presents a complex case study of systemic inequities. His initial success with the VPR program demonstrates potential for digital engagement when properly supported. However, the system's failure to maintain this support - withdrawing the tablet without considering ongoing needs - reveals how institutional assumptions about digital access can undermine initial gains. This digital precarity - where access to technology is temporary and conditional – may particularly affect multiply disadvantaged who cannot afford personal devices. The assumption that Rajesh would have ongoing device access for follow-up video consultations

exemplifies how digital health initiatives often prioritise short-term adoption over sustainable engagement.

The temporality of Rajesh's engagement is also interesting. His initial positive experience with the VPR program, where he overcame apprehension to build 'digital confidence,' stands in contrast to later experiences of fragmented care. This shift illustrates how absent presence, as theorised in Chapter 5, manifests differently depending on the broader context of care relationships and support. During the VPR program, with consistent device access and dedicated support, Rajesh could engage meaningfully. However, later video consultations with unfamiliar providers exhibited classic markers of absent presence - delayed responses, mechanical interactions, and weakened therapeutic presence.

The power dynamics revealed in Rajesh's description of 'sucking up' to the NHS warrant particular attention. His observation that 'that's the problem with us ethnic minority' reveals internalised awareness of racial hierarchies within healthcare settings, while his personal rejection of such behaviour ('not me personally, I'd never suck up') represents active resistance to these power structures. His willingness to endure physical hardship - three bus changes while unwell - rather than perform expected deference highlights how healthcare interactions become sites of dignity negotiation. This resistance isn't just stubbornness but represents a legitimate critique of systems that may expect minoritised patients to perform gratitude for basic care.

Gender dynamics in Rajesh's healthcare navigation also reveal important patterns. Unlike narratives where family members mediate healthcare interactions, Rajesh maintains direct engagement with providers. His pride in self-reliance and continued odd jobs at his age reflects both class-based necessity and personal dignity rather than simply cultural masculinity norms.

The contrast between Saima and Rajesh's experiences with remote care is also noteworthy. While both initially lacked device access, their responses to digital initiatives differed significantly. Rajesh's initial willingness to engage with the VPR program, followed by systematic exclusion through device withdrawal, highlights how structural barriers rather than cultural resistance often determine digital health engagement. Where Saima's narrative emphasised cultural disconnection and traditional healing preferences, Rajesh's experience reveals how digital transitions can exacerbate existing inequities even for those willing to engage with new systems.

Rajesh's reluctance to admit lack of device access to new providers reveals complex intersections of pride, poverty stigma, and racial consciousness. His awareness that such admission might reinforce stereotypes about South Asians demonstrates sophisticated understanding of how digital health systems can reproduce existing prejudices. This silence around digital poverty reflects broader patterns where marginalised patients must carefully manage their presentation to healthcare providers to maintain dignity and avoid discrimination.

The pilot program paradox evident in Rajesh's experience - where temporary interventions create unsustainable expectations - highlights systemic failures in digital health implementation. The assumption that successful short-term engagement would translate into sustained digital access ignores the economic realities of many. This reveals how digital health initiatives, despite intentions of increasing access, can reinforce existing social inequities through inadequate consideration of long-term sustainability.

Furthermore, Rajesh's narrative challenges assumptions about 'adaptation' to UK healthcare systems. Having spent nearly half his life navigating the NHS, his criticisms emerge from position of experienced service user rather than cultural outsider. This longevity of experience adds

particular weight to his critique of how digital transitions risk amplifying existing systemic inequities. Additionally, his experience of disorientation, another key theme from Chapter 6, stemmed not from inability to use digital systems but from their opacity and inconsistency. His statement 'I thought the system would have this information' reveals reasonable expectations of coordinated care which have become fragmented digital processes. This highlights how disorientation can arise from systemic incoherence rather than individual digital literacy limitations.

The institutional blindness to Rajesh's device access status - requiring him to either 'admit' inability to afford technology or find alternative solutions - demonstrates how digital health initiatives can reproduce patterns of surveillance and judgment. This system failure to track and respond to patient circumstances reveals broader issues of how healthcare digitalisation may prioritise institutional convenience over patient needs.

Despite these challenges, Rajesh's narrative also reveals important strengths and adaptations. His initial success with the VPR program demonstrates capacity for digital engagement when properly supported. His maintenance of independence in healthcare navigation, despite significant barriers, shows agency and resilience. These strengths suggest possibilities for digital health systems that could better accommodate marginalised patient needs while respecting their dignity and addressing structural barriers to sustained engagement.

The intersection of class and racial consciousness in Rajesh's narrative offers important insights into how digital healthcare transitions are experienced by long-term UK residents from South Asian backgrounds. His refusal to perform expected deference ('sucking up') represents not cultural resistance but a critique of power dynamics from someone intimately familiar with NHS

structures. This challenges simplistic cultural explanations and highlights how digital transitions can amplify existing systemic inequities.

Rajesh's case ultimately reveals how digital healthcare initiatives, despite intentions of increasing access, can reproduce patterns of exclusion when they fail to maintain the material and relational conditions that enable meaningful engagement. His experience suggests the need for sustained attention to how digital transitions interact with existing power structures and inequities.

7.1.3 Gita

"I've got chronic pain. Every single step I take, I'm in pain. I lie down, I'm in pain. I take a shower, I'm in pain. I get dressed, I'm in pain. And don't even get me started on my gums. I have periodontal disease and that just adds to the list" Gita shakes her head, her foot tapping impatiently against the creaking wooden floorboards of her studio room which was situated directly above a dilapidated convenience store near the high street. I let my eyes wander around the studio as I walk towards the two chairs in the right-hand corner of the room taking in the brown leather couch, sunken and discoloured, and the peeling beige wallpaper of the small kitchenette. I catch a glimpse of a haphazardly made bed sectioned off by a makeshift curtain which reminds me distinctly of the colourful bedsheets my grandmother would use back home in India. "Can I get you anything?" Gita asks me, shuffling slowly towards the rickety chair opposite me in what I'm sure were once fluffy pink slippers but which now looked worn out and matted with tell-tale cooking stains of yellow haldi. "I just made taroi ki sabsi [courgettes in vegetable curry]" she continues, waving her hands towards the whistling steel pressure cooker on the hob. I laugh at the infamous desi hospitality, well aware that I would not get away without eating and settle in for the long haul as the smell of aromatic spices wafted around us. (Excerpt from field diary)

Gita is a passionate 81-year-old Rajasthani woman who lives by herself and suffers from a long list of illnesses including osteoporosis. Gita's story is one of disillusionment with the world she lives in and the cards she's been dealt in life. Having moved to the UK with her elderly parents in search of a better life when she was in her 30's, Gita has long dealt with the NHS, both for her deceased parents and now for herself.

"My father died at the hands of the NHS", she states matter-of-factly. There was a moment of silence as I paused, absorbing this statement.

The moment ended, the flood gates opened, and I found myself suddenly struggling to keep up with Gita as she furiously dips in and out of various stories of harrowing experiences with the NHS in her broken English. She spoke of delayed appointments, wrongly prescribed medication, negligent doctors and obstacles at every turn. *"You're, you're",* she stuttered heatedly, *"you're putting your life in their hands and then they could do whatever they want with it, and they do*

something wrong. They get away with it because the country is there to help them get away with it."

Her anger and frustration were apparent with every word. *"That's how they got away with my father. They treated my father like shit. And my father died and I haven't had the mental and physical strength to be like, right, I'm gonna complain."* She stopped and looked up at me and I saw the angry, unshed tears she strongly held on to. *"For years, because of how they treated my father, I just, I'm never gonna be able to forgive these people. Ever, ever, ever. But I said I've literally said to people, even ambulance people have said right, you need to come to the hospital. I've said no. I said to them I'd rather die in my bed than go to an ambulance and be in a hospital."*

Since her father's death, Gita has been suffering from PTSD, depression, and anxiety. This worsened when her mother was diagnosed with cancer and died shortly thereafter. As the sole carer for her mother, she recalls *"I had to harass the doctors, but they, you know, they're just shit. They don't know what they're doing. There's two doctors in the surgery trying to help 20,000 patients. You know, I've begged them. Can you give her some medication? Can you give her some treatment? Initially, they said they did a scan and ultrasound. They said, oh, yeah, she's got a lump. And I said, is it cancer? This? They're not sure. They have to check. Well, I said OK, well, can you? And then I said, oh, they can do a referral to the specialist or something that was like, can you make it urgent? They didn't and then it was too late."*

I gently slid the glass of water on the table to her and asked her if she would like to take a small break. Gita shook her head, agitated, and grabbed my hand, switching to Hindi, which I could only understand snippets of:

“They've ruined my dad's life, ruined my mum's life, they've ruined my life, they’ve ruined everyone's lives.”

“You can’t trust these people”.

“Obviously you can understand. I'm literally so angry.”

Fed up with the NHS, Gita has tried her hardest not to interact with health services after her parents died. For her own condition, Gita will often try home remedies, holistic treatments and seek alternative options. *“Why would you wanna put yourself in that position that you need them [the NHS], and they're gonna treat you like rubbish and you can't trust them”,* she elaborates on her point, *“the NHS, it's not for us, it's not for people like us”.*

When I asked her what she meant by people like “us”, Gita laughs humourlessly and jabs a surprisingly strong but bony finger to my wrist silently stating the obvious. Our brown skin colour. *“When you're brown and you're a hijabi, you can't speak English and you're old. These people take advantage. There's white privilege in this country and you know it,”* she stared me down with piercing brown eyes.

“Seriously [she exclaims] and that's the problem. There's so much racism, they get away with it. Inadvertent racism. Undertones of racism, obvious racism. You know, I took my dying mother into the hospital and she was straight away put on oxygen and the hospital were like, why did you not bring her in earlier? I’m thinking you've got to be fucking joking”.

Gita’s avoidance of mainstream health services following her mother’s death worked up to a certain point. Recent flare-ups of her condition have again required her to approach the NHS. Emotionally but also logistically, this has been difficult for her as Gita has a hard time getting around physically. *“There's no hope for somebody like me, because I've got no one to take me into*

London every so often for a 10-minute appointment," she sounded defeated as she told me how she's tried her hardest to book multiple appointments together with no success.

"Is that how you came to have a video consultation?" I prompted her, realising it's been two hours and we have not even started to discuss the video consultation she recently did. She went on to tell me that her friend told her she could ask for a video consultation and do it through her phone and that would at least help her get some medication prescribed for her chronic pain. She explained how she specifically asked the GP receptionist for this video consultation and they tried persuading her to come in as they're not really doing video consultations at the service. Gita almost gave up but then decided to ask once more upon which the receptionist agreed and scheduled her for the first video consultation. She told me that after the first video consultation, it was slightly easier to have follow up appointments in this format. I asked her what her experience navigating the video consultation was like.

"Well, the whole thing, I mean I wasn't able to set it up first myself. I actually had somehow, someone else help me set it up because I didn't know how to do it. And then obviously the first few times they helped me just facilitate the calls and things. And then after a while I managed to get used to it. But obviously sometimes I do find it difficult, so sometimes you make mistakes on it."

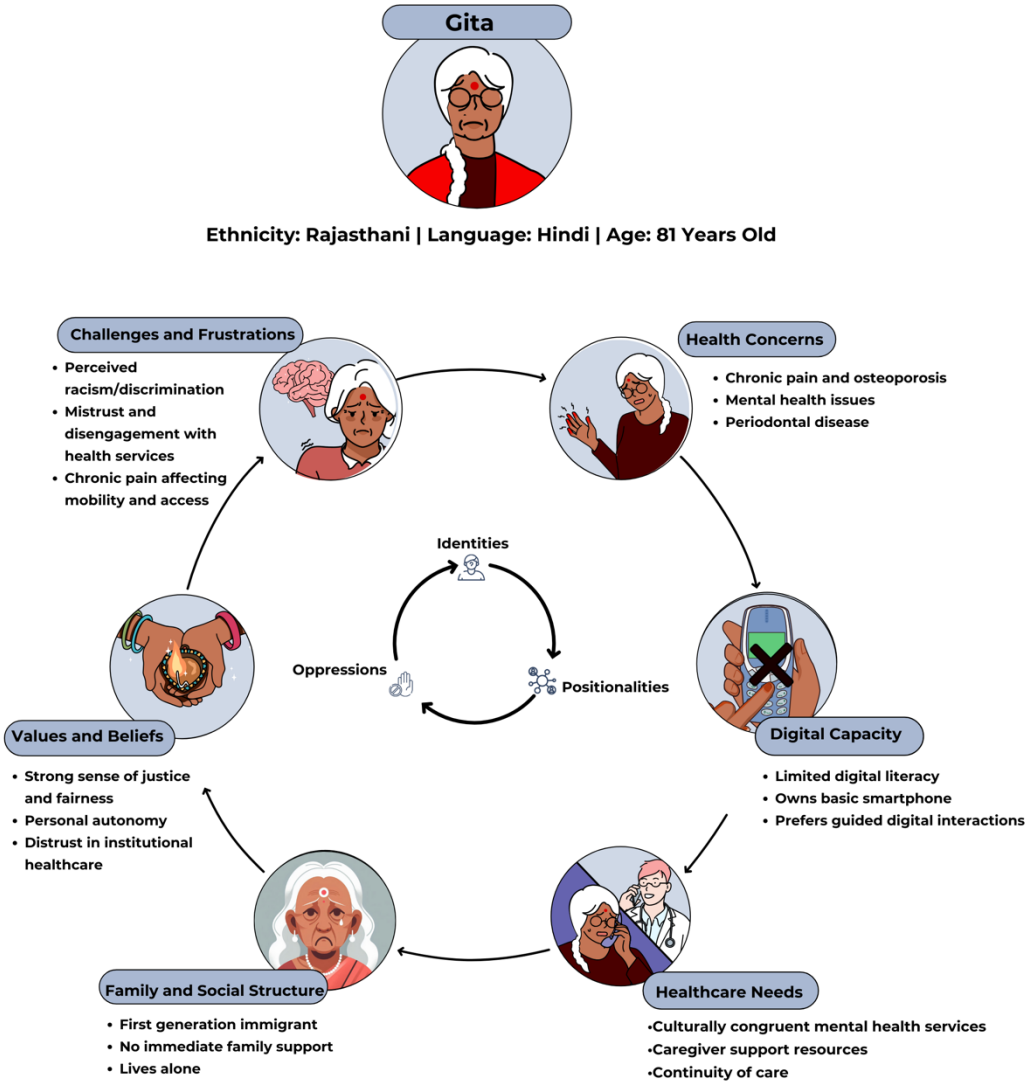
Gita explained that because she can't afford private healthcare, she had no choice but to use the NHS, although she tries her best to avoid it altogether and just "deal with the pain". She told me the video consultations are not the perfect solution (nor are they long term solutions) to her health concerns but "they're better than the alternative*"* which to her means physically going into hospital, seeing "racist" HCPs who treat her like a "second-class citizen" and being wracked with traumatic past memories of her parents' deaths.

I left Gita's home that day feeling drained. There was so much to unpack with her story and I did not know where to start. Here was a woman clearly so in need of proper care but riddled with anger, frustration and distrust so strong that it - for many years- prevented her from seeking healthcare all together.

"I'm literally not even joking. I literally think you should quote me word for word about it. Like how shit it is to be a brown person, to be disabled, to not speak English. I think you should literally just tell it how it is like and say look, this is what they're doing. They're, you know what I mean? They're literally killing us. This NHS is killing people like us, people that can't speak English. They're killing us, people that are vulnerable. They're killing us. People that are brown or ethnic minority, they killing us, disabled people, they're killing them too."

She left me with these final words, a mix of hatred and desperation clinging to each syllable. They continued to ring in my ears long after I had left Gita's home.

Figure 6: Gita's User Persona



Analysis

Gita's narrative reveals how decades of accumulated experiences with the NHS shape current engagement with digital healthcare services. Her story illustrates the temporal nature of trust erosion and the development of health inequities over time, rather than representing a static state of disadvantage.

When Gita migrated to the UK in her 30s, she came as an educated, middle-class woman accompanying her elderly parents. Her initial interactions with the NHS occurred through advocating for her parents' care. These early experiences - marked by perceived delays, misdiagnoses, and ultimately the deaths of both parents - profoundly shaped her subsequent relationship with UK healthcare systems. Her statement 'My father died at the hands of the NHS' represents not just personal grief but the beginning of a trajectory of institutional distrust.

The temporal progression of Gita's own health status is significant. Her current mobility issues and chronic pain developed gradually over decades in the UK, likely influenced by housing conditions (evidenced by her current living situation above a shop) and socioeconomic circumstances that deteriorated after her parents' deaths. Her mental health challenges - PTSD, depression, and anxiety - emerged specifically in response to her experiences as a caregiver witnessing what she perceived as systemic negligence. This challenges explanations that might attribute her healthcare experiences primarily to South Asian cultural beliefs or practices around health and aging. While such cultural frameworks often suggest that South Asian elders' healthcare choices are predominantly shaped by traditional beliefs or family structures, Gita's narrative reveals a more complex reality. Her mental health challenges and physical decline emerged directly from repeated negative institutional interactions - watching her father's death,

struggling to get urgent care for her mother's cancer, and experiencing what she perceived as systemic neglect. These experiences, accumulated over decades of engaging with the NHS, produced concrete physical and psychological consequences that shaped her subsequent healthcare choices. Rather than cultural predispositions, it was these lived experiences of institutional failure that led to her initial avoidance of healthcare services and later strategic adoption of video consultations as a way to minimise traumatic in-person encounters.

Applying CRT to Gita's specific story reveals how racism operates through seemingly neutral institutional processes. Her account of trying to get urgent cancer care for her mother illustrates this: 'Initially, they said they did a scan and ultrasound. They said, oh, yeah, she's got a lump. And I said, is it cancer? This? They're not sure. They have to check. Well, I said OK, well, can you? And then I said, oh, they can do a referral to the specialist or something that was like, can you make it urgent? They didn't and then it was too late.' The bureaucratic language of scans, referrals, and waiting times can mask how racial bias may influence (in Gita's perspective) which patients' concerns are treated with urgency.

Her statement about white privilege - demonstrated through jabbing her finger at 'our brown skin colour' - shows sophisticated understanding of how race operates systemically rather than just interpersonally. Her observation that 'When you're brown and you're a hijabi, you can't speak English and you're old. These people take advantage' demonstrates awareness of how multiple marginalised identities intersect to compound vulnerability within healthcare settings.

The introduction of video consultations represents another layer in Gita's complex relationship with healthcare institutions. Her initial resistance to using this technology stemmed not from cultural factors but from accumulated institutional distrust. However, her eventual strategic

engagement with video consultations - learning to navigate them despite initial difficulties - demonstrates agency instead of passive victimhood. Her statement that they're 'better than the alternative' reveals careful cost-benefit analysis based on years of negative in-person experiences.

Her digital engagement follows a clear progression: from initially needing help to set up calls, to gradually developing familiarity with the technology, to ultimately recognising video consultations as a protective interface that allows her to maintain essential healthcare access while buffering against direct encounters she associates with trauma. Through video consultations, Gita felt she had the freedom to terminate interactions by simply ending the call, maintain physical distance from spaces that triggered memories of her parents' deaths, and engage with healthcare on her own terms from the safety of her home. This evolution in her use of digital technology challenges potentially static characterisations of older South Asian patients as digitally resistant, demonstrating instead how individuals can strategically adapt technologies to meet their specific needs.

Particularly revealing is Gita's final statement about the NHS 'killing people like us.' The repetition of 'killing us' - applied to multiple groups including non-English speakers, ethnic minorities, and disabled people - demonstrates understanding of how systemic violence operates across intersecting axes of oppression. This is not hyperbole but rather a considered critique of institutional neglect based on decades of observation.

The way Gita's healthcare experiences have evolved over time also reveals important insights about how institutional racism operates through supposedly neutral processes of modernisation. Her progression from active advocacy for her parents' care to eventual avoidance of healthcare

services, followed by strategic use of digital options, demonstrates how individual agency operates within constraining systemic conditions.

Gita's narrative illustrates how digitalisation can simultaneously represent both opportunity and constraint for marginalised patients. Her statement about needing 'someone else to help me set it up' initially suggests dependency. However, her subsequent description of 'getting used to it' over time reveals active learning and adaptation. This challenges deficit-based assumptions about older South Asian patients' digital capabilities while still acknowledging very real barriers to access.

The temporal aspect of Gita's digital engagement is particularly significant when considered alongside her deteriorating trust in healthcare institutions. Her initial resistance to video consultations stemmed not from technological unfamiliarity but from deep institutional mistrust built over decades. As she explains, 'Why would you wanna put yourself in that position that you need them [the NHS], and they're gonna treat you like rubbish.' This statement reveals how past experiences of discrimination shape present healthcare choices.

Her eventual strategic adoption of video consultations warrants careful analysis. Rather than representing acquiescence to digital-first healthcare, her engagement reflects careful negotiation of trauma and necessity. Her description of video consultations as 'better than the alternative' of facing 'racist HCPs who treat her like a second-class citizen' demonstrates how digital services can provide a buffer against direct experiences of racism while still operating within racially structured systems.

The intersection of physical and mental health in Gita's story requires particular attention. Her chronic pain and mobility issues developed within specific material conditions - living alone in inadequate housing, managing without family support networks. Meanwhile, her PTSD, depression, and anxiety emerged directly from witnessing institutional negligence toward her parents. Together, these conditions create compounded barriers to healthcare access that digital services simultaneously ameliorate and complicate.

Gita's articulation of systemic racism shows sophisticated understanding of how colonial legacies persist in contemporary healthcare. Her observation about 'inadvertent racism, undertones of racism, obvious racism' demonstrates awareness of how racism operates at multiple levels - from overt discrimination to subtle institutional practices. The incident she describes of being asked 'why did you not bring her in earlier?' when taking her mother to hospital reveals how victim-blaming narratives can be deployed against marginalised patients even in crisis situations.

The introduction of digital healthcare services occurs within this context of accumulated institutional distrust. While video consultations offer Gita some protection from direct experiences of racism, they do not address the underlying systemic issues she identifies. Her strategic engagement with digital services thus represents both adaptation to and critique of institutionalised healthcare inequities.

7.1.4 Aziz

I met with Aziz, a 76-year-old resettled refugee from Afghanistan at the Green Street mosque after Friday prayers. Having arranged this meeting with him over the phone, I was aware that he lived in shared housing with other tenants and felt more comfortable meeting outside the home.

As the mosque empties, I made myself comfortable, crossing my legs on the carpet and leaning against the panelled wall watching passers-by stop to exchange pleasantries with Aziz on their way out. It struck me that he must be quite involved in the mosque to know so many people in the community in the short amount of time he's been in the country. After our initial introductions, Aziz, with a voice that carried decades of experiences, began sharing his story.

Aziz's journey as a resettled refugee had been far from easy. The shadows from Afghanistan, a homeland torn by war, still haunted him, manifesting as PTSD. When he first arrived in the UK, he faced numerous challenges securing housing and steady employment. His difficulties were exacerbated by language barriers, isolation from familial support networks, unfamiliarity with British systems, and lacking critical knowledge and resources to smoothly adapt to life in a new country. He often found solace in Islamic rituals and practices, holding onto the traditions that reminded him of home. Slowly, he started to build community ties at the local mosque. His limited means were evident; his white kurta no longer white and fraying at the edges, battered shoes and an outdated phone lying on the carpet next to us. As our conversation continued, I noticed him straining to catch my words, a clear indication of his hearing loss. I inquired whether he had thought about obtaining a hearing aid via the NHS. He told me he had consulted a doctor about this, but the doctor had never referred him, which he felt was discriminatory.

Aziz tells me he's still coming to grips with how the healthcare system works here but it's been especially difficult because of the condescending way he's treated by receptionists and healthcare professionals.

"Do they not understand that I don't even want to be here in this country? What choice did I have? You think I wanted to leave my country, my homeland, my family, my everything? The only reason I'm here is because I am the living collateral damage of a pointless, useless war that was forced on us because the western powers decided they wanted our resources. We lost everything. And to come to a new country and start over again when your brain is riddled with the sounds of war, and you have nightmares everyday, and you have no motivation and will power to live. To come out of that and make a life for yourself in a foreign land with nothing to your name…and then to deal with white receptionists and nurses being condescending towards you? Acting as if I've done this to myself? I am a hardworking, God-fearing man. If they were in my shoes, could they have survived this sort of life? All I ask for is a little kindness and understanding but I guess even that is too much."

He prefers the system in Afghanistan where you simply turn up to the doctor's office the day you need to be seen and wait your turn to see your family doctor. Booking appointments weeks in advance, e-consults, and video/telephone appointments are all foreign concepts to him that are "not normal".

Curious about his experiences of accessing care remotely, I broached the subject of his participation in the VPR programme and experience with video consulting. His brow furrowed as he recalled the event*, "It was all so confusing. Too many things happening at once, too many screens. I didn't understand anything, it was too much. I had no control."* He had not wanted a health care provider coming to his house and had decided, instead, to borrow his housemate's laptop for the sessions. But the cognitive overload of navigating the laptop had left him drained and he opted out of the program after one session.

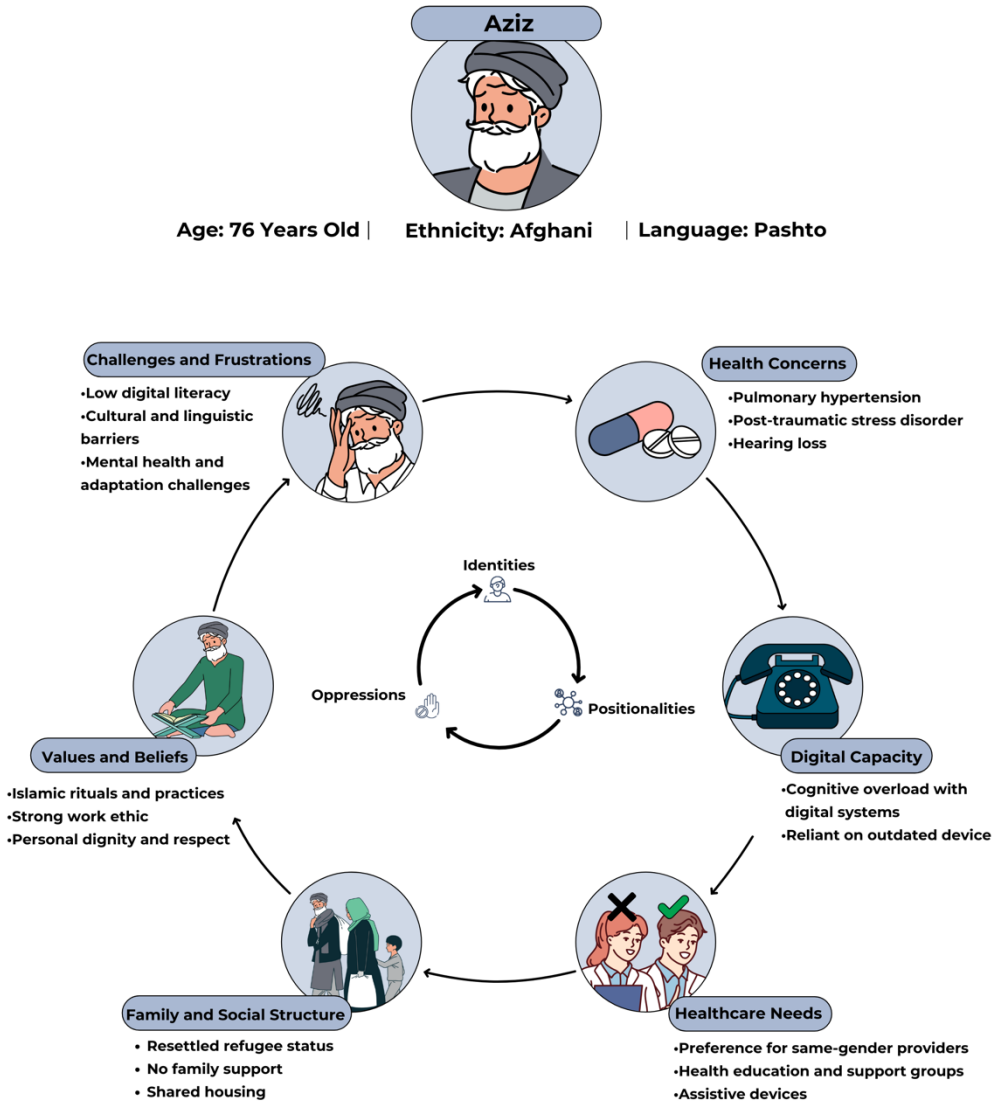
Hesitating slightly and eyeing me with a bit of trepidation, he brings up the fact that the healthcare provider he consulted with online was also female. For many, gender might not be a factor in medical consultations, but for Aziz, deeply rooted in his cultural and religious practices, it made him uncomfortable, and he was unable to voice his concerns candidly. After opting out of the online pulmonary rehabilitation program, he was given the option to participate in-person instead. However, he stopped going to the sessions entirely after the second one because doing the physical exercises with a female doctor made him uncomfortable.

His condition worsened over the next few months and on reflection, Aziz mused*, "I thought it would go away on its own; no one explained those rehab exercises to me properly or their importance to me."*

As our conversation came to a close, Aziz sighed, *"I just wish I had more control over what should be simple things like my healthcare, you know."* I ask him to elaborate on what he means by this and he gives a resigned shrug*. "You never see the same GP, they don't remember your preferences, and they want to take away what little control you do have by going digital."*

His words lingered in the air as we both sat pondering our thoughts in the shared silence of the quiet mosque.

Figure 7: Aziz's User Persona



Analysis

Aziz's narrative reveals the complex intersection between forced migration, institutional healthcare encounters, and digital service adoption. As a recently resettled refugee from Afghanistan, his experiences challenge simplified narratives about digital healthcare barriers, illustrating instead how historical trauma, systemic inequities, and institutional practices shape healthcare engagement.

The temporal progression of Aziz's healthcare experiences is important to understanding his engagement with digital services. On arrival in the UK, he encountered a healthcare system radically different from his previous experiences, where 'you simply turn up to the doctor's office the day you need to be seen.' His characterisation of UK appointment booking systems and video consultations as 'not normal' reflects not just cultural unfamiliarity, but disruption of established patterns of healthcare access during an already traumatic period of displacement.

His statement 'I am the living collateral damage of a pointless, useless war that was forced on us because the western powers decided they wanted our resources' expresses personal trauma but also articulates sophisticated critique of how colonial exploitation creates forced migration, while healthcare systems in colonising nations then treat resulting trauma as individual pathology. His observation that staff act 'as if I've done this to myself' highlights how institutional practices can obscure historical responsibility for refugee health needs.

The intersections between trauma, digital healthcare, and agency emerge clearly in Aziz's experience with the VPR program. His description of feeling overwhelmed - 'Too many things happening at once, too many screens... I had no control' - reveals how digital interfaces can

amplify existing trauma responses and sense of displacement. The cognitive burden he describes stems not simply from digital illiteracy but from attempting to navigate complex systems while managing PTSD and language barriers.

His participation in mosque community activities provides important context for understanding his healthcare preferences. While successfully building local social connections, he encountered barriers in establishing similar rapport with healthcare providers. This challenges assumptions that his difficulty with digital services stems from general social isolation. Rather, it perhaps suggests institutional failures to create culturally safe spaces for therapeutic relationships.

Applying Chapter 6's framework of trust erosion and systemic discrimination reveals how digitalisation can amplify existing power imbalances. Aziz's experience with seeking hearing aid support exemplifies this dynamic. His perception that the lack of referral was discriminatory stems not from a single interaction, but from accumulated experiences of dismissal within the healthcare system. This connects to broader patterns of health inequities facing refugees, where treatable conditions often remain unaddressed due to systemic barriers.

The concept of process multiplicity from Chapter 6 also takes on particular significance in Aziz's case. His comparison between Afghanistan's direct access system and the UK's multi-channel approach reveals how supposedly efficient digital pathways can create new forms of exclusion. His statement about having 'no control' over 'simple things like healthcare' demonstrates how proliferating digital access points can paradoxically reduce rather than enhance patient autonomy, particularly for those managing trauma responses.

In terms of Aziz's digital capital, while he possesses an outdated phone and can access his housemate's laptop, his limited engagement with remote healthcare stems not primarily from resource constraints but from how digital systems interact with his trauma and displacement experiences. The cognitive overwhelm he describes during the VPR session - leading him to opt out after one attempt - illustrates how process multiplicity (see section 6.2) can create overwhelming cognitive burden for trauma survivors. For Aziz, his description of it being 'too much' with 'too many things happening at once' reveals how proliferating digital pathways can create cognitive overload through their multiplicity.

His eventual disengagement from both digital and in-person pulmonary rehabilitation services illustrates the compounding effects of unaddressed barriers. When he notes that 'no one explained those rehab exercises to me properly,' he highlights how initial communication failures, combined with unaccommodated preferences regarding provider gender, led to deteriorating health outcomes. This reveals how standardised digital pathways can perpetuate health inequities when they fail to account for complex patient needs.

Aziz's narrative illustrates how colonial legacies shape contemporary healthcare experiences. His characterisation of himself as 'living collateral damage' of western resource exploitation provides critique of how forced migration creates health inequities that healthcare systems then individualise as personal challenges. This connects to broader patterns identified in Chapter 6 regarding how institutional racism operates through seemingly neutral healthcare processes.

Comparative Analysis

A comparative examination of these four narratives reveals important insights about how digital health disparities manifest through distinct pathways even within seemingly similar demographic groups. While all four participants were older South Asian adults accessing NHS services, their divergent experiences challenge simplified narratives about cultural barriers to digital healthcare.

Of particular note is how different migration trajectories shaped digital healthcare engagement. Gita, Rajesh and Saima's long-term residence in the UK (40+ years) produced markedly different responses to digital transitions compared to Aziz's more recent arrival. However, length of UK residence alone did not predict digital engagement patterns. Rather, the nature of migration - economic migration versus forced displacement - emerged as a key differentiating factor in how participants experienced loss of control in digital healthcare settings.

The narratives reveal distinct patterns in how negative healthcare experiences influence subsequent engagement with the digitalisation of health services. Gita trauma stemmed from witnessing her parents' deaths within the NHS, creating deep institutional distrust that preceded digital transitions. For Aziz, his description of feeling overwhelmed by 'too many screens' and loss of control during video consultations needs to be understood within his broader narrative of displacement and systematic loss of agency. Rajesh's narrative offers an important counterpoint - despite long-term exposure to systemic discrimination, he maintained strategic engagement with digital services when properly supported. This suggests negative experiences shape but do not wholly determine remote healthcare engagement.

Housing circumstances also emerged as a previously under-examined factor influencing digital health engagement. Aziz's shared housing situation and Gita's studio above a shop created specific constraints around digital privacy and access that went beyond simple device availability. These material conditions shaped how participants could engage with video consultations in ways not captured by conventional digital divide frameworks.

The narratives also reveal how different forms of social capital influenced digital healthcare navigation. While all four participants had limited digital capital, their access to other forms of capital varied significantly. Saima's access to family support enabled mediated digital engagement but potentially reduced agency. Aziz's mosque connections provided community support but did not translate into healthcare system navigation assistance and Gita's situation enabled selective engagement.

An important pattern emerges around how participants conceptualised control in digital healthcare settings. For Aziz, control centred on gender concordance and cultural safety. Gita sought control through strategic avoidance of traumatic encounters. Saima's control manifested through family-mediated access. Rajesh's emphasis on self-reliance informed his resistance to performing deference to access care. These varying concepts of control suggest need for more nuanced approaches to patient empowerment in digital healthcare.

These comparative insights suggest digital health disparities operate through more complex mechanisms than typically acknowledged. While access and skills remain important, these narratives reveal how migration histories, housing circumstances, social capital, concepts of control, and language intersect to shape digital healthcare experiences.

7.2 Reflexive account of my role as researcher

To provide a more situated understanding of the narrative portraits and personas presented here, it is necessary to critically examine my role as the researcher and how my personal attributes, experiences, and interactions with participants have directly shaped the data collection, interpretation, and the creation of these portraits.

Like many people, I navigate different social spheres, shifting my identity to align with the specific context, expectations, and cultural nuances of each environment. These interviews were no different. As the home visits referenced in the narratives above were second meetings, an initial level of rapport and familiarity had already been established. I further built on this with a sense of intentionality in relation to my speech, behaviour and clothing. I referred to my interviewees as “aunty” and “uncle” rather than by first name or Mr/Mrs. This is a significant form of respect for elders in South Asian culture. I used greetings such as “Assalamualaikum”, “Salaam”, or “Namaste”. If they were Muslim, I incorporated colloquial terms in our conversations such as “Inshallah” (God Willing), “Alhamdulillah” (Praise to God), and “Jazakallahkhair” (thank you and may you be rewarded).

In some instances, such as when I went to the mosque, I wore customary Islamic attire like an abaya (a modest long, black/solid coloured dress) and in others I wore cultural clothing like shalwar kameez (a two-piece traditional Indian outfit). South Asian culture, especially when it comes to respecting elders, is nuanced and filled with little formalities. Waiting to take one’s seat after the elder has, not refusing chai, asking about one’s health and children, ritualistic introductions, and bowing one’s head slightly so that the elder may rest their hand on your head and give Duas (well wishes) – are all examples that I was mindful of.

While these actions may seem small, they were important in establishing comfort and rapport with the interviewees. I believe that my efforts to resonate with their culture and create a non-threatening presence allowed participants to open up more readily, enabling a deeper understanding of their narratives and experiences.

However, it's important to recognise that while I shared some cultural congruence with the participants, there was a marked discordance in our socio-economic backgrounds. As a doctoral student at the University of Oxford, I come from a relatively privileged position compared to many of the participants. This socio-economic difference undoubtedly influenced our interactions and the dynamics of the interviews.

I also acknowledge that genuine cultural congruence extends beyond surface-level appearances and involves a more profound set of practices and understandings. The rapport established was unique to our specific interactions, shaped by the cultural similarities we shared, but also by the differences in our life experiences and current circumstances.

As the researcher, it is also important to discuss my positionality and how it invariably shapes the way I craft and portray participant narratives. I aimed to provide transparent links between raw data and final narratives to validate their grounding in participants' own words. However, I recognise my role in selecting, interpreting, and re-presenting the interview accounts. My own cultural background, prior experiences, and biases likely influence what details I focused on from the transcripts and how I wove them into composite stories.

For example, as an American-born daughter of Indian immigrants, I share some cultural reference points with participants like Saima and Gita. This likely influenced what cultural details I picked up

on and wove into their narratives. For instance, my attentiveness to the significance of offering food to guests, familial piety, and use of herbal remedies in their narratives stems from a shared cultural familiarity. However, as a younger, western-raised woman pursuing a doctorate, my outlook and approach to healthcare diverges from Saima's and Gita's in important ways. I tried to be cognisant of unconsciously projecting my own cultural perspectives onto their stories while also acknowledging that one can never be fully aware of all their preconceptions.

Additionally, my personal experiences of racism and sexism as a South Asian Muslim woman may have informed how I portrayed Gita's profound sense of marginalisation and mistreatment. I relate to her frustrations with systemic inequities, which perhaps led me to focus on those aspects of her account. However, our different generational and experiential backgrounds likely also shape divergent vantage points that I had to be careful not to conflate.

By engaging in this reflexive process, I aim to provide transparency about my role in shaping the research process and narrative portraits while acknowledging the limitations and potential biases inherent in qualitative inquiry. This critical self-examination is necessary for ensuring the authenticity and trustworthiness of the findings and for allowing readers to contextualize the narratives within the broader research context.

7.3 Conclusion

The aim of this chapter was to humanise the key findings around how remote consultations may disproportionately impact marginalised groups by sharing accounts that illustrate the real-world manifestations and consequences of my identified themes and findings. The stories presented situate and give context to the issues highlighted in the earlier analysis chapters regarding

weakened relationships, distrust, digital complexity, disorientation, perceived discrimination, compounding of oppression, loss of continuity and the culminating impact on patient agency. By interweaving participant narratives with complementary user personas, the analyses centre diverse voices and convey the breadth of lived experiences behind the conclusions drawn thus far. Just as intersectionality foregrounds interdependent personal, social and structural barriers, the narrative portraits in this chapter highlight how broader disruptions introduced by the scale up of remote consultations converge with multifaceted challenges rooted in oppression and exclusion. It is important to emphasise that while emergent themes grounded in data are valuable, they alone are insufficient to fully communicate the complexity and intersectionality this research aims to convey. This is where the complementary roles of narrative portraits and personas become evident.

The narrative portraits, derived directly from interview data, offer rich, contextualized accounts that preserve the nuance and authenticity of individual experiences. These composite stories allow for a deep engagement with the complexities of digital health disparities as experienced by real individuals.

Building on these narrative portraits, the personas serve as a visual and more abstracted synthesis of key characteristics and experiences. By distilling multiple themes and experiences into cohesive archetypes, these personas offer a comprehensive representation of intersecting identities and experiences across the dataset. They serve as powerful communication tools, offering a quick, visual reference that can be easily shared with stakeholders. Through this dual approach, the narrative portraits provide the depth and richness of individual stories, while the personas offer a broader, more generalisable perspective. Together, they foster a more nuanced understanding of the multifaceted challenges faced by individuals experiencing multiple disadvantage in the

remote healthcare landscape, with the aim to effectively communicate findings to diverse audiences. The next and final chapter of this thesis will explain the implications of the research findings for practice, policy, and future research. Building on the insights, findings, and theoretical contributions discussed in this and earlier chapters, it will explore concrete pathways for translating these findings into actionable strategies for promoting digital health equity.

Chapter 8 – Discussion

In this chapter, the findings of this doctoral research are considered in relation to the research questions, the research literature and implications for policy and practice. Firstly, I explore how the findings from this study both corroborate and extend current understanding in the field, while also offering new insights. I then outline the principal findings of the research on the intersectionality of multiple disadvantage and its impact on digital health disparities. Suggestions for the directions for future research arising from this thesis are then made. The chapter concludes with a discussion of the implications of the findings for the theory and practice of digital health disparities, including the implications for both policymakers and practitioners.

8.1 Contribution to the literature base

While there is a growing body of literature on digital health disparities, there are still significant gaps in understanding the intersectionality of these factors and their impact on patient experiences. Specifically, there is a lack of research on how the intersection of age, income, and limited-English proficiency affects patient experiences of remote care, particularly video consultations. As previously discussed in my literature review, there is a need for studies that take an intersectional approach to digital health disparities research, in order to better understand the complex ways in which multiple disadvantage affects access to and utilisation of remote care services.

My findings both reflect and extend previous research on unmet systemic needs within the broader multiply disadvantaged community. Consistent with existing literature, I found evidence of unmet needs in areas such as communication [246,247], health system [248], information support [25,246,247], and longitudinal supportive care needs [249]. These unmet needs highlight

the importance of addressing the structural barriers that perpetuate health disparities and limit access to care for these communities.

My literature review highlighted that while theoretical research on video consultations and the digitalisation of healthcare services exists, there is a lack of in-depth, empirical studies that explain how different dimensions of disadvantage interact to affect digital health disparities. While descriptive, variable-centred research is common when studying health disparities, it is inherently problematic as it requires categorising research participants and presenting findings in terms of single-axis analyses. This approach fails to consider the complex interplay of factors contributing to digital health disparities and how a characteristic that disadvantages an individual in one setting may have a different impact in another. Similarly, existing theoretical research on video interactions and digitalisation in healthcare [250–252] has not extensively addressed how these technologies intersect with and potentially exacerbate health disparities among disadvantaged groups.

The current literature is also in need of richer theorisation to generate explanations of how different dimensions of disadvantage interact. In response to this need, this study provides a more comprehensive theoretical framework that expounds on the complex interplay between various facets of disadvantage within the context of digital health disparities. My research suggests that scholarship on video consultations and digitalisation in healthcare could benefit from expanding beyond the identification of 'barriers' and 'enablers' to digital health uptake or the documentation of minority responses. A more comprehensive approach might involve critically examining the underlying assumptions, theoretical frameworks, and methodological approaches that inform digital health research and policy.

Such an examination could challenge the dominant paradigms of individual biomedical interventions and explore the political and social contexts in which healthcare technologies are developed and implemented. By considering these broader perspectives, we may be better positioned to understand and address the complex interplay between digital health technologies and existing health inequities. The overemphasis on empirical research at the expense of explanatory theory in evidence-based medicine may produce impoverished findings. This lack of attention to multiple disadvantages in digital health research presents both an opportunity and a challenge for researchers to engage more curiously and theoretically with this subject matter.

In contrast to research that maps the prevalence of health outcomes using ostensibly definable and quantifiable explanatory variables, there has been limited exploration of how to incorporate intersectionality into digital health models. The application of intersectionality theory to the study of digital health disparities thus represents a significant contribution of this research. While intersectionality has been widely used in other domains of health equity research, its application to the field of digital health has been more limited. This research inherently builds upon existing intersectionality literature by demonstrating the utility of this framework for understanding the complex and multifaceted nature of digital health inequities. It also generates new knowledge about how these inequities arise and manifest.

To be more precise, existing intersectionality literature has highlighted the importance of examining the intersecting and mutually constitutive nature of social identities and systems of oppression [15,253]. This research extends this work by applying these insights to the study of digital health disparities, showing how the intersection of age, income, and limited-English proficiency shapes access to and experiences of digital health technologies in complex and often overlooked ways. For instance, my findings highlight how the intersection of language barriers

and limited digital access compounds difficulties in navigating video consultations and remote care pathways for marginalised participants. The findings also revealed that video consultations created a constellation of challenges for older patients with multiple disadvantage. Participants described feeling profoundly disoriented in remote spaces, struggling to navigate unfamiliar platforms and processes. This disorientation was compounded by disrupted continuity of care, as they cycled between providers in fragmented remote consultations. Video consultations also engendered a weak sense of presence and connection - many felt their providers were not fully attentive or did not understand their needs. Crucially, these interfaces exacerbated feelings of disempowerment and loss of agency. Participants felt adrift, unable to steer the direction of their care. Intersecting barriers reinforced this. Participants had limited economic, social and linguistic resources to draw upon for support. Many were socially and culturally isolated. Digital literacy was low, as was health and healthcare system literacy. Physical impairments of illness and age made engaging with technology difficult. Some perceived these challenges of remote care as yet another form of discrimination. These intersecting factors fed into a cycle of growing disengagement and distrust of individual providers and the healthcare system as a whole. Participants who had multiple, compounding barriers were at greatest risk of being left behind.

By centring the voices and lived experiences of multiply-disadvantaged individuals, this research also aligns with the core tenets of intersectionality theory, which emphasise the epistemic value of marginalised knowledge and the need to challenge dominant narratives that erase or obscure the realities of oppressed groups [253].

Moreover, this research extends intersectionality literature by revealing specific mechanisms through which the increasing digitalisation of healthcare creates new forms of inequity and exclusion. For instance, this study found that digital access disparities effectively excluded

individuals with low digital literacy from remote services (unless they had family support), while limited-English proficiency significantly reduced older adults' engagement with health services in the remote space, and still digital competency and digital access do not go hand in hand, demonstrating how digitalisation, while improving healthcare access for some, simultaneously creates new vectors of exclusion that intersect with and exacerbate existing social inequities.

While earlier intersectionality research has focused primarily on traditional axes of oppression such as race, class, and gender, this research highlights the emergence of new vectors of disadvantage related to digital access, literacy, capital and competency. In showing how these new forms of inequity intersect with and exacerbate existing disparities, this research further highlights the need for an expanded understanding of intersectionality that accounts for the growing centrality of digital technologies in shaping health outcomes and experiences.

Yet another significant contribution of this work to intersectionality literature is through its demonstration of the value of qualitative and narrative-based approaches to studying the lived experiences of marginalised groups. While quantitative approaches have dominated much of the existing research on digital health disparities, this research draws on feminist and critical race theories that emphasise the importance of storytelling and counter-narratives as forms of epistemic resistance [253,254]. By using in-depth narrative interviews and persona development as key methodological tools, this research aims to provide a more nuanced and contextualised understanding of how digital health disparities are experienced and navigated by multiply-disadvantaged individuals.

For example, the narrative portraits presented in Chapter 7 offer rich illustrations of how various dimensions of disadvantage intersect to shape individuals' experiences with remote

consultations. Gita's story reveals the profound impact of past experiences of racism and discrimination in healthcare settings, demonstrating how these have fostered a deep-seated distrust that significantly influences her interactions with digital health services. Rajesh's narrative, on the other hand, showcases the complex interplay between device access, digital capital, and health engagement. His strong belief in self-reliance has played a crucial role in shaping his approach to acquiring digital skills and competency. Aziz's portrait provides yet another perspective, highlighting how language barriers, cultural preferences, and the trauma of forced displacement converge to create unique challenges in engaging with video consultations.

These narratives go beyond identifying barriers to digital health access, providing rich context about how individuals' life histories, cultural backgrounds, and intersecting identities influence their experiences with and responses to the scale up of remote consultations.

8.2 Overview of principal findings

The findings of this research reveal the complex and multifaceted ways in which the shift to video consultations and digitalisation of healthcare services is negatively affecting marginalised patients, particularly those facing intersecting forms of disadvantage. As mentioned above, this research makes a significant contribution to the field by applying an intersectional lens to the study of digital health disparities, revealing the complex, overlapping and mutually reinforcing nature of digital exclusion. This intersectional lens allowed analysis of how systems of privilege and oppression intersect at the macro social-structural level to reinforce and maintain health inequities. It enabled an in-depth examination of how social systems and resources (or lack thereof) maintain or even reproduce inequities. This was done by analysing dynamics such as 'absent presence' in video consultations, the importance of prior rapport, disruption of

continuities, compounding of oppression for intersecting identities, impacts on trust, navigation challenges, and persistent discrimination across both remote and in-person care, thus informing the development of structural level interventions that are more likely to address the fundamental causes of digital health inequities. By situating individual experiences of marginalisation in a digital health context within broader systems of power and oppression, this work challenges dominant narratives that frame digital health disparities as solely a matter of individual access or skill. In the UK, South Asian communities face persistent structural inequalities: they are more likely to live in deprived areas, with 31% of Pakistani and 40% of Bangladeshi households living in the most deprived 10% of neighbourhoods in England [255]. They experience higher rates of poverty, with approximately 50% of Pakistani and Bangladeshi households living in poverty compared to 19% of White British households [256]. Employment disparities are significant, with Pakistani and Bangladeshi workers earning on average 15% less than White British counterparts in similar roles [256]. These socioeconomic inequalities intersect with health outcomes - South Asian groups have higher rates of chronic conditions like diabetes and cardiovascular disease, yet often face barriers accessing preventive healthcare [255]. During the COVID-19 pandemic, these existing inequalities were starkly exposed, with South Asian communities experiencing disproportionately higher mortality rates [256]. Within this broader landscape of systemic disadvantage, the digitalisation of healthcare risks amplifying existing inequities. Instead, the findings highlight the need for a more nuanced, historically-informed, and structurally-oriented approach to understanding and addressing digital health disparities - one that recognises how current digital exclusion builds upon longstanding patterns of racial and economic marginalisation in British society.

In particular, across Chapters 5-7 the findings highlight the dynamics of ‘absent presence’ in video consultations, the importance of prior rapport for effective care via video consultations, the

disruption of established continuities in the digital healthcare landscape, and the compounding of oppression for those inhabiting intersecting marginalised identities. The findings further suggest that remote interactions between patients and providers may contribute to increased distrust in healthcare providers and systems, particularly for marginalised patients who have faced historical mistreatment and discrimination. The disorientation and fragmentation that arise from navigating complex remote care pathways also pose significant challenges, exacerbated for those with limited digital literacy, health literacy, and language proficiency. Furthermore, discrimination remains a persistent issue across both in-person and remote consultations, exposing the ongoing manifestations of systemic racism and within healthcare institutions. Lastly, the culmination of these experiences - distrust in healthcare providers and systems due to erosion of therapeutic continuity, disorientation and fragmentation arising from complex remote pathways, and persistent discrimination across healthcare settings rooted in systemic racism and intersectional biases - can converge to reduce patient agency, undermining patients' ability to independently navigate their care journey and make informed decisions about their health.

Throughout, I showed that digital health disparities do not operate along independent axes of division, but often overlap, interlink and interact; hence the intersectionality of dominance and vulnerability. I argue that inequity and digital health exclusion are relational and occur along multiple fracture lines, which differentiate people's spaces of opportunities, well-being, and level of agency. These disparities are produced and reinforced through complex social relationships and interactions within healthcare systems and broader societal structures. The COVID-19 pandemic may have brought out new instantiations and shed light on what was less visible before, but the roots of digital health inequity are deeply entrenched in systems of power and social orders. For researchers and practitioners examining the societal impacts of digital technology, this thesis offers an analysis of the complex ways in which these technologies are intertwined with

and implicated in producing and reproducing social orders and stratifications. This perspective extends beyond viewing digital technologies merely as 'solutions' and 'innovations', offering a more nuanced understanding of their role in shaping societal structures.

The findings also surface fundamental tensions. As video consultations expand accessibility for some, this occurs within and alongside enduring structures of discrimination, oppression and historical injustice. Efficiency imperatives come up against relational ethics of embodied, communal care. Apparent gains in informatic integration contradict simultaneous fracturing of holistic, humanising bonds. Technological innovations that enhance patient choice instead often deepen vulnerabilities and dependencies for those navigating poverty, ableism, ageism, racism and marginalisation.

The tensions and dissonances surfaced by my research highlight the complex, ambivalent and often contradictory nature of digital health shifts (such as the scale up of video consultations), particularly for marginalised communities. While it can offer increased access, convenience, and patient choice for some, the findings of my research reveal how the digitalisation of healthcare can also reproduce and intensify existing power imbalances, structural inequities and experiences of alienation and disconnection. Specifically, my research found that:

1. Video consultations often created dynamics of ‘absent presence’, where patients perceived healthcare providers as distracted or disengaged, leading to a sense of disconnection (Chapter 5).
2. The lack of prior in-person rapport negatively shaped patients' perceptions of subsequent video consultations with unfamiliar clinicians, which led to weakened relationships (Chapters 5 and 6).

3. The scale up of remote consultations eroded established continuities of care for some, with fragmentation of relational continuity apparent (Chapter 5 and 7).
4. Remote consultations compounded experiences of oppression for patients navigating multiple, intersecting forms of structural disadvantage, such as age, ethnicity and socioeconomic status (Chapters 5, 6, and 7).
5. The complexity of navigating video consultations and multiple remote care pathways led to profound disorientation and fragmentation of care, especially for those with limited digital literacy or language proficiency (Chapter 6).
6. Experiences of perceived racism and discrimination within healthcare settings shaped patients' engagement with remote consultations, often leading to disengagement and distrust (Chapters 6 and 7).
7. The cumulative effect of these factors resulted in a significant reduction in patient agency, particularly for marginalised individuals, undermining their ability to effectively navigate their care and make informed decisions (Chapters 5, 6 and 7).

If digital health inequities are rooted in structural inequalities of our society, it is important not to let overemphasis on digital solutions disguise or divert attention from the more fundamental and deep-seated issues of segregation, division and power. This thesis only scratches the surface of some of these issues, and much research has shown that digital interventions do not necessarily resolve social stratification, but often exacerbate it [38,106,109,247,257]. [258]

What then are the prospects for health and healthcare for vulnerable patient groups in this digitally mediated moment? How might primary care health praxis disentangle technology from dreams of development where idealised systems including digital health interventions and remote platforms are designed in theory and not deployed in situated practice? The findings from

this thesis highlight the limitations of purely biomedical approaches to digital health and suggest a tentative yet vital way forward through intersectional approaches. For instance, the study revealed how participants' experiences with remote consultations were shaped not just by their medical conditions, but by complex interactions of factors including age, ethnicity, digital literacy, and socioeconomic status.

My research also found that digital disparities can lead to disempowerment, disengagement and worsening of the inverse care law, where those who most need healthcare services often have the least access to them [259]. Findings further highlighted that video consultations may not adequately replicate the human connection and trust-building that occurs in face-to-face interactions from the perspective of participants. Disadvantaged groups may particularly struggle with digital communication, further straining their relationships with healthcare providers. Trust and agency, crucial components of effective healthcare interactions, may be compromised in these remote settings, particularly for those who already feel marginalised. These findings extend beyond merely illustrating the applicability of intersectionality; they provide an empirically grounded understanding of the processes underlying digital health disparities, offering insights for both theory development and practical interventions in digital health equity. These findings also emphasise the need for a more holistic approach to digital healthcare that goes beyond biomedical reductionism.

This holistic approach begins by examining how the digitalisation of healthcare creates specific forms of exclusion that intersect with existing structural inequities. The findings from this study reveal how seemingly neutral digital health initiatives can reproduce power imbalances in healthcare delivery. For instance, when participants lacked personal devices for video consultations, this technical barrier amplified existing access disparities. The study also revealed

how remote care disrupted established continuity of care - participants encountered different providers across various digital platforms, fragmenting their care experience and making it difficult to build therapeutic relationships. This fragmentation, combined with the complexity of navigating multiple digital systems, created what participants described as a profound sense of disorientation. Their experiences of feeling 'lost' in digital healthcare spaces were intensified by language barriers and limited technological familiarity. Furthermore, the research showed how digital platforms' complexity led some participants to become more dependent on family members for healthcare navigation - a shift that altered established patterns of autonomy and decision-making within families. Prior negative healthcare experiences shaped participants' approach to these digital systems, with past instances of discrimination or miscommunication informing their current hesitancy to engage with new platforms. These findings suggest that digitalisation's impact extends beyond simple questions of technology access or skills. Rather, it fundamentally reshapes relationships of care, patterns of dependency, and trust in healthcare systems in ways that can reinforce existing social hierarchies and power dynamics. This understanding challenges us to move beyond viewing digital exclusion as merely a technical problem and instead examine how it intersects with broader questions of power, autonomy, and social relationships in healthcare delivery.

This suggests a need to reconsider how we design and implement digital health services. Rather than imposing universal, technology-driven solutions, my research indicates the value of approaches that incorporate diverse knowledges and prioritise relational, community-driven health practices. This could involve developing tools and pathways that are more culturally responsive, or creating hybrid models that combine remote access with in-person, community-based care.

My research findings suggest that addressing digital health disparities requires a more comprehensive approach that considers historical and structural factors. This approach calls for a reimagining of the relationship between digitalisation, health, and social justice, grounded in the experiences of marginalised communities.

8.3 Intersectional approach

Fully understanding digital health disparities requires research frameworks that go beyond traditional single-factor or additive models of health inequality. Such as those emerging from an intersectional perspective which can investigate the interaction of numerous characteristics of vulnerable populations, not only at the individual level but also at structural levels so as to capture the multiple contexts that shape individual lives and health statuses.

I investigated how the scale up of remote consultations is implicated in the differences of wealth, class, gender, age, types of labour, skills and literacy, as well as stigma and discrimination associated with ethnic identities and other identities produced under the pandemic. I was interested in how this digitalisation manifests, mediates, exacerbates and, sometimes, bridges the multiple spaces of health disparity and dominance. The findings from my research point to the importance of moving beyond a narrow focus on individual-level cultural competence to address the broader institutional and systemic forces that perpetuate health disparities.

Intersectionality is concerned with simultaneous intersections between aspects of social difference and identity (as related to meanings of race/ethnicity/indigeneity/ gender/ class//geography/age/disability/migration status/religion) and forms of systemic oppression (racism, classism, ageism, ableism, etc) at macro and micro levels in ways that are complex and

interdependent [260]. For example, a key finding from this research was participants' loss of agency when facing systemic inequities in accessing care remotely.

In the context of these inequities, we must critically reflect on the policies, systems, and practices that digital health platforms and tools are designed within to examine if we are designing places that allow for good care as these are intimately influenced by the lands, relations and communities with and where we live, and where and how these technologies are designed, developed and used. Health services are location-specific, so digital health must also reflect these ties to be feasible.

An intersectional approach further enables us to conceptualise both race and class differently in thinking about how to address digital health disparities because centring minority groups yields different information about those groups that cannot simply be extrapolated by studying prototypic groups [261,262]. In confronting health disparities, much work has focused on incorporating cultural competence and cultural humility into clinical practice as a means of addressing patient needs related to race, class, ethnicity and other social categories. What an intersectional framework adds to these already existing approaches may not be immediately apparent. Traditional approaches to multicultural training often focus on cultural competence, a framework for promoting clinician awareness of social and cultural influences that affect a patient's health beliefs, behaviours, and outcomes [263–265]. Cultural competence has been criticised for failing to adequately account for broader structural and institutional forces that perpetuate inequality and shape health outcomes [266,267]. More recently, cultural humility is an approach that emphasises the clinician's commitment to self-reflection, self-critique and attention to power imbalances in the physician–patient relationship [266,267].

While both cultural competence and cultural humility can be useful concepts, both have a tendency to focus on the efforts of the individual clinician. Yet attention to the intersection of race, gender, class, and other dimensions of a patient's identity in my research highlights the need to focus on institutional and structural forces that create patterns of oppression, marginalisation, and digital health disparities. By adding a lens through which to consider the multidimensional axes of a patient's identity and thereby understand a patient's background, perspectives, areas of vulnerability, and needs more fully, an intersectional framework serves to supplement cultural competence and humility. Crucially, it draws attention to structural and institutional forces that lead to the patient's experience of marginalisation on account of these intersecting identities. In this way, intersectionality goes well beyond cultural competence and humility.

Importantly, intersectionality applies not just to individual interactions, but to entire systems and infrastructures. Just as we recognise that focusing solely on individual responsibility for health (personalisation) fails to address broader public health issues requiring population-level interventions, so too must we acknowledge that individual clinician cultural competency, while valuable, is insufficient to address systemic inequities in healthcare.

My findings revealed how digital health disparities are not merely the result of individual factors or interactions, but are deeply rooted in institutional structures and policies. For instance, I found that the design and implementation of remote care services often inadvertently excluded certain groups, such as elderly patients with limited English proficiency and low digital literacy. This exclusion was not just a matter of individual clinicians lacking cultural competence, but a systemic failure to consider diverse needs in the very infrastructure of digital health services.

Moreover, my findings highlighted how intersecting forms of structural oppression - such as racism, ageism, and classism - are embedded in healthcare systems and policies, shaping patients' experiences far beyond individual clinical encounters. For example, the shift to digital-first approaches in healthcare delivery disproportionately disadvantaged certain population groups, reflecting and reinforcing existing societal inequities.

By applying an intersectional framework at a systemic level, we can move beyond responsibilisation at the individual level - whether of patients or clinicians - and towards comprehensive, structural changes. This approach invites redesigning healthcare systems and infrastructures with equity, inclusion, and diversity at their core, rather than as afterthoughts or as individual responsibilities.

My research also specifically demonstrated how different aspects of identity, such as age, ethnicity, socioeconomic status, and digital literacy, interact to create unique barriers in digital healthcare. For instance, I found that elderly, limited-English speaking patients from low-income backgrounds faced compounded challenges in navigating video consultations. These individuals experienced difficulties not just with language, but also with accessing reliable Internet, lower digital literacy, and reduced social support for troubleshooting technical issues. This insight into the compounding effects of multiple disadvantages allows for a more nuanced understanding of the barriers to digital health access and engagement.

The intersectional approach also uncovered how power imbalances in healthcare settings are shaped by multiple, intersecting factors. My findings revealed how gender, age, and cultural background intersected to influence patients' comfort levels and agency in video consultations.

Such insights highlight the complex dynamics at play in digital health interactions and the need for more tailored approaches to ensure patient comfort and empowerment.

Lastly, the intersectional approach revealed the temporal and contextual nature of disadvantage in digital health contexts. My findings showed how the rapid scale up of remote consultations interacted with existing social inequalities to create dynamic patterns of advantage and disadvantage, even within marginalised communities.

There are two key considerations in embracing intersectionality for examining the complex relationship between social identity, social position and health in a digitally mediated context. First, social identity is multifaceted, with each person simultaneously occupying multiple identities relevant to their relationship with others and their position within society. Secondly, these social identities are not fixed but vary historically and by context. Alongside these considerations, when an intersectionality paradigm is adopted, three aspects of complexity also need to be considered: the multi-dimensional ways in which power operates and subjectivity, subjection, and social location are subsequently constructed; the different levels at which interactions occur; and the differing degrees and forms of penalty and privilege between social locations and subjects [67].

The considerations of intersectionality in examining the relationship between social identity, social position, and health in a digitally mediated context, as well as the complexity aspects that need to be addressed when adopting an intersectionality paradigm, provide a foundation for understanding the emergence of subjectivity from an intersectional perspective. This subjectivity emerges from differential experience produced by multiple and intersecting power structures

[15], and therefore moves beyond a behavioural, individualistic sense of identity to one of 'social positioning' of individuals within social structures [268].

Applying this intersectional lens to my research led to several key discoveries that deepened my understanding of digital health disparities. I found that video consultations often reinforced existing power dynamics rather than neutralising them. Older, limited-English speaking participants from lower socioeconomic backgrounds struggled not just with technology use, but with asserting their needs and concerns in these digital spaces, reflecting their marginalised positions across multiple systems of power.

My research also uncovered how the design and implementation of remote consultations often reflected and perpetuated dominant power structures. Chapter 6 highlighted how the complexity of navigating multiple digital platforms and pathways led to profound disorientation and fragmentation of care.

Furthermore, I learned that patients' engagement with remote consultations may be shaped by previous experiences of perceived racism and discrimination. As explored in Chapter 6 and 7, participants who had faced discrimination in traditional healthcare settings often approached video consultations with heightened distrust and scepticism. This finding underscores how historical and ongoing experiences of marginalisation can profoundly influence patients' willingness to engage with new forms of healthcare delivery.

So, to summarise, an intersectionality framework applied to digital health disparities research needs to include the following considerations. First, whatever conceptual framework is used, the historical foundations, contestability, and specificity of terms used in reference to it should be

clearly laid out. Second, to be clear about what kinds of differences are to be analysed and also to centre critiques of power, the emphasis needs to shift from a preoccupation with identities and categories of difference to an analysis of the interactive processes of differentiation that produce and govern subjects (and that subjects generate and resist) and how these processes work in relation to the systems of domination. Third, as a way to attend to the complexity and underlying an intersectionality lens, there is enormous value in comparing the operation and effects of interactive processes of differentiation and systems of domination relationally, across one another, and at different levels. Finally, it is critical that the research and policy be directed by social justice agendas otherwise they are not consistent with intersectionality analysis.

Ultimately, within scholarly discourse, we need to view intersectionality as an analytical sensibility that transcends terminology or adherence to established paradigms, emphasising instead a profound reorientation of thought towards the complex dynamics of identity, power and difference. As Cho et al. [211] aptly put it “what makes an analysis intersectional is not its use of the term 'intersectionality,' nor its being situated in a familiar genealogy, nor its drawing on lists of standard citations. Rather, what makes an analysis intersectional ... is its adoption of an intersectional way of thinking about the problem of sameness and difference and its relation to power" (p. 795).

8.4 User personas

One of the aims of this study was to develop and refine ‘digital inclusion user personas’ that characterise the intersection between older age, low socioeconomic status, and limited English proficiency in exacerbating digital health disparities that can be used to inform improvements in remote consultations for marginalised groups. Underpinned by an intersectional lens, the

personas show how limited economic, social, and linguistic resources, weak relationships, disorientation, weak presence, dependency on family, racial discrimination, low digital, health, or system literacy and impairments as a result of physical illness or advanced age combine and reinforce one another as individuals attempt — with varying success — to access and receive care through remote consultations.

Four contrasting personas were produced from this research, which captured the variety and complexity of how dimensions of disadvantage intersected and influenced identity and actions. The personas illustrate important themes, including a widespread sense of disorientation (and, hence, inability to navigate the system), fractured continuity, limited presence, weak relationships, loss of agency, and an increased distrust of services and providers. These key outputs of my work demonstrate the potential of thoughtfully constructed personas to humanise design, translate stories into service changes, and keep equity at the forefront. It shows that personas have the potential to be useful tools for illuminating the complexity of digital health exclusion among marginalised patient groups and illustrate how multiple axes of disadvantage interact in different ways for different individuals. The personas also illustrate how intersecting axes of disadvantage may shape access to healthcare over the long term (for example, by producing and reinforcing disengagement as illustrated by Saima's persona). Importantly, it also shows how personas can be used to engage marginalised users themselves in persona refinement through co-design sessions as demonstrated in this study.

The development of these user personas grounded in the lived experiences of multiply-disadvantaged patients represent a novel methodological contribution of this research. By centring the voices and narratives of those at the margins, these personas provide a potentially powerful tool for promoting empathy [203,269,270], driving patient-centred service design, and

advocating for more equitable digital health policies. However, the findings also highlight the limitations of user personas and the need for ongoing critical reflection to avoid perpetuating stereotypes or oversimplifying the complex realities of marginalised communities.

8.4.1 Limitations and dynamic persona development

One of the strengths of this study is the use of an intersectional lens, underpinned by theory, to produce personas based on a detailed exploration of the lived experiences of a sample of older patients with multiple markers of disadvantage. The contribution to the user persona literature is novel here because, the personas developed in this study specifically represent older people with multiple markers of disadvantage who are, to a greater or lesser extent, 'at sea' and disengaged from the system. This contribution also focuses specifically on remote consultations.

Personas are not a panacea, however. The process of creating fictional characters which embody key dimensions of disadvantage and linked attitudes, and behavioural responses may have the inadvertent effect of reinforcing and activating stereotypes and—worse—ensuring that these stereotypes become baked in to the design of digital technologies and services [271]. This is a particular danger when designing services for marginalised groups, leading to the perpetuation of the very biases they were intended to reduce [272,273]. As these critical sources describe, techniques to reduce reliance on stereotypes include introspection and use of multiple pictures or multiple identity theories.

Some scholars have also proposed that personas should be viewed dynamically rather than statically: each persona should evolve through continuous engagement with communities [271]. Periodic validation with users can help ensure that personas remain authentic. Input from diverse

stakeholders via interviews, observation, and co-design workshops allows incremental refinement (or indeed replacement) of personas.

Finally, it is increasingly recognised that personas cannot substitute for involving users in the design of technologies and technology-supported services. The development of personas by researchers has progressively given way to a more participatory approach in which target users are actively involved in developing and refining personas (as with the focus group stage in this study).

Patient user personas can, ultimately, help bridge the gap between healthcare professionals and patients by promoting empathy (which enables healthcare providers to better understand and respond to the diverse needs, experiences, and challenges faced by patients, particularly those from marginalised groups) and facilitating a patient-centric approach in the design and delivery of digital healthcare services. However, the findings of this study emphasise the importance of viewing personas as dynamic, evolving tools that require ongoing validation and refinement through participatory engagement with diverse patient communities. By embracing a more collaborative and iterative approach to persona development, healthcare providers and technology designers can work towards more inclusive and equitable digital health services. If we prioritise good relations and cultural safety in the digitalisation of healthcare rather than simply digitising existing processes, we might begin to regenerate places of care through digital health design.

8.5 Future directions

While this research has generated valuable insights into the intersectional dimensions of digital health disparities and developed a set of user personas to represent the experiences of multiply-disadvantaged individuals, it is important to consider how these findings can be translated into practice and used to inform the design and delivery of more equitable and inclusive digital health services. One key direction for future research is to explore how the user personas developed in this study can be integrated into the practices and processes of healthcare providers at the study site, North East London Foundation NHS Trust.

One potential route is the development of immersive workshops or training programs that introduce healthcare providers to the user personas, fostering dialogue about their implications for practice and collectively identifying opportunities for integrating them into their daily work. These sessions could serve as a springboard for discussions on how to adapt video consultation practices and associated digital tools to the unique needs and preferences of different patient subgroups. For instance, healthcare providers could explore ways to modify their communication style, adjust technical aspects of video calls, or integrate supportive features that address the specific challenges faced by marginalised groups. Furthermore, healthcare providers could employ the personas as a lens for anticipating and proactively addressing the challenges that certain patients may encounter in accessing or engaging with video consultations and health services. Additionally, these insights could inform system designers and policymakers in developing more inclusive and accessible video consultation platforms and protocols that better accommodate diverse patient populations.

Findings from this and other digital disparities work can inform the development of tools and technology. For example, efforts can be made to incorporate knowledge of the myriad factors affecting healthcare access and utilisation at patient- and community-level, including knowledge, attitudes, cultural beliefs, health behaviours, adherence, language, health literacy, social support, religious beliefs, self-efficacy, preferences, and psychosocial factors. This can be achieved by drawing on methods that leverage participatory design; for example, it is known that information technology interfaces that include cultural and linguistic adaptations can help patients manage online systems, and prior studies have included patient and community participants to culturally tailor online systems [274–278].

Moving forward, this research calls for a commitment to building digital health infrastructures and practices that are not only inclusive but also transformative, that do not simply reproduce existing power relations but actively work to dismantle them. However, more research is needed to fully understand how these ideas can be practically implemented in diverse healthcare contexts.

8.6 Implications for practice and policy

The rapid scale-up of remote consultations in UK primary care, particularly video consultations, has profound implications for digital health disparities. This study, viewed through the lens of intersectionality, reveals how this scale-up process may exacerbate existing inequities. As remote consultations become more prevalent, access and adoption are likely to be uneven across different population groups. My findings suggest that older patients, those with limited English proficiency, and individuals from lower socioeconomic backgrounds often face greater challenges

in engaging with video consultations. This uneven adoption could lead to a two-tiered system of care, potentially widening health disparities.

The scale-up process assumes a certain level of technological readiness among patients. However, my research found that issues such as poor Internet connectivity, lack of suitable devices, and limited digital literacy were significant barriers, particularly for participants with multiple disadvantage. As remote consultations become more widespread, these technological barriers could further marginalise already disadvantaged groups. Moreover, the quality of care in video consultations can be compromised due to factors such as inability to perform thorough physical examinations, communication challenges, and technical disruptions. There's a risk that these issues could disproportionately affect patients who already experience disparities in healthcare quality.

The scale-up process needs to consider how multiple dimensions of disadvantage intersect. My study revealed that individuals facing intersecting challenges, such as being elderly, from a minority ethnic background, and with low digital literacy, experienced compounded difficulties with remote consultations. Scaling up without addressing these intersectional issues could deepen existing health inequities.

The implications of this research for practice and policy, therefore, first highlight the need for a paradigm shift in how we conceptualise and address digital health disparities. Moving beyond a narrow focus on the digital divide, policymakers and practitioners can embrace a more intersectional understanding of digital health exclusion, one that recognises the complex interplay of social identities, structural constraints, and technological barriers that shape individuals' opportunities and capabilities in this digitally mediated moment. This requires a commitment to

designing digital health technologies and services that are not only accessible but also responsive to the diverse needs and lived experiences of marginalised communities. Moreover, it requires a focus on building supportive networks and interventions that address the underlying social, economic and political inequities that fuel digital health disparities.

The dominant public discourse on digital inclusion still very much centres on the traditional notion of the digital divide. In high income western countries, this is reflected in the narrow focus on digital literacy, usually related to providing training to the elderly or the unemployed. While these issues continue to be important, such policy interventions are still based on the simplistic notion of single categories and divisions, the 'have and have-not', the 'can and cannot'. Such an approach tends to ignore the complexity, multitude, and intersectionality of digital health inequalities. Thus, policymakers should move beyond this single-axis analysis. Technology designers and providers need to see the subjectivity of human beings behind the label of 'users' and consider how gender, race, class, age and other structural constraints individuals may face, shape their opportunities and capabilities, and thus how digital technology may impact their lives and health care journeys.

Thus, there is a need for a historically-informed, politically-engaged analysis of digital health disparities, one that situates current technological shifts within the broader legacies of medical and colonial injustice. As such, the development and implementation of digital health interventions must be accompanied by a critical examination of their potential to perpetuate or challenge existing structures of oppression and marginalisation.

Bridging digital health disparities thus requires not only technologies and skills training but more importantly, associative interventions and supportive networks that address some of the

underlying vulnerabilities of disadvantaged groups. A critical examination of the socio-political structures underpinning these disparities also suggests that transformative change necessitates a fundamental reconfiguration of power dynamics and institutional frameworks, compelling us to critically re-evaluate and potentially reconstruct our healthcare systems to achieve genuine equity.

Two surprising and troubling findings from this study also have potential implications for policy. First, my research found that the challenges of remote consultations (disorientation, fragmentation, and a sense that video consultations are often impersonal and transactional) produce a profound sense of disempowerment, loss of trust, and disengagement with the system in patients who are disadvantaged. Second, video consultations may not strengthen clinical relationships but may actually worsen them when patients are multiply disadvantaged, leading in some cases to a breakdown of trust. At a policy level, these findings add to evidence to suggest that 'remote care by default' is highly likely to exacerbate health inequalities and therefore needs nuanced implementation. The NHS Long Term Plan [168] cites digital expansion as a key priority, aiming to reduce face-to-face outpatient appointments by up to a third. If replicated in other studies, these preliminary findings suggest that a 'digital first' policy could actually be harmful to the most vulnerable groups, and it is possible that the human and economic costs of pushing the digital model in these groups could be prohibitive.

The policy implications of this research challenge the assumption that a rapid scale up of remote consultations will determine improved access and outcomes for all patients. Instead, the findings emphasise the need for a more cautious and equity-focused approach to digital health implementation, one that recognises the potential for unintended consequences and actively works to mitigate digital disparities. Policymakers must engage with diverse patient communities

and prioritise the needs of those facing multiple forms of disadvantage in the design and delivery of digital health services.

These findings suggest that to initiate real-world change, we need to intervene at multiple levels. At the micro/individual level, diverting blame from the individuals (deficit model approach) towards reconceptualising the digital divide as a broader structural and systemic problem requires a person-centred and social justice approach. [279]Strengths-based thinking and appreciative inquiry can also play a crucial role in addressing this issue. Appreciative inquiry proponents argue that there has come to be an unhealthy over-emphasis on 'fixing what's wrong'—a deficit-based approach. This affirmative approach of appreciative inquiry, in turn, assumes that each human system has a positive core of strengths. By focusing on the strengths and capabilities of older adults, rather than solely on their deficits or challenges, we can create more empowering and effective solutions to bridge the digital divide. This approach encourages us to identify and build upon the existing knowledge, skills, and resources within this population group, fostering a sense of agency and resilience.

At the meso/community level, to reduce technology access barriers and optimise user experience for the diversity of older adults, service organisations should work together and pool ideas and resources. A key challenge is the unintended siloed working practices of service sectors [280], which can, in turn, create fragmentation of health services and exacerbate difficulties in accessing vital resources by service users. My findings tentatively suggest that integrated working across service sectors (e.g., senior services and immigrant settlement service agencies) can help to address the unique intersectional challenges of older adult individuals. For example, the integration of settlement services and senior services to enhance technology training alongside

technology support for older adults who are from a cultural minority community may alleviate structural barriers associated with intersecting identities of age, ethnicity, and ability.

[281]In linking meso/community-level implications to shape the macro/societal level change, the study's findings suggest that addressing digital health disparities at the community level may involve improving local digital infrastructure, advocating for affordable Internet access and developing intergenerational technology training programs. The broader applicability of these approaches would require further research beyond the scope of this study. Furthermore, investing in infrastructure for access to remote consultations is crucial to ensure that older adults can benefit from these services. This includes providing reliable and affordable Internet connectivity, especially in underserved areas, and ensuring that remote care platforms are user-friendly and accessible to older adults with varying levels of digital literacy. Investing in research, evaluation and best practices in remote care is also important to identify and address the unique needs and challenges faced by vulnerable patient groups in accessing and utilising digital health services. Additionally, supporting the implementation of inclusive and accessible remote care programs is vital to ensure that no one is left behind in the digital health revolution. This involves designing these platforms and services that cater to the diverse needs of marginalised groups including those with disabilities, language barriers, and cultural differences in a way that addresses the social determinants of health and reduces health disparities.

Lastly, addressing structural inequities in the health system is an important step in making sure that vulnerable populations have equal access to quality healthcare, including remote care services. This involves tackling systemic barriers such as racism, ageism, and socioeconomic disparities that prevent older adults from accessing the care they need, whether through digital approaches or traditional in-person services. To bridge the gap between recognising systemic

barriers and implementing effective solutions, adopting methodologies such as the Equity Design Collaborative's meta-empathy mapping [201] can be useful (see section 4.5.3). This approach emphasises transformative empathy, facilitating a deeper understanding of both the barriers faced by vulnerable populations and the ways in which healthcare systems can evolve to meet their needs more effectively. At the centre of transformative empathy is listening to understand while also understanding how we listen. This research employs a modified empathy map and essential empathy questions to analyse the intersectional experiences of participants with video consulting. This approach not only facilitates awareness and supports the synthesis of diverse user experiences but also reveals how multiple, intersecting factors such as age, ethnicity, digital literacy, and socioeconomic status shape individuals' interactions with digital health technologies. For instance, the study uncovers how language barriers intersect with technological challenges during video consultations for older immigrant participants, creating unique barriers not experienced by other groups. Moreover, this method helps researchers recognise how their own implicit biases and identities can impact their understanding of participants' experiences with digital health, thus enhancing the intersectional analysis of digital health disparities.

Finally, this research also extends intersectionality literature by highlighting the urgent need for more transformative and equitable approaches to digital health innovation. While existing literature has emphasised the importance of inclusive design and participatory approaches to technology development [282], this research goes further by calling for a fundamental review of the values, assumptions, and power relations that underpin the current digital health landscape. Situating digital health disparities within the broader legacies of colonialism, racism, and other forms of structural violence opens up new possibilities for imagining and building more just and liberatory futures for healthcare delivery and research.

8.7 Ethical implications of digital health disparities

If we are to imagine health care as continuously transforming and evolving with the needs of our people, we need to imagine anew what it would mean for the digital health agenda to challenge political approaches that focus on calculating rather than restoring health, and on reifying power rather than dismantling it. Put another way, I hope we can approach remote consultations and digitalisation with more critical rigor and never assume a digital care platform or mode of consultation is agnostic because we or our funders are beguiled by the abundant data, numbers and figures. More concretely, we must recognise that people's material circumstances (such as access to devices, internet connectivity, and digital skills) cannot be separated from their political conditions (such as systemic inequities, power imbalances, and historical marginalisation). The barriers to remote care that participants in this study faced were not simply technical or resource-based issues but material barriers that were deeply intertwined with broader political and social structures that shape who has access to resources, who feels empowered to use them, and whose needs are considered in system design. For example, when participants described feeling disempowered in video consultations, this stemmed not just from lack of technical knowledge but also from previous experiences of discrimination and marginalisation in healthcare settings (for some). These complex relationships between material access and political power cannot be reduced to simple variables in statistical models. Understanding digital health inequities requires examining how material deprivation and political disempowerment reinforce each other in ways that compound disadvantage for marginalised communities.

The moral foundations of primary care, public health, translational health sciences and medical practice compel us to prioritise and bring to the forefront the realities of oppressed and marginalised groups. This ethical imperative, grounded in principles of justice and equity, calls for

the practice of epistemic resistance - a concept initially developed by philosopher Miranda Fricker [283] and later expanded upon with a more empirical focus by José Medina [284]. Epistemic resistance involves challenging dominant narratives and knowledge systems that perpetuate health inequities. It requires us to critically examine whose knowledge is valued, whose experiences are centred, and how power dynamics influence the production and application of medical knowledge. Science has contributed to our understanding of well-being through an ingenious apparatus of techniques that reveal not only the causal pathways of ill health but also evidence for their amelioration.

Institutions of healthcare and academia do not operate in an abstract world. Our work is grounded in the realities of trauma, inequality, and injustice experienced by people from all walks of life. We as health professionals are quick to respond to individual acts of violence—a gunshot wound, a stabbing—but are often slow when it comes to recognising the violence perpetrated by larger systems. Over the years, discussion about the social determinants of health—racism, gender-based violence, food and housing insecurity, and mass incarceration, among others, has increasingly entered mainstream discourse. Academic institutions and medical organisations have appropriately begun to recognise their moral obligation to address structural inequities that are not taught in conventional medical or academic curricula [285]. Through my research and experiences, I have come to understand that health does not exist in a vacuum; health is political because political realities shape health. Yet I have also learned that our leaders and institutions are often unable or unwilling to identify the structural violence affecting thousands of us locally (UK context) and globally. They are unable to name the culprits of colonialism and systemic inequality as critical determinants of health. This failure to recognise and act upon these fundamental issues represents a significant shortcoming in upholding the moral obligation to ensure health and justice for all members of society.

Linking back to the overarching aim of this thesis which is to inform a more equitable delivery of health care services in a post-COVID-19 digital era, it is essential that we critically examine the political and social contexts in which digital health technologies and services are developed and implemented. This research demonstrates that recognising the interconnectedness of material and political conditions, and prioritising the experiences and needs of disadvantaged people in the context of remote and video-based healthcare, is crucial for addressing the structural inequities that digital health technologies often unintentionally reinforce or exacerbate.

There is a pressing need to address the injustices in healthcare systems and advocate for a humbler, experientially-grounded understanding of health and suffering. This approach should acknowledge the impact of political realities and historical experiences of racism and oppression on individual and community well-being. In the context of digital healthcare, the goal should be to critically examine how digital health services like remote consultations interact with existing inequalities and to work towards ensuring that these technologies do not inadvertently perpetuate or exacerbate disparities in healthcare access and quality.

8.8 Conclusion

This thesis has explored, through the lived experiences and narratives of multiply-disadvantaged individuals, how the scale up of remote consultations and increasing digitalisation of healthcare is reshaping experiences of care and access to care as well as relationships of care, trust and power.

Broadly speaking, the more markers of disadvantage an individual had, the more difficulty they faced navigating remote consultations and digital health technologies. For some participants, the

combined effect of profound disorientation in navigating video consultations, loss of interpersonal relationships and continuity of care typically fostered through in-person visits, and erosion of trust in both individual providers and the healthcare system as a whole led to a cycle of disengagement. This deterred them from seeking healthcare or engaging in treatment plans at a time in their lives when such care was greatly needed. Although my study was not designed to examine long-term outcomes, this is likely to result in a compounding of the inverse care law. Additionally, while my research provides valuable insights, some limitations should be acknowledged. The study's focus on South Asian elderly participants in Redbridge may limit transferability to other contexts or communities. My research also captures experiences at a specific moment in a rapidly evolving digital healthcare landscape, and while the narrative approach enabled rich understanding, it necessarily involves subjective interpretation of participants' experiences.

However, despite these limitations, my findings highlight the need for a more nuanced, patient-centred approach to the scale up of remote consultations, one that prioritises the preservation of therapeutic relationships, continuity of care, cultural responsiveness, and the empowerment of those at the margins. As we move forward in this rapidly evolving digital health landscape, it is imperative that we remain vigilant to the unintended consequences of technological change, and work to ensure that the benefits of innovation are equitably distributed. This will require a fundamental rethinking of the ways in which we design, deploy, and evaluate digital health interventions, as well as a renewed commitment to the principles of social justice and health equity. It will ask of us that we challenge the dominant narratives and power structures that perpetuate inequities, and that we actively seek out and amplify the voices of those who have been historically marginalised and excluded. Only by recognising and addressing the underlying systemic inequities inherent in our healthcare system can we hope to create a more just,

compassionate, and equitable world. While digital health technologies alone cannot redress these deep-rooted issues, a critical and holistic approach to their development and implementation can potentially mitigate some disparities and contribute to broader efforts for healthcare reform. This will require a collective effort from researchers, policymakers, healthcare providers, technology developers, and communities themselves, working together to co-create digital health services, platforms and tools that are responsive to the diverse needs, experiences, and aspirations of marginalised groups. It will also require a fundamental rethinking of the values, assumptions, and power relations that underpin the current digital health landscape, and a willingness to imagine alternative futures that centre the voices, knowledges, and struggles of those at the margins.

The implications of this research are far-reaching and extend beyond the domain of digital health to broader questions of social justice, health equity, and the role of technology in shaping the future of healthcare and society. At a practical level, my findings highlight the need for more inclusive, participatory, and culturally-responsive approaches to digital health design and implementation, ones that actively involve marginalised communities in the co-creation of digital health advancements that are responsive to their needs and aspirations. At a policy level, they highlight the importance of building more equitable and sustainable digital health infrastructures, ones that prioritise the needs of the multiply-disadvantaged and that work to dismantle the structural barriers to digital health access and meaningful use. And at a theoretical level, they invite us to rethink the very foundations of digital health research and practice, and to imagine alternative paradigms that centre the embodied, relational, and liberatory praxis of marginalised patient groups.

As we stand on the threshold of a new era in healthcare delivery and research, one marked by rapid technological change and the increasing digitalisation of health and well-being, it is more

important than ever that we approach these transformations with a critical, reflexive, and equity-oriented lens. This requires a willingness to confront the uncomfortable truths about the ways in which digital technologies can reproduce and amplify existing inequities, and a commitment to build more just and liberating futures for healthcare and society. It also requires a recognition that the struggle for digital health equity is inseparable from broader struggles for social justice, human rights, and universal well-being, and that we all have a role to play in building a world where everyone has access to the resources, opportunities, and freedoms they need to thrive.

In the end, this thesis contributes to the scholarly understanding of digital health disparities through empirical research and theoretical analysis. It offers new insights into the complex interplay of multiple disadvantages in remote consultations, extends the application of intersectionality theory in remote health contexts, and provides methodological innovations through the use of narrative analysis and creation of user personas. While these academic contributions are central to the work, the findings also have practical implications. They invite researchers, healthcare providers, policymakers, and others to reconsider current approaches to digital health implementation, with the aim of creating more equitable and inclusive digital health systems. Thus, this thesis serves both as a scholarly advancement in the field of digital health equity and as a foundation for informed action towards social justice in the digital age.

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Appendices

Appendix I- Ethics Approval

Amendment Tool

v1.6 06 December 2021

For office use

QC: Yes

Section 1: Project information

Short project title*:	Remote by Default 2
IRAS project ID* (or REC reference if no IRAS project ID is available):	300719
Sponsor amendment reference number*:	substantial amendment 2
Sponsor amendment date* (enter as DD/MM/YY):	18 March 2022
Briefly summarise in lay language the main changes proposed in this amendment. Explain the purpose of the changes and their significance for the study. If the amendment significantly alters the research design or methodology, or could otherwise affect the scientific value of the study, supporting scientific information should be given (or enclosed separately). Indicate whether or not additional scientific critique has been obtained (note: this field will adapt to the amount of text entered)*:	A series of minor and substantial amendments to the project are as follows: 1.Changes to recruitment sites •Existing site Ty Doctor removed. To be replaced with Pathfields medical centre (Plymouth) •Addition of 2 new sites; Donnington (Oxford) and Northeast London Health Foundation These are site specific research under 2 linked DPhil programmes to RBD2 being undertaken by 2 researchers based in the Dept. Primary Health Care in Oxford. The research will contribute to a 'deep dive' into our broader cross cutting themes of RBD2 (digital exclusion and staff wellbeing and workflows) and feed into the planned workshops, stakeholder engagement and outputs. 2.Adding/expanding research methodologies; •Ethnographic observations to be extended in some cases to include observation of practice staff and patients interactions in common areas - will be used to better understand staff wellbeing and working conditions •Photo elicitation- In some cases staff will also be invited to share photos and pictures of their experiences of the pandemic and shift in working styles, to facilitate the interviews and for analysis 3.Additional study participants to accomodate the above chages to sites; •20-30 staff interviews spread across 3 sites (interviewed 1-3 times) •Up to 10 digital champions interviews (interviewed 1-3 times) •20-30 patient interviews to capture greater scope and depth of specific underserved patient population of low-income, elderly, limited English speakers who are more likely to be digitally excluded. 4. Related changes to protocol, PIS and ICFs and addition of new study documents (GP site poster)

Project type (select):	**Specific study**			
	Research tissue bank			
	Research database			
Has the study been reviewed by a UKECA-recognised Research Ethics Committee (REC) prior to this amendment?:	**Yes**	No		
What type of UKECA-recognised Research Ethics Committee (REC) review is applicable? (select):	**NHS/HSC REC**			
	Ministry of Defence (MoDREC)			
Is all or part of this amendment being resubmitted to the Research Ethics Committee (REC) as a **modified amendment** (i.e. a substantial amendment previously given an unfavourable opinion)?	Yes	**No**		
Where is the NHS/HSC Research Ethics Committee (REC) that reviewed the study based?:	England	Wales	Scotland	Northern Ireland
	Yes	No	No	No
Was the study a clinical trial of an investigational medicinal product (CTIMP) OR does the amendment make it one?:	Yes	**No**		
Was the study a clinical investigation or other study of a medical device OR does the amendment make it one?:	Yes	**No**		
Did the study involve the administration of radioactive substances, therefore requiring ARSAC review, OR does the amendment introduce this?:	Yes	**No**		
Did the study involve the use of research exposures to ionising radiation (not involving the administration of radioactive substances) OR does the amendment introduce this?:	Yes	**No**		
Did the study involve adults lacking capacity OR does the amendment introduce this?:	Yes	**No**		
Did the study involve access to confidential patient information outside the direct care team without consent OR does the amendment introduce this?:	Yes	**No**		
Did the study involve prisoners or young offenders who are in custody or supervised by the probation service OR does the amendment introduce this?:	Yes	**No**		

Did the study involve children OR does the amendment introduce this?:	Yes		**No**	
Did the study involve NHS/HSC organisations prior to this amendment?:	**Yes**		No	
Did the study involve non-NHS/HSC organisations OR does the amendment introduce them?:	Yes		**No**	
	England	Wales	Scotland	Northern Ireland
Lead nation for the study:	**Yes**	No	No	No
Which nations had participating NHS/HSC organisations prior to this amendment?	**Yes**	**Yes**	**Yes**	No
Which nations will have participating NHS/HSC organisations after this amendment?	**Yes**	**Yes**	**Yes**	No

Section 2: Summary of change(s)

Please note: Each change being made as part of the amendment must be entered separately. For example, if an amendment to a clinical trial of an investigational medicinal product (CTIMP) involves an update to the Investigator's Brochure (IB), affecting the Reference Safety Information (RSI) and so the information documents to be given to participants, these should be entered into the Amendment Tool as three separate changes. A list of all possible changes is available on the "Glossary of Amendment Options" tab. To add another change, click the "Add another change" box.

Change 1				
Area of change (select)*:	Participating Organisations			
Specific change (select - only available when area of change is selected first)*:	Addition of sites undertaking the same activities as existing sites			
Further information (free text - note that this field will adapt to the amount of text entered):	Existing site Ty Doctor (Wales) pulled out due to lack of resources. To be replaced with Pathfields medical centre (Plymouth – existing working relationship via other research).Both have similar socio-economic deprivation status. •Addition of 2 new sites; Donnington (Oxford) - ethnically diverse, high social deprivation; Northeast London Health Foundation Trust (ethnically diverse). These are site specific research under 2 linked DPhil programmes to RBD2 being undertaken by 2 researchers based in the Dept. Primary Health Care in Oxford. A DPhil programe of work is already stated under our protocol. The research will contribute to a 'deep dive' into our existing cross cutting themes in RBD2 (digital exclusion and staff wellbeing and workflows) and feed into the already planned workshops, stakeholder engagement and outputs.			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No
Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**		Some	
			Remove all changes below	

Change 2				
Area of change (select)*:	Participant Procedures			
Specific change (select - only available when area of change is selected first)*:	Participant procedures - significant change that can be implemented within existing resource at participating organisations - Please specify in the free text below			
Further information In particular, please describe why this change can be implemented within the existing resource in place at the participating organisations (free text - note that this field will adapt to the amount of text entered)*	Adding/expanding research methodologies; •Ethnographic observations to be extended in some cases to include observation of practice staff and patients interactions in common areas (reception areas and consultation room) - This will be used to better understand the cross cutting theme of staff wellbeing and working conditions. Changes to protocol, ICF, PIS and informational posters to accomodate this are detailed in separate section. •Photo elicitation- In some cases staff will also be invited to share photos and pictures of their experiences of the pandemic and shift in working styles, to facilitate the interviews and for analysis. Changes to protocol, ICF, PIS and informational posters to accomodate this are detailed in separate section.			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No
Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**		Some	
			Remove all changes below	

Change 3

Area of change (select)*:	Study Design			
Specific change (select - only available when area of change is selected first)*:	Participant numbers - Minor change to sample size			
Further information (free text - note that this field will adapt to the amount of text entered):	Additional study participants to accomodate the above addition of sites and methods; •20-30 staff interviews spread across 3 sites •Up to 10 digital champions interviews (patients/staff) •20-30 patient interviews to capture greater scope and depth of specific underserved patient population of low-income, elderly, limited English speakers who are more likely to be digitally excluded. Changes to protocol, ICF, PIS and informational posters to accomodate this are detailed in separate section.			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No
Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**		Some	
			Remove all changes below	

Change 4				
Area of change (select)*:	Study Design			
Specific change (select - only available when area of change is selected first)*:	Inclusion/exclusion criteria - Minor change unlikely to affect safety or scientific value of study			
Further information (free text - note that this field will adapt to the amount of text entered):	Additional inclusion (but not exclsuion) criteria added for sub-population of exisiting participants who are specifically 'underserved patients' (low-income, elderly, limited English speakers who are more likely to be digitally excluded). This will allow us to perform a deep-dive into this population at some sites that serve these populations significantly. These insights feed into existing cross cutting themes and planned workshops and outputs. INCLUSION CRITERIA for underserved patients •over 18 •willing and able to provide informed consent •diagnosed with any relevant condition, receiving care from participating services And any two from the following: •Low socioeconomic status (SES), •limited English-speaker, •≥65 years old			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No
Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**		Some	
			Remove all changes below	

Change 5				
Area of change (select)*:	Study Documents			
Specific change (select - only available when area of change is selected first)*:	Other significant change to study documents (e.g. information sheets, consent forms, questionnaires, letters) that can be implemented within existing resource in place at participating organisations - Please specify in the free text below			
Further information In particular, please describe why this change can be implemented within the existing resource in place at the participating organisations (free text - note that this field will adapt to the amount of text entered)*	1) Minor changes to Staff ICF and PIS to accommodate method of photo elicitation 2) Inclusion of new PIS and ICF for specific group ethnographic observation. This will account for group observation of staff and patients in private spaces, such as consultation rooms where explicit consent would be required. These will be used in addition to the existing study wide PIS 3) Inclusion of new Ethnographic information poster. This will be displayed at sites prior to where broad ethnographic observation will occur. See Protocol and Information sheets for detail. 4) At the request of the sponsor, updating of some of the language to clarify terminology and data usage across study documents.			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No

Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**	Some
		Remove all changes below

Change 6				
Area of change (select)*:	Study Documents			
Specific change (select - only available when area of change is selected first)*:	Protocol - Non-substantial changes (e.g. not affecting safety or the scientific value of the trial)			
Further information (free text - note that this field will adapt to the amount of text entered):	1) Minor changes to the protocol to account for a) addition of new study sites, b) addition of methodologies, c) additional staff and patient interviews and PPI activities d)additional inclusion criteria added to sub-population to better acount for underserved pupulations of patients			
Applicability:	England	Wales	Scotland	Northern Ireland
Where are the participating NHS/HSC organisations located that will be affected by this change?*:	**Yes**	**Yes**	**Yes**	No
Will all participating NHS/HSC organisations be affected by this change, or only some? (**please note** that this answer may affect the categorisation for the change):	**All**		Some	
			Add another change	

Section 3: Declaration(s) and lock for submission

Declaration by the Sponsor or authorised delegate

- I confirm that the Sponsor takes responsibility for the completed amendment tool
- I confirm that I have been formally authorised by the Sponsor to complete the amendment tool on their behalf

Name [first name and surname]:*	Ronja Bahadori
*Email address**:	ronja.bahadori@admin.ox.ac.uk

Lock for submission

Please note: This button will only become available when all mandatory (*) fields have been completed. When the button is available, clicking it will generate a locked PDF copy of the completed amendment tool which must be included in the amendment submission. Please ensure that the amendment tool is completed correctly before locking it for submission.

Lock for submission

After locking the tool, proceed to submit the amendment online. The "Submission Guidance" tab provides further information about the next steps for the amendment.

Section 4: Review bodies for the amendment

Please note: This section is for **information only**. Details in this section will complete automatically based on the options selected in Sections 1 and 2.

	Review bodies																	
	UK wide:						England and Wales:				Scotland:				Northern Ireland:			
	REC	Competent Authority MHRA - Medicines	Competent Authority MHRA - Devices	ARSAC	Radiation Assurance	UKSW Governance	REC (MCA)	CAG	HMPPS	HRA and HCRW Approval	REC (AWIA)	PBPP	SPS (RAEC)	National coordinating function	HSC REC	HSC Data Guardians	Prisons	National coordinating function	Category:
Change 1:	N					(Y)				(Y)				(Y)					New site
Change 2:	Y					Y				Y				Y					C
Change 3:	N					(Y)				(Y)				(Y)					A
Change 4:	N					(Y)				(Y)				(Y)					A
Change 5:	Y					Y				Y				Y					C
Change 6:	N					(Y)				(Y)				(Y)					A

Overall reviews for the amendment:																	
Full review:	Y					Y				Y				Y				
Notification only:	N					N				N				N				
Overall amendment type:	Substantial																	
Overall Category:	A																	

IRAS Project ID 300719. HRA and HCRW Approval for the Amendment

From leicestersouth.rec@hra.nhs.uk <noreply@harp.org.uk>
Date Fri 17/06/2022 10:09 AM
To Trish Greenhalgh <trish.greenhalgh@phc.ox.ac.uk>; CTRG Sponsorship Correspondence <ctrg@admin.ox.ac.uk>; Stuart Faulkner <stuart.faulkner@phc.ox.ac.uk>

Dear Prof Greenhalgh,

IRAS Project ID:	300719
Short Study Title:	Remote by Default 2
Amendment No./Sponsor Ref:	substantial amendment 2
Amendment Date:	18 March 2022
Amendment Type:	Substantial Non-CTIMP

I am pleased to confirm **HRA and HCRW Approval** for the above referenced amendment.

You should implement this amendment at NHS organisations in England and Wales, in line with the guidance in the amendment tool.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/.

Please contact [amendments@hra.nhs.uk]amendments@hra.nhs.uk for any queries relating to the assessment of this amendment.

Kind regards

Ms Rachel Katzenellenbogen
Approvals Specialist
Health Research Authority
Ground Floor | Skipton House | 80 London Road | London | SE1 6LH
E.amendments@hra.nhs.uk
W. www.hra.nhs.uk

Appendix II – Recruitment Flyer

NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

THIS.Institute The Healthcare Improvement Studies Institute

INTERVIEW PARTICIPANTS NEEDED FOR PHD STUDY

THE SHIFT TO REMOTE CONSULTATIONS AND ITS IMPLICATIONS ON DIGITAL HEALTH INEQUALITIES

This study is about how healthcare appointments by phone or video affect some people's experience of digital healthcare in the UK. COVID-19 has led to a fast change from face-to-face GP appointments to having them by phone or video call (remotely). This is a problem for people who are disadvantaged; for example, people who are older, have limited-English or low income. We know that people's circumstances affect their access to health care in the UK, but we don't know what the effect of remote health care appointments is.

WHAT'S BEING EXPLORED?



ARE YOU INTERESTED?

1. You must be 65 or older
2. Your first language is not English but you can understand it and speak enough to be understood
3. You must reside within the Redbridge Borough
4. You must have attempted at least one video consultation with a healthcare provider in the last year

WHAT ELSE SHOULD YOU KNOW?

-If you volunteer you will have an interview with a researcher for 1-2 hours

-You will be offered a **£25 payment** when the interview has been completed

-Your interview can be at a time and place that suits you either in person or remotely

IF INTERESTED IN PARTICIPATING PLEASE CALL OR TEXT 07398850015

OR EMAIL LAIBA.HUSAIN@PHC.OX.AC.UK

Appendix III – Patient Information Sheet

NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

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Laiba Husain laiba.husain@phc.ox.ac.uk

PARTICIPANT INFORMATION SHEET – PATIENT INTERVIEWS

Study Title: The scale up of remote consultations in UK primary care and its implications for digital health disparities- a 'Remote-by-Default 2' sub-study

We'd like to invite you to take part in our research study. Before you decide, it is important that you understand why the research is being done and what it would involve for you. Please take time to read this information and discuss it with others if you wish. If there is anything that is not clear, please ask us. You can also find further information about how researchers use information from patients at; www.hra.nhs.uk/patientdataandresearch

What is the purpose of the study?

Since the Covid-19 (or coronavirus) pandemic, more doctor or nurse appointments are requested or scheduled using computer programs, and conducted over the phone or through a video link (e.g. by phone, video, or email). This means that much patient care has moved to be given 'remotely'. Other health care services such as community pharmacies and hospitals have also had to change how they care for patients in a similar way.

The aim of this research is to study what it has been like for people using primary care services such as getting a doctor's appointment, seeing a nurse, or going to hospital since Covid-19. We want to understand what has worked well, not so well, for different people and in different situations. We also want to understand how the services could be improved for everyone.

The University of Oxford is the study sponsor organisation. When the term 'we' is used it means the sponsor.

Why have I been invited to take part?

You have been invited to take part in this research study because you are over 18, have recently used a doctor or nurses services remotely and are interested in taking part. We plan to interview up to 20 patients about their thoughts and experiences of accessing doctors' care and other related services since the COVID-19 remotely to see how they could be improved.

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Laiba Husain laiba.husain@phc.ox.ac.uk

Do I have to take part?

No, taking part in this study is voluntary and you can withdraw at any time if you later change your mind, without giving a reason.

What will happen to me if I decide to take part?

If you are happy to be interviewed for this study, a researcher will ask you to consent to take part. Consent will be written or may be recorded verbally if you prefer. A copy of the record of consent will be given to you or sent by email for you to keep. Interviews will be recorded via audio (i.e., over the phone or face-to-face) or via video (i.e., over the computer), or in some cases both. If this happens you will have the option to turn off the camera if you don't want to be seen.

What if I need help from a health or support worker?

You can ask your support worker, or a family member or someone you trust to help you.

You can let the health or support worker that gave this information sheet to you know you want to take part. If you agree, your health or support worker will pass on your contact details to the researcher. They will contact you and will find a day or time to talk that will suit you.

What should I consider?

The main thing to consider about being interviewed is whether you are comfortable with a researcher speaking to you about your experiences and views on primary care services. This could raise some potentially sensitive subjects around your recent health or care experiences. If you become upset the interview can stop.

Are there any possible disadvantages or risks from taking part?

The main disadvantage is that each interview would take up to 2 hours of your time.

NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

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Laiba Husain laiba.husain@phc.ox.ac.uk

What are the possible benefits of taking part?

Whilst we cannot guarantee any direct benefit to you, our aim is to use the research results to help improve NHS services as it responds to the changing Covid-19 pandemic.

Will I be reimbursed for taking part?

Yes, you will be reimbursed for taking part in this study through a £25 voucher for each completed interview.

How will we use information about you?

We will need to use information from your interview for this research project.

This information will include your:

- Name
- Contact details

People will use this information to do the research or to check your records to make sure that the research is being done properly. We will keep all information about you safe and secure on a networked computer at the University of Oxford.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead. We will keep a separate record of your real name and corresponding code number stored in separate password protected digital folders.

All data from recorded interviews will be de-identified when they are transcribed. This means that identifiable information about participants will not be written on audio files or transcripts (i.e. the text from the interview is written out). If we keep video-recordings, these will be pseudonymised. We will apply a visual filter to make participants unrecognisable (i.e., blurring of images) from the video recording and remove any identifiable information (e.g. names) from the audio recording.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

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Responsible members of the University of Oxford [and the relevant NHS Trust(s)] may be given access to data for monitoring and/or audit of the study to ensure that the research is complying with applicable regulations.

What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

If you agree to take part in this study, you will have the option for your anonymous data saved from this study to be used in future research.

UK data protection regulation requires that we state the legal basis for processing information about you. In the case of research, this is 'a task in the public interest.' The University of Oxford based in the UK is the data controller and is responsible for looking after your information and using it properly.

Further information about what this means is available at:

https://compliance.web.ox.ac.uk/individual-rights

Where can you find out more about how your information is used?

You can find out more about how we use your information

- at www.hra.nhs.uk/information-about-patients/
- by asking one of the research team
- by sending an email to laiba.husain@phc.ox.ac.uk
- by contacting the sponsor's data protection officer nicola.small@phc.ox.ac.uk

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Laiba Husain laiba.husain@phc.ox.ac.uk

What will happen to my data at the end of the study?

The members of our research team will analyse the data and write some papers and reports, including a summary written for the general public (i.e., a lay summary). Our findings will be published and available through journal publications. You will not be identified from any report or publication placed in the public domain. We may wish to use anonymised quotes (i.e. containing no personally identifiable information) from your interview or our notes in a conference presentation or teaching session, but you do not have to agree to this. If you are happy for this to happen, please indicate during the consent process.

We will keep identifiable information about you including your name, home address, and telephone number - for 12 months after the study has finished, so as to contact you about the research study and feedback results of the research in future should you so wish. All interview and user test recordings will be destroyed at the end of the study.

However, research documents with personal information, such as consent forms, and copies of the interview text will be held securely at the University of Oxford for 15 years after the end of the study.

Can I change my mind about participating?

You can stop at any time, without giving a reason and without penalty, by telling the researchers of your decision. Your participation is voluntary and even if you originally said yes, you may change your mind at a later stage.

A member of our study team may wish to record a reason about why you have withdrawn for our record keeping, but you do not have to provide one.

What if there is a problem?

If you are not happy or think that have suffered harm through being involved in this study, please speak to the researcher, who will do their best to answer your query. The researcher should reply within 10 working days and give you an idea of how they intend to deal with it.

NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

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Laiba Husain laiba.husain@phc.ox.ac.uk

If you remain unhappy or wish to make a formal complaint, please contact the University of Oxford Research Governance, Ethics and Assurance Team office on 01865 616480, email rgea.complaints@admin.ox.ac.uk.

For further advice about complaints, please contact the local NHS Patient Advice and Liaison Service (PALS), at 01865 221473 or here: https://www.nhs.uk/service-search/other-services/Patient-advice-and-liaison-services-(PALS)/LocationSearch/363

How have patients and the public been involved in this study?

This project follows on from another study called 'Remote-by-Default 2', which is exploring how remote approaches to care (telephone, video, email, text messaging etc) are used in general practices today. Many patients have been interviewed as part of this study and are present on the committee that advises the research team. Their views were taken into account when developing this research topic and the questions.

Who is organising and funding the study?

The project is funded by The Healthcare Improvement Studies Institute (THIS).

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect participants' interests. This study has been reviewed and given favourable opinion by East Midlands – Leicester South Research Ethics Committee.

Further information and contact details:

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please email Laiba Husain laiba.husain@phc.ox.ac.uk in the first instance, who will respond to you promptly.

Appendix IV – Verbal and Written Consent

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RECORD OF VERBAL CONSENT FORM – PATIENT INTERVIEW

This is a record of the verbal consent process for our interview and user test. Please keep this copy safe. For details about contacting the research team or to lodge a complaint, please see the participant information leaflet.

Study Title: The scale up of remote consultations in UK primary care and its implications for digital health disparities- a 'Remote-by-Default 2' sub-study

To be initialled by researcher taking verbal consent

1. I confirm that I have read the information sheet dated..... (version.....) for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.		
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.		
3. I agree to the interview being audio/video recorded.	YES	
	NO	
4. I agree to the use of de-identified quotes in future research reports and publications.	YES	
	NO	
5. I understand that data collected during the study may be looked at by individuals from University of Oxford and from regulatory authorities, where it is relevant to my taking part in this research.		
6. I agree to take part in this study		
ADDITONAL		
7. I agree to be contacted about a follow up interview about my experiences with primary/secondary care services after the Covid-19 Pandemic	YES	
	NO	

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Name of Participant	*Date*	
Name of Person taking Consent	*Date*	*Signature*

**1 copy for participant, paper copy given in person or posted, or sent via secure e-mail; original for researcher site file kept on a secure, networked computer at the University of Oxford.*

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RECORD OF WRITTEN CONSENT FORM – PATIENT INTERVIEW

This is a record of the written consent process for our interview and user test. Please keep this copy safe. For details about contacting the research team or to lodge a complaint, please see the participant information leaflet.

Study Title: The scale up of remote consultations in UK primary care and its implications for digital health disparities- a 'Remote-by-Default 2' sub-study

1. I confirm that I have read the information sheet dated..... (version.....) for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.		
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.		
3. I agree to the interview being audio/video recorded.	YES	
	NO	
4. I agree to the use of de-identified quotes in future research reports and publications.	YES	
	NO	
5. I understand that data collected during the study may be looked at by individuals from University of Oxford and from regulatory authorities, where it is relevant to my taking part in this research.		
6. I agree to take part in this study		
ADDITONAL		
7. I agree to be contacted about a follow up interview about my experiences with primary/secondary care services after the Covid-19 Pandemic	YES	
	NO	

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Name of Participant	*Date*	
Name of Person taking Consent	*Date*	*Signature*

**1 copy for participant, paper copy given in person or posted, or sent via secure e-mail; original for researcher site file kept on a secure, networked computer at the University of Oxford.*

Appendix V – Interview Guide

Interview Guide

Introduction:
- Introduce myself and explain the purpose of the study
- Review consent form and confidentiality
- Ask permission to record the interview
- Remind participant they can skip questions or stop at any time

Opening question:

"Can you tell me about your experiences accessing healthcare services, especially as they've moved more towards digital and video-based options?"

Key areas to explore:

1. Digital health experiences
- Experience with remote consultations
- Comfort level using technology for healthcare
- Challenges faced with digital health services
- What has worked well with digital health services

2. Intersectionality

"How do you think your age/language abilities/financial situation affects your experience with digital health services?"

"Can you tell me about a time when you felt your background or personal circumstances made it easy or challenging to use digital health services?"

3. Digital capital

"What kinds of technology do you have access to at home? How do you connect to the internet?"

"Can you walk me through how you would book a video consultation with your doctor?"

4. Corresponding fields model

"How do your financial circumstances affect your ability to access and use digital health services?"

"How does your family or community support you in using digital health services?"

"How do language or cultural factors influence your experience with digital healthcare?"

5. Healthcare relationships

- Changes in relationships with healthcare providers due to digital services
- Trust in digital healthcare
- Preferences for in-person vs digital care

6. Coping strategies and strengths

- How participant has adapted to digital health services
- Sources of support for using digital health tools
- Positive experiences or outcomes with digital health

Closing questions:

"Is there anything else you'd like to share about your experiences with digital healthcare that we haven't covered?"

"Do you have any questions for me?"

Demographic questions:

- Age
- Ethnicity
- Languages spoken
- Postcode (for Index of Multiple Deprivation score)
- Country of birth

Thank participant and provide information on next steps.

Appendix VI – Focus Group Guide

Focus Group Guide for User Persona Refinement Sessions

Introduction (5-10 minutes):
- Welcome participants and introduce myself
- Explain the purpose of the focus group: to refine and validate user personas derived from interview data
- Review confidentiality and ground rules for the session
- Obtain verbal consent for participation and recording

Overview of Personas (10 minutes):
- Briefly explain what user personas are and how they were developed
- Introduce the story map tools that will be used

Persona Review and Discussion (20 minutes per persona, 80 minutes total):
For each of the 4 personas:

1. Present the persona using the story map
   - Describe key characteristics, experiences, and challenges

2. Initial Reactions
   - "What are your initial thoughts about this persona?"
   - "Does this persona feel authentic based on your experiences?"

3. Relevance and Accuracy
   - "How well does this persona represent the experiences of this group?"
   - "Are there any aspects of this persona that don't ring true?"

4. Gaps and Improvements
   - "Is there anything important missing from this persona?"
   - "How could we improve this persona to make it more representative?"

5. Usefulness for Health Services
   - "How might this persona be useful for improving access to healthcare for this group?"
   - "What insights does this persona provide that could inform service design?"

6. Refinement
   - Make real-time adjustments to the persona on the shared Miro board based on feedback
   - Seek group consensus on changes

Break (10 minutes)

Overall Discussion (15 minutes):
- "Looking at all four personas together, do they capture the range of experiences we've discussed?"
- "Are there any major gaps or types of users not represented?"
- "How might these personas be used effectively by healthcare providers?"

Closing (5 minutes):
- Summarise key points and changes made
- Thank participants for their time and insights
- Explain next steps in the research process

Note to myself:
- Encourage all participants to contribute, especially patients/patient representatives
- Be prepared to provide context or examples if participants struggle to engage with the personas
- Pay attention to group dynamics, ensuring healthcare professionals don't dominate the discussion
- Be flexible with timing; if productive discussions are occurring, allow more time as needed

Remember to update the Miro board in real-time to reflect the group's feedback and to seek consensus on changes made to the personas.

Appendix VII – Ethnographic Field Notes

25/07 Redbridge- Woodford Pulmonary Rehabilitation Session Observation Notes

I walked up to the side of the church parish building at around 1:15 pm where a set of double doors were propped open and a man with a NELFT badge stood waiting for patients to come in. I had arrived 15 minutes early to scope out the place and chat with Gary, the Respiratory Integrated Health Care Assistant who ran the pulmonary rehabilitation session. We stood outside by his car and he introduced himself and explained how he runs these sessions at both 7 Kings and Woodford in Redbridge with patients who have been referred in for a 3 month rehabilitation programme. He seemed a little bit on edge and kept looking around to see if others were coming up the walkway or not. I thanked him for allowing me to come in and observe the session and he waved it off saying it was nothing. He then mentioned how he was glad I didn't come to the morning session here because none of the patients showed up which he was a little annoyed about. He went on to tell me how there were supposed to be 10 patients today participating in the session but currently there were only 4. He had made calls to all of them to follow up and ensure that they showed up but still only 4 came which seemed to be the root cause of his annoyance.



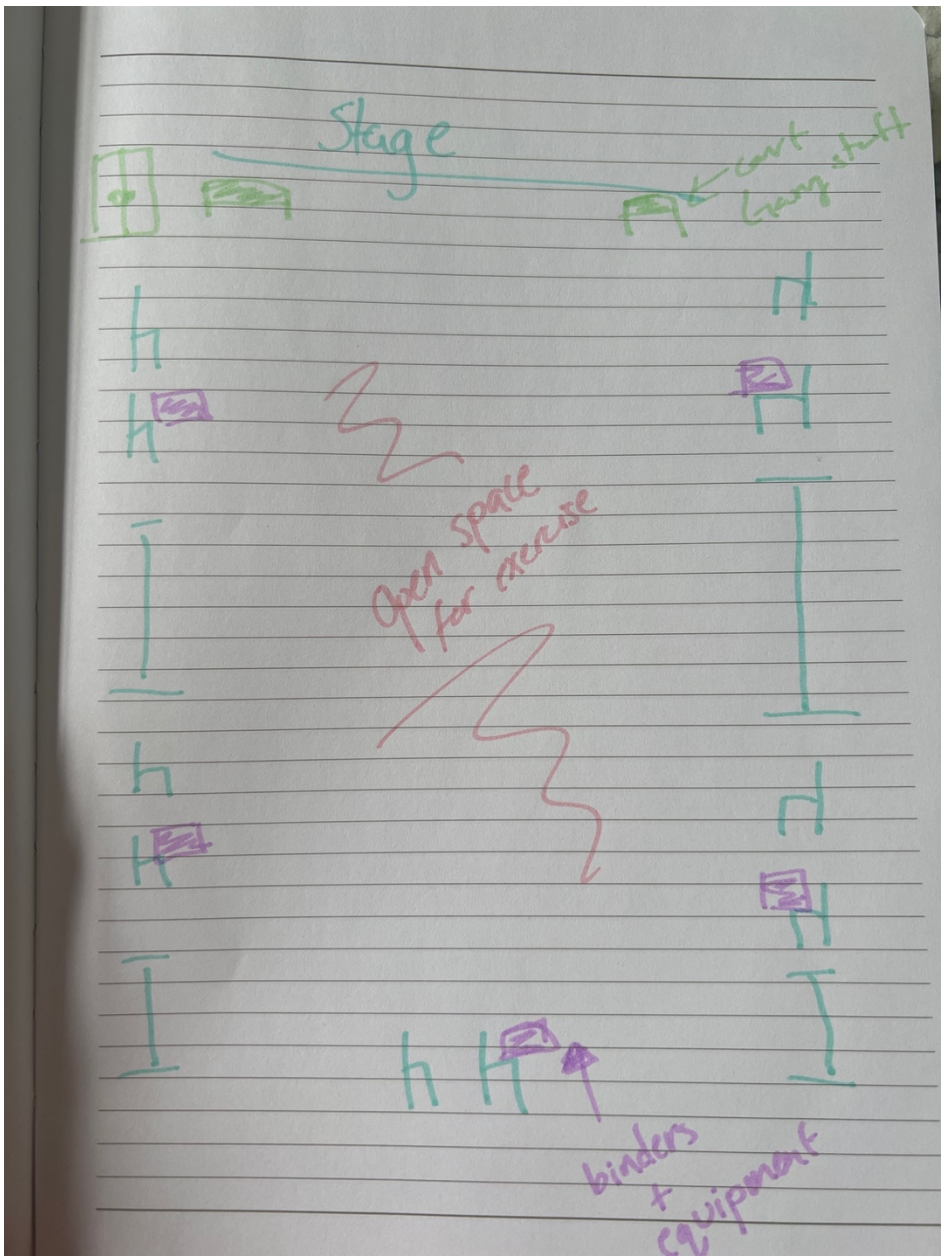
When I asked him why there were so many no shows, he shrugged and sighed saying that lately lots of patients have been dropping out, there's also a big staff shortage so the sessions sometimes get cancelled. At this point, Emma, the oxygen nurse came over and Gary introduced me to her. She told me how she was covering for a co-worker and running the session with Gary today. She led me inside to the hall where I passed by a table set up at the entrance with a few binders and baskets with various exercise tools (small weights, bands, etc).



The hall itself was quite large and open, at the front was a stage where Gary had his laptop and binders set up on one side. The other side of the stage had some of Emma's belongings and laptop.



The hall was set up so that there were two chairs next to each other, one holding the patients' binder and exercise equipment, the other for the patient to sit on. There was a three feet gap between each set of chairs and many of them were empty because of the no shows. I settled my bag and stuff down in one of the chairs and took out a box of biscuits, my notebook and pen and jotted some notes down about the setting and observed the patients settling themselves in. The patients were all elderly men, three were white and one was South Asian.



Gary spoke to me about the schedule of the session while setting up. The session usually lasts 90 minutes or so. There is an initial warm up for 5-10 minutes, followed by 45 minutes of pulmonary rehabilitation exercises that the patients follow along using their programme worksheet (as pictured below). During this time Gary and Emma walk around helping the patients with their various exercises and help them to note their progress in their binders. The patients will take breaks as needed and utilise the big space to walk around. After 45 minutes, Gary will lead a cool down and stretching routine which is followed by an 'educational' talk given by a nurse or Gary (basically whoever is running the session that day). The educational talks vary in terms of topic. The one today was about oxygen but previous ones included fatigue, chest pains, etc. Prior to starting the session, Emma walked around and took oximeter readings of the 4 patients and Gary introduced me to the group. I said hello and told the group I was a first year PhD student conducting research on digital health inequalities and virtual consultations. They were a friendly group- all smiles, one of them waved to me, they nodded along as I did my little spiel.

Gary turned up the upbeat music in the room using his laptop and initiated the warmup with the group and I took a seat and took some notes for a few minutes. Following the warmup, the guys started their own exercises while Emma walked around helping. Gary came up to me and we chatted some more. He showed me the different worksheets for the rehab exercises. One was for f2f sessions, one was purely for in home visits, and one was for the virtual sessions. I asked him about the differences between the virtual and face to face worksheets and he told me that there were two exercises that were switched out for the virtual visit. I inquired a bit more about this and he told me that originally, they had gone into the virtual sessions "blind" not knowing how to manage them but quickly realised what exercises would work vs which ones wouldn't. For example, the one with the TheraBand wouldn't be possible because most patients won't have that piece of equipment at home. So, they had switched the specific exercise out with leg extension instead because that one was easy to do at home without tools.

Home Exercises- Seated

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Hip marching
Sitting upright holding onto side of chair.
Lift 1 leg up with knees bent as high as comfortable.
Return back down and alternate legs.
Try for _____

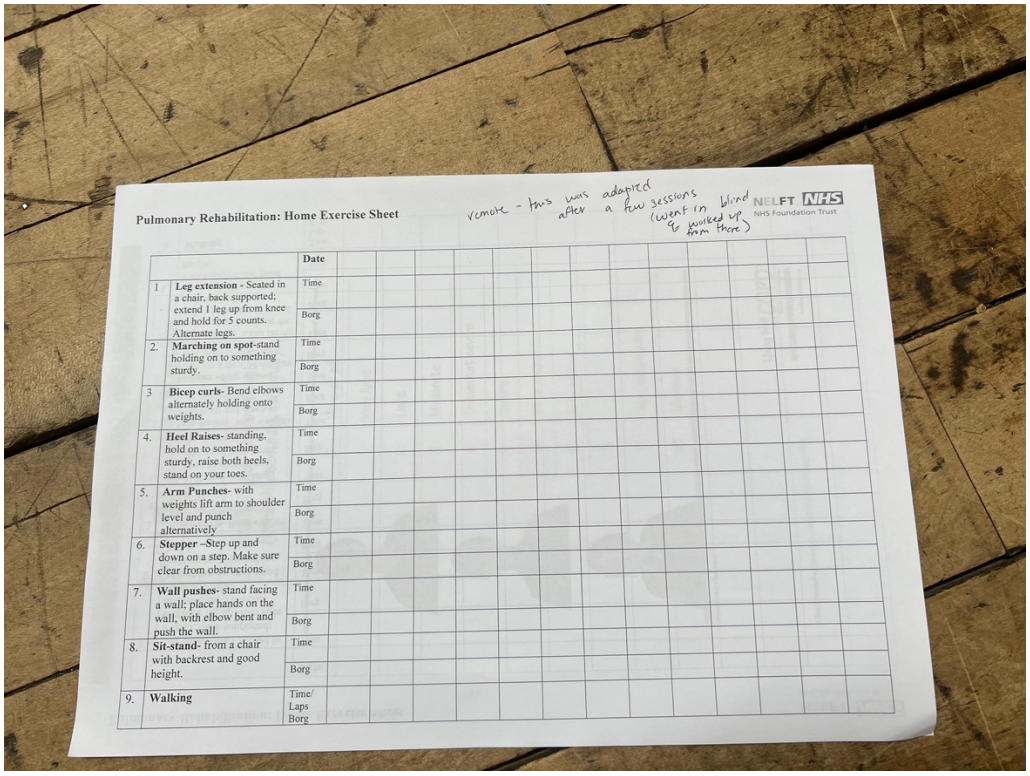
Bicep curls
Sitting with back against back rest.
Arms by side. Holding on to weight without lifting the elbow up, bring 1 weight towards body and lower back down.
Alternate arm for _____

Sit and reach
Sitting near the edge of the seat, bring 1 foot forward with toes pointing up. Inhale in.
Then exhale as you lean forward from hips reaching your hands down the stretched leg.
Repeat _____

Front raise
While sitting with back supported against back rest.
Holding weights down in front, raise 1 arm in front up to shoulder level and lower back down. Alternate with other arm.

Repeat _____

Virtual exercise sheet



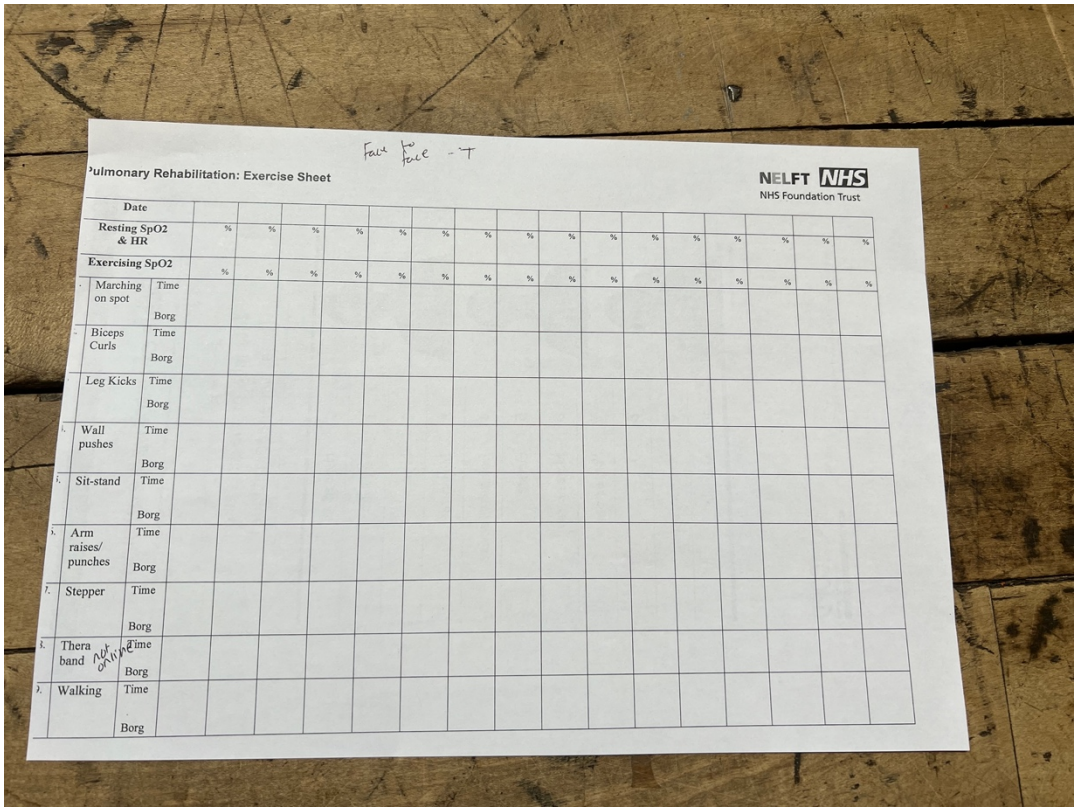
Pulmonary Rehabilitation: Home Exercise Sheet

remote - this was adapted after a few sessions (went in blind & worked up from there)

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NHS Foundation Trust

			Date													
1	**Leg extension** - Seated in a chair, back supported; extend 1 leg up from knee and hold for 5 counts. Alternate legs.	Time														
		Borg														
2.	**Marching on spot**-stand holding on to something sturdy.	Time														
		Borg														
3	**Bicep curls**- Bend elbows alternately holding onto weights.	Time														
		Borg														
4.	**Heel Raises**- standing, hold on to something sturdy, raise both heels, stand on your toes.	Time														
		Borg														
5.	**Arm Punches**- with weights lift arm to shoulder level and punch alternatively	Time														
		Borg														
6.	**Stepper** –Step up and down on a step. Make sure clear from obstructions.	Time														
		Borg														
7.	**Wall pushes**- stand facing a wall; place hands on the wall, with elbow bent and push the wall.	Time														
		Borg														
8.	**Sit-stand**- from a chair with backrest and good height.	Time														
		Borg														
9.	**Walking**	Time/ Laps Borg														

In person exercise sheet



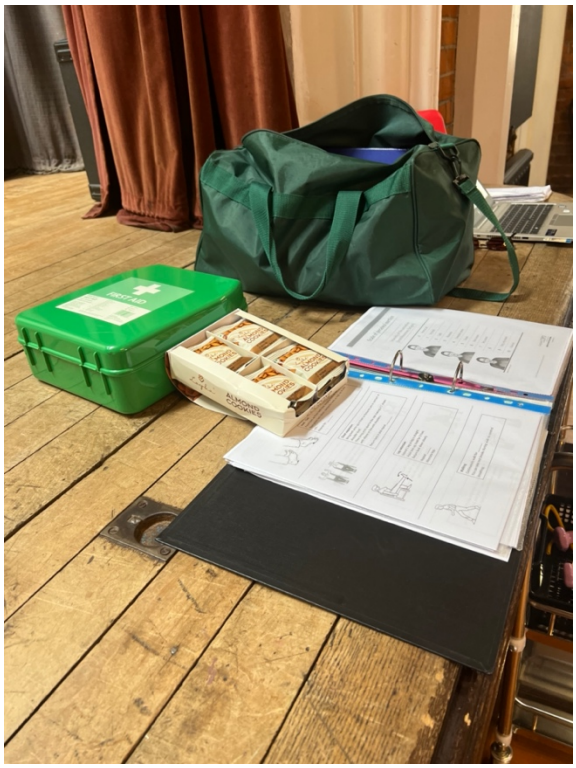
Pulmonary Rehabilitation: Exercise Sheet

NELFT NHS
NHS Foundation Trust

Date																		
Resting SpO2 & HR	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Exercising SpO2	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Marching on spot	Time																	
	Borg																	
Biceps Curls	Time																	
	Borg																	
Leg Kicks	Time																	
	Borg																	
Wall pushes	Time																	
	Borg																	
Sit-stand	Time																	
	Borg																	
Arm raises/ punches	Time																	
	Borg																	
Stepper	Time																	
	Borg																	
Thera band	Time																	
	Borg																	
Walking	Time																	
	Borg																	

Gary then showed me the schedule for the various sessions and told me about how they're mostly in person now following the pandemic. He said the virtual ones were still happening, but they were few and spaced out. When I asked who was mostly attending these virtual sessions, he said that it was patients who were more anxious and preferred the virtual. Some of them had mental health issues, others were just anxious about leaving their home, and others had a preference to be virtual. Still, the demand for them had gone down greatly and there was preference by both patients and many staff for face-to-face sessions. This included Gary but excluded Ram. Ram is the head of the Virtual Pulmonary Rehabilitation (VPR) programme and a big advocate for virtual consultations. Gary mentioned that Ram was one of the big reasons why the virtual sessions were still happening.

Gary excused himself for a few minutes and went to check up on the guys with Emma and I took a chance to make more notes and walk around the room and said hello to the guys and passed around some cookies that I had brought from home (pictured below).



During this time, I also spoke to Emma for a few minutes, and she told me about how she was an oxygen nurse who was on a mission to lose some weight, she walked up a down in the space in front of me while we talked so she could get her steps in. I asked her about if her work ever required her to do video consultations and she spoke about having to do telephone consults for follow ups with some of her patients but that she preferred not to do that. I asked her why that was the case and she told me how it was really hard to feel her patient's chest when they did the breathing test, how they didn't have the necessary equipment needed to check oxygen levels, etc. She said for her it mostly came down to being able to physically check her patients so even follow up appts she preferred to have in person. She said she knew a lot of healthcare providers who really liked virtual, like Ram, but she personally thought it was all about the type of health consult and having the 'right kind of patient' to do those with.

After chatting with Emma, Gary motioned for me to come by him and he showed me the patient binders they used where each binder carried some equipment for the patients including stress balls, TheraBand, small weights, stopwatch, etc. (Picture below)



As Emma was now helping the group, he settled more comfortably with his back against the stage wall and asked me if I had any questions in particular for him. I offered him some cookies which he took, and I asked him to tell me about what the virtual pulmonary rehabilitation sessions were like. He told me how they were surprisingly really popular during covid times to the point where they would have two back-to-back sessions with 7 participants each in a day. The way they would do it is they would have one 45 min exercise session online and at the point where the educational talk would start, they would invite the next group of patients into the main zoom room so that both groups could listen to the educational talk at the same time and this would be more convenient because the person giving the talk wouldn't have to give it twice. And then following the educational talk, they would have the first group of patients end the call and continue the exercise session for the second group. Gary spoke about how this set up worked quite well and it was all a learning process especially when the 'incident' happened. My ears perked up under my hijab at the sound of a story coming on and I asked Gary to tell me about the 'incident'.

The incident had to do with a woman collapsing in the middle of an online pulmonary rehabilitation session that was being run by Gary and Ram. The woman was complaining about heart flutters and something in the middle of the online session and was told to take it easy. But since it was online and her screen was small, they couldn't really see her that well to assess her

physically. She continued doing the exercises and ended up collapsing while on zoom. At this point Gary and Ram split up and Ram managed the rest of the group while Gary quickly put the lady into the waiting room of the online call and called 999. While on the phone with 999 he continued messaging the woman separately on zoom and she messaged back saying she was conscious but had collapsed and couldn't get up. Gary spoke about how it was fortunate that she wasn't unconscious and was able to message him while he got her the help she needed. He sent the ambulance to her home and they were able to take her from there but Gary spoke about how this incident taught him and Ram a lot. The insights he gained from this included the importance of always having two people run the online sessions so that one could handle the logistics and be there in case of any emergencies. The other insight was around the importance of being more cautious during online sessions as you cant physically see the patient so you have to make sure they don't over exert themselves and maintain communication with each participant in the group since you can't always rely on the little screen to show you everything.

Gary spoke about how the incident didn't stop the online sessions from taking place, and he felt that the popularity of them may have had something to do with people feeling isolated at home during covid and wanting company (even if it meant that it was through zoom for a pulmonary rehabilitation class). It could've also had to do with having more time during covid, less obligations since you're in lockdown, etc.

Our chat was interrupted by Martin, one of the guys, needing help with his weights. As Gary went to help him, I noticed Rasheed, taking a break on the chair to my right. I took the opportunity to pull up a chair and next to him and introduce myself. I handed him a flyer about my study and briefly explained my work. He seemed interested and I asked him if he'd done a video consult before. Rasheed had a bit of an accent, and it was quite obvious English wasn't his first language which made it a little difficult to understand what he was saying but from what I gathered, I think he said he had a couple of video consults over the past few months for various different health concerns. I asked him a little bit about himself and learned that his dad was from Mauritius and grandparents from India, he had a daughter in healthcare who seemed to help him a lot and he lived nearby.

He started telling me about how his daughter likes to attend his consults with him but she's not able the in-person ones usually. But when they're online she'll sit with him and talk to the GPs, which he finds really helpful because he doesn't understand all the health terms used and a lot of what the GP says. He laughingly told me about how during one of his video consultations, his daughter, son and half the family were in the room with him all having a conversation with the GP about his condition.

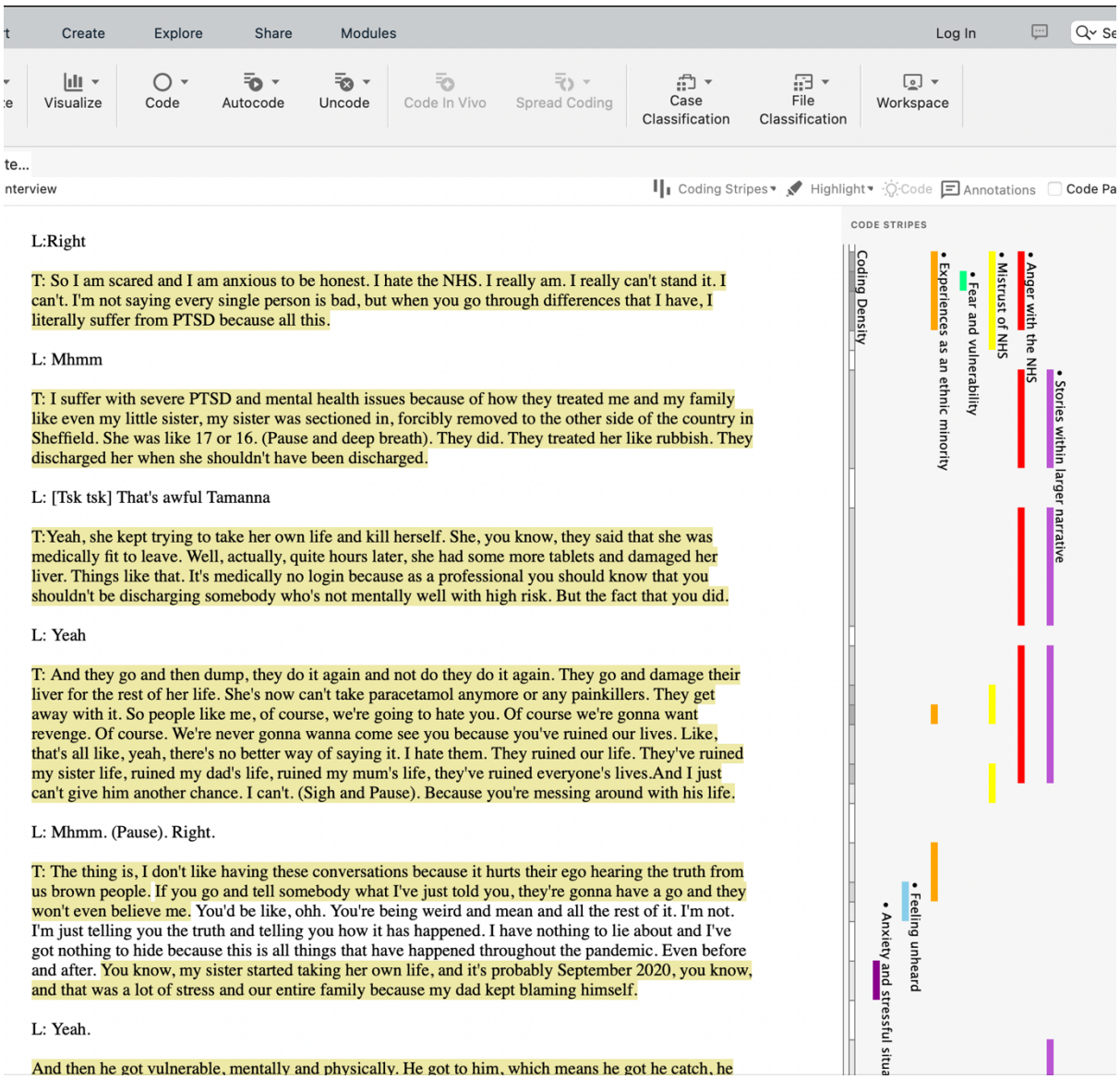
I asked him if he would be interested in doing an interview with me and pointed out the section of my recruitment flyer specifying the inclusion criteria. He started nodding and said "sure, why not" and I internally cheered at having found my first interviewee for the study.

I took the win and proceeded to walk around the room and chatted with the other men, but the others never had any video consultations. Martin had some follow up telephone consultations, but we didn't get much of a chance to really talk as the cool down period was about to start.

Gary led the cool down period with various different kinds of stretches on the chair which I decided to participate in as well. After stretching, Emma asked us all to bring our chairs closer

into a circle so she could start the educational talk. She started off the talk by asking everyone what they knew about oxygen to which the guys all gave titbits of information on including “it’s a very reactive element” and “we need it to survive”. She spent 15 or so minutes talking about oxygen in relation to pulmonary rehabilitation and took questions from the participants throughout her talk. Towards the end, two of the guys took their leave and waved goodbye before heading out the side door. Emma wrapped up her talk and Gary informed the remaining two men that the session next week had been cancelled due to staff shortage and that the next session would be the following week. Martin exclaimed that he would not be able to make that session because his son would be with him and he only had him for a few days. Gary empathised and said that he would be in touch about the other sessions later. After all the patients had left, Gary and I conversed about next steps for my study. I asked him if I could observe the online virtual pulmonary rehabilitation session and he said yes of course and that he would let me know when the next online one would run as it could be a few weeks from now. He also spoke about how he had several patients in mind who would be great candidates to interview. I waited for Emma and Gary to pack up their belongings and we all headed out together close to 4 pm. I thanked them again for allowing me to sit in on the session and they wished me luck with the study. I walked for a bit and found a nearby bench to sit on and jotted down my thoughts while they were fresh in my head. Later that day, I followed up with a thank you email to Gary.

Appendix VIII – NVIVO Coding Excerpt



L:Right

T: So I am scared and I am anxious to be honest. I hate the NHS. I really am. I really can't stand it. I can't. I'm not saying every single person is bad, but when you go through differences that I have, I literally suffer from PTSD because all this.

L: Mhmm

T: I suffer with severe PTSD and mental health issues because of how they treated me and my family like even my little sister, my sister was sectioned in, forcibly removed to the other side of the country in Sheffield. She was like 17 or 16. (Pause and deep breath). They did. They treated her like rubbish. They discharged her when she shouldn't have been discharged.

L: [Tsk tsk] That's awful Tamanna

T:Yeah, she kept trying to take her own life and kill herself. She, you know, they said that she was medically fit to leave. Well, actually, quite hours later, she had some more tablets and damaged her liver. Things like that. It's medically no login because as a professional you should know that you shouldn't be discharging somebody who's not mentally well with high risk. But the fact that you did.

L: Yeah

T: And they go and then dump, they do it again and not do they do it again. They go and damage their liver for the rest of her life. She's now can't take paracetamol anymore or any painkillers. They get away with it. So people like me, of course, we're going to hate you. Of course we're gonna want revenge. Of course. We're never gonna wanna come see you because you've ruined our lives. Like, that's all like, yeah, there's no better way of saying it. I hate them. They ruined our life. They've ruined my sister life, ruined my dad's life, ruined my mum's life, they've ruined everyone's lives.And I just can't give him another chance. I can't. (Sigh and Pause). Because you're messing around with his life.

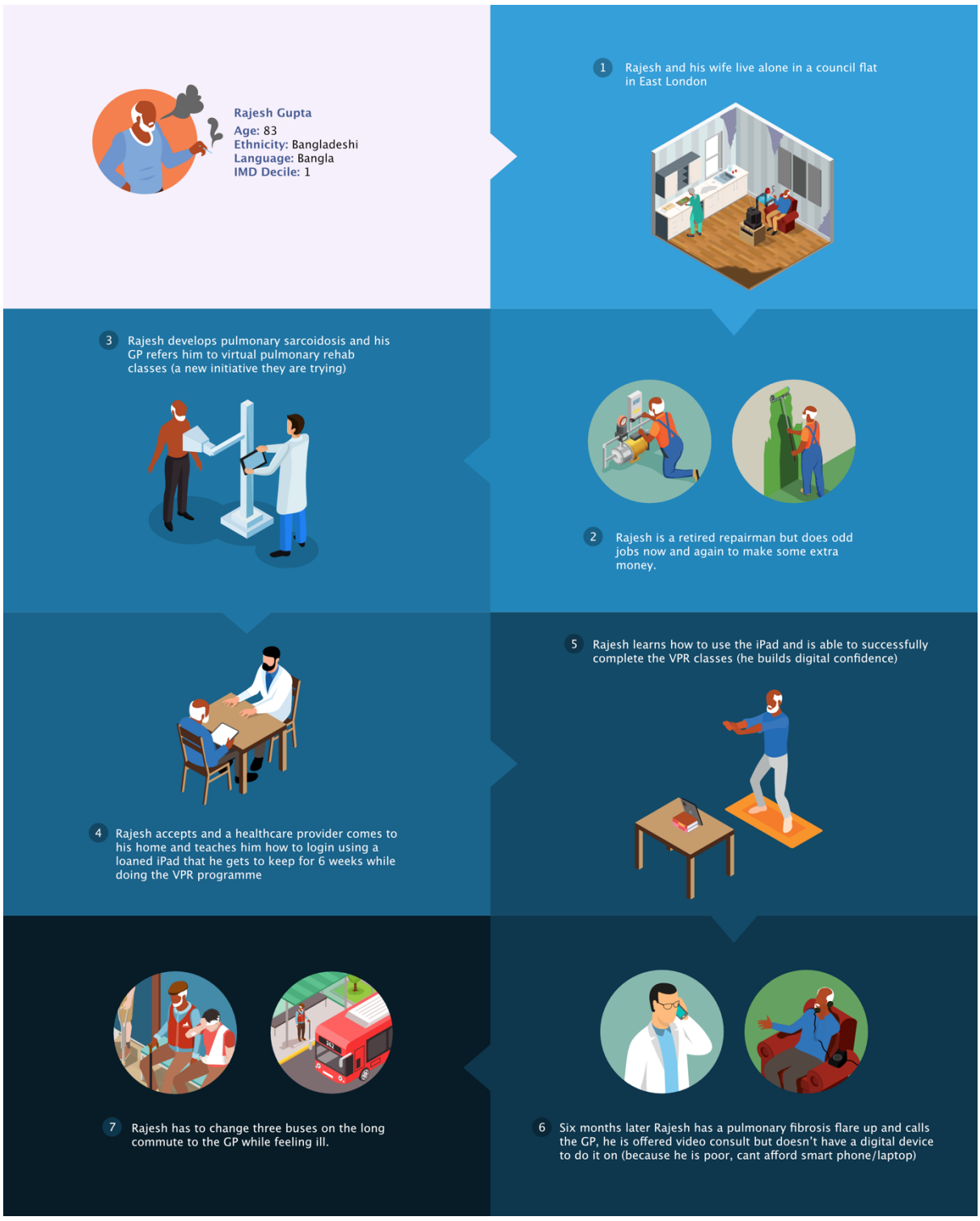
L: Mhmm. (Pause). Right.

T: The thing is, I don't like having these conversations because it hurts their ego hearing the truth from us brown people. If you go and tell somebody what I've just told you, they're gonna have a go and they won't even believe me. You'd be like, ohh. You're being weird and mean and all the rest of it. I'm not. I'm just telling you the truth and telling you how it has happened. I have nothing to lie about and I've got nothing to hide because this is all things that have happened throughout the pandemic. Even before and after. You know, my sister started taking her own life, and it's probably September 2020, you know, and that was a lot of stress and our entire family because my dad kept blaming himself.

L: Yeah.

And then he got vulnerable, mentally and physically. He got to him, which means he got he catch, he

Appendix IX – Rajesh Story Map



Appendix X – Saima Story Map

Saima Mirza



Age:78
Ethnicity:
Pakistani
Language:
Urdu (LEP)
IMD Decile: 3

Miscommunication and a lack in continuity of care has led to Saima's mistrust in the healthcare system resulting in a failed video consultation and delayed cholecystectomy.

Expectations

Continuity of care→Relationship building→Trust→Willingness to do a video consultation

1 Saima, her husband and two sons move from Pakistan to the uk.



2 A much older Saima falls into depression (loss of purpose in life after kids grow up + not being able to adjust to a different way of life in the UK).



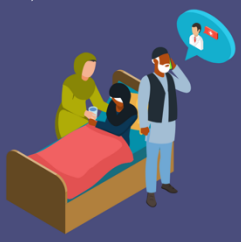
3 Saima has a few friends from her local mosque but her social circle is mostly back in Pakistan whom she stays in touch with through Whatsapp.



4 Saima has multiple health concerns and ping pongs between various GP's in person (no continuity of care) who diagnose her with arthritis, hypertension, and diabetes.



5 Covid strikes and Saima has intense bouts of stomach pain. She has multiple phone consultations (done by her husband on her behalf). But her issues are written off as a stomach bug.



6 Saima's frustration and mistrust with the NHS is at an all time high. She thinks back to when she had one family doctor in Pakistan who "cared and listened" to her needs.



7 Saima is offered a video consultation which she refuses due to previous negative experiences with remote care. A few weeks later she ends up in A&E needing an emergency cholecystectomy



Appendix XI – BJGP Publication

Research

Developing user personas to capture intersecting dimensions of disadvantage in older patients who are marginalised:
a qualitative study

Laiba Husain, Teresa Finlay, Arqam Husain, Joseph Wherton, Gemma Hughes and Trisha Greenhalgh

Abstract

Background

Remote and digital services must be equitable, but some patients have difficulty using these services. Designing measures to overcome digital disparities can be challenging for practices. Personas (fictional cases) are a potentially useful tool in this regard.

Aim

To develop and test a set of personas to reflect the lived experiences and challenges that older people who are disadvantaged face when navigating remote and digital primary care services.

Design and setting

Qualitative study of digital disparities in NHS community health services offering video appointments.

Method

Following familiarisation visits and interviews with service providers, 17 older people with multiple markers of disadvantage (limited English, health conditions, and poverty) were recruited and interviewed using narrative prompts. Data were analysed using an intersectionality lens, underpinned by sociological theory. Combining data across all participant interviews, we produced personas and refined these following focus groups involving health professionals, patients, and advocates (n = 12).

Results

Digital services create significant challenges for older patients with limited economic, social, and linguistic resources and low digital, health, or system literacy. Four contrasting personas were produced, capturing the variety and complexity of how dimensions of disadvantage intersected and influenced identity and actions. The personas illustrate important themes including experience of racism and discrimination, disorientation, discontinuity, limited presence, weak relationships, loss of agency, and mistrust of services and providers.

Conclusion

Personas can illuminate the multiple and intersecting dimensions of disadvantage in patient populations who are marginalised and may prove useful when designing or redesigning digital primary care services. Adopting an intersectional lens may help practices address digital disparities.

Keywords

aged; digital disparities; digital equity; digital healthcare; focus groups; primary care.

Introduction

The shift to remote and digital forms of health care is dramatically changing the landscape of UK primary care. This requires practices to find ways of ensuring that nobody is disadvantaged. But older people in particular can have problems accessing such services, especially when they are disadvantaged and have complex needs.[1–6]

A recent literature review by our team found multiple studies that showed that certain subgroups such as older, poor, minority ethnic groups and those with disabilities were less able to access remote and digital health services.[7–11] Older age, low socioeconomic status, ethnic minority status, and low digital or health literacy all contributed additively to lower rates of telehealth use,[8,12–15] findings that align with the literature on the cumulative effect of social determinants (for example, poverty, poor housing, lack of educational opportunity, racism, and discrimination) on health generally.[16–20] Some scholars have proposed that access to broadband should be considered a new social determinant of health as so many services now require digital access.[21] Some studies have proposed lists of 'barriers' (for example, device and skill shortages) and 'facilitators' (for example, skill training) to inform approaches to enhancing access for disadvantaged groups;[22] however, such recommendations may overlook the complexity and pervasiveness of structural disadvantage. Indeed, there is some evidence that well-intentioned approaches built on a 'deficit' model (that is, one that assumes that digital disparities can be rectified through specific interventions aimed at individuals' lack of devices, connectivity, skills, and confidence, for example) may inadvertently worsen digital disparities.[23]

A more fruitful approach, which reflects the theoretical literature on

How this fits in

Equity is an important core value in primary care, but meeting the needs of patients who are multiply disadvantaged is increasingly difficult as services become more digitised. User personas (fictional cases based on empirical data that draw together and illustrate the multiple intersecting elements of disadvantage) could help practices better plan for the needs of disadvantaged groups.

intersectionality (the notion that multiple markers of disadvantage combine in any individual to give a singular and unique lived experience),[24] is to undertake detailed qualitative research into how people experience disadvantage and then design (and, preferably, codesign) services that take account of that experience. Our review showed that few such studies yet exist.[9] There is thus an important gap in the literature to explore the lived experience of digital disparities from the perspective of the patient who is disadvantaged.

User personas are fictional but representative profiles that encapsulate different segments of a target population.[25] They serve as design tools or guiding archetypes that providers can use to develop a more nuanced understanding of a group's needs, improve the delivery and coordination of care, and help ensure culturally competent, patient-centred care.[26] They have been widely used in digital exclusion work beyond health care[27,28] and in health care to map user journeys,[29–32] but there is little published literature on their use by healthcare providers to understand and address digital health disparities in marginalised groups. This study aimed to address this gap.

Our research questions were:

1. how do older people with multiple markers of disadvantage experience remote and digital health care? And
2. can these varied experiences be synthesised in user personas in a way that informs the design of more equitable services?

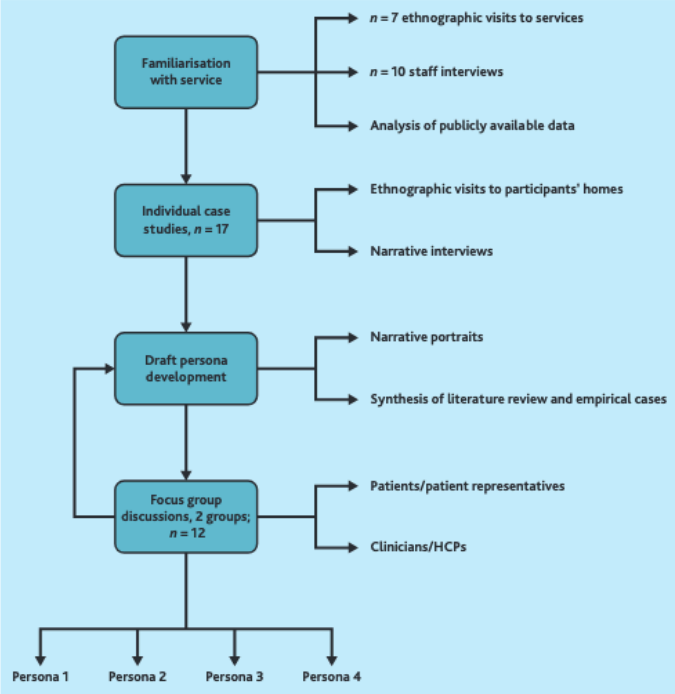


Figure 1. Study flowchart. HCP = healthcare professional.

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Method

Governance

This work is part of a PhD by the first author, funded by The Healthcare Improvement Studies Institute and linked to a wider programme of work on remote health care.[33]

The methods are summarised in Figure 1 and described below.

Study site and familiarisation

Familiarisation visits were conducted across seven services in North East London and encompassed staff interviews and analysis of publicly available data to evaluate their suitability as study sites. This evaluation process checked for key criteria including the service's engagement with remote consultations, location in a low-deprivation area, patient population diversity, and high proportion of older residents. This process led to the study site selection of a respiratory service in Redbridge who were trialling a pulmonary rehabilitation programme that included virtual consultations over Zoom. This meant that, unusually, video consultations were being offered to patients who were mostly older, first-generation immigrants and of low income, as well as chronically unwell. Those who could take part were loaned a

device with internet access. Through staff at this service, other services (clinical health psychology) and community organisations (Age UK and Healthwatch) joined the study and supported recruitment of participants.

Sample selection and recruitment

In total, 17 participants were selected using purposive sampling based on the following inclusion criteria: aged ≥65 years, living in a locality with an Index of Multiple Deprivation score of 1–2 (indicating they live in localities facing the highest levels of socioeconomic deprivation), had chronic health condition(s), and spoke limited English but were able to converse in a language spoken by the researcher (Hindi, Bangla, or Urdu). Potential participants were first approached by a staff member known to them and invited to consider the study. Those who showed interest were telephoned by the researcher who explained the study in their preferred language before seeking informed consent to participate.

Data collection

Participants were visited at home. In-depth narrative interviews were conducted in the participant's preferred language and lasted 60–120 min. The format was narrative — participants were asked to tell their story in chronological order, using open-ended questions to elicit in-depth responses. Topics covered included their health conditions and experiences, accessing healthcare services and technology, and remote consultations. Many participants also chose to talk about their families, culture, and experiences of immigration. Contemporaneous field notes were made.

Theoretical approach

We drew primarily on Crenshaw's theory of intersectionality which holds that systems of oppression are inherently bound together thus creating singular social experiences for people who bear the force of multiple systems.[24] In relation to health disparities, for example, intersectionality relates to *'intersections of individuals' multiple identities within social systems of power that compound and exacerbate experiences of ill health'*,[34] thus recognising that health is shaped by a multidimensional overlapping of factors such as race, class, income, education, age, ability, sexual orientation, immigration status, ethnicity, indigeneity, and geography. An individual's experiences are understood in relation to their identity (the multiple ways they present themselves to others, such as being Muslim), positionality (the multiple social positions they occupy, such as being a wife and/or mother), and oppression (the multiple socio-structural oppressions they encounter, such as discrimination).

Data analysis and persona construction

Interviews, often conducted in both English and the participant's native language, were translated and transcribed verbatim by the first author. Any non-English segments were first translated into English, whereas 'broken English' was transcribed as-is, if the meaning was clear. To maintain narrative sequence, the transcripts were minimally restructured, ensuring a coherent storyline.

The collected data were organised using NVivo (Version 1.6.2) and analysed thematically with attention to narrative (life story) and feminist (for example, societal power structures) perspectives. This involved identifying patterns and themes in the participants' responses and coding the data into categories. For example, the quote *'I don't know how any of this works. Aamir takes care of all this booking my appointments, he does it online, I don't know how to do any of it. It's very confusing. I get scared to do it myself'* was initially coded as: relying on family member for digital tasks (code 1) and lack of confidence with technology (code 2). These codes were grouped into the category 'loss of autonomy'. From an intersectional lens, this category reflects diminished agency because of facing multiple axes of disadvantage (for example, poverty, low system literacy, and cultural gender roles). The thematic data were then reconstructed into narrative portraits that interwove the key experiences, challenges, and perspectives described by participants. This approach was used to preserve the focus on the individual both in analysis and in how findings were reported. To that end, the first author explored different and creative ways of summarising, representing, and reconstructing participant narratives (for example, pictorially as personas and as written stories).

In constructing the personas, the underlying themes were carefully analysed and integrated, ensuring that they accurately reflect the lived experiences and challenges of the individuals represented. For the scope of this study (the central focus of which is the persona methodology), we opted to present selected qualitative findings mainly in the form of narrative personas. More detailed qualitative findings will be presented in a separate study. The persona development served dual purposes: as an analytical approach to understand and interpret the interacting themes and intersections, and as a means of communicating and discussing these themes with users and stakeholders.

Focus groups

Two focus group refinement sessions were conducted with a total of 12 healthcare professionals, patients, and patient representatives. The first author facilitated the groups, introducing the personas alongside a narrative of their personal and health history, and invited feedback and insights. Participants were encouraged to ask questions about the personas and the discussion flowed naturally from the questions with minimal interference from the facilitator. Both focus groups lasted for almost 2 h. An important goal of these sessions was to ensure that provider and advocacy perspectives were incorporated into the development of the personas, increasing the probability that stakeholders would find them useful.

Results

The 17 participants were aged between 65 and 87 years; all were first-generation immigrants from South Asian countries (Pakistan, Bangladesh, Nepal, Afghanistan, and India). They lived in modest accommodation (Index of Multiple Deprivation decile range 1–2), typically a rented flat with a multigeneration family. All explained that they had difficulty accessing services and struggled in various ways with remote encounters and video consultations in particular, even though they had been loaned a digital device. The ethnographic home visits further revealed meaningful context about the participants' realities including cramped living conditions, tangible markers of cultural heritage, and dynamics of multigenerational cohabitation.

We generated four user personas to capture the variety of identities, positionalities, and oppressions in our

sample. Box 1 shows the narrative portrait of one of these, Saima, a (fictitious) user persona. Figure 2 shows the same persona in the pictorial form we used to prompt discussions in the focus groups.

As Saima's story illustrates, the persona combines age, gender, socioeconomic status, ethnicity/race, digital ability, and other contributors to digital disadvantage, and helps explain how these intersecting influences serve to restrict access or complicate care. Three additional personas are provided in Supplementary Figures S1–S3.

The focus groups found the personas realistic and engaging. Introducing them brought focus to the discussion and encouraged participation. Discussions were often triggered by questions that participants asked about the scenarios encountered by the persona. Patients and patient advocates tended to relate to the persona by sharing their own experiences and stories.

In the sections that follow, we consider some recurring themes from our data that have significant implications for the design (and redesign) of remote and digital solutions.

Digital services disorient patients

Attempting to access and use digital services often engendered a profound sense of disorientation among participants. Traditionally, patients had traversed a familiar and well-defined path characterised by scheduled appointments and in-person visits to their known primary care provider. They now found themselves grappling uneasily with the intricacies of the multimodal pathways and processes of a digitised service. All patients felt disoriented to some extent in the digital environment, but those at multiple disadvantage (in our sample, older adults, low income, limited English proficiency, unwell in various ways, and experiencing racism and discrimination) felt it especially acutely. Their digital skills and experience were usually limited and they found it difficult to articulate their concerns or symptoms effectively. The additional challenges described in the sections below further contributed to an overwhelming sense of isolation and disorientation, exacerbating the feeling of being 'lost at sea' amid the digital expanse.

Digital services disrupt continuity

Participants in our sample felt troubled seeing unfamiliar clinicians for the first time in the digital environment (see the 'strange floating face' in Saima's example, Box 1). In contemporary digitised services, traditional continuity (in which a single clinician supports the patient holistically through their illness trajectory) is difficult to achieve and rarely found. Instead, there is (at best) 'distributed continuity', in which various services and providers contribute elements of care that are recorded on a shared patient record.[35,36] But although the electronic record may

Box 1. Narrative portrait of user persona Saima

Saima is 72 years of age; she has lived in the UK for 40 years. She and her husband moved from Pakistan with their two young boys in 1983 in search of a better job for him. She sees herself simultaneously as an older person, a mother, a wife, and a Pakistani Muslim woman. Although Saima was reluctant to move, she put aside her feelings but never fully adjusted to life in the UK. As her children grew up and moved away Saima felt a significant loss of purpose in her life. Her mental health and (subsequently) her physical health declined and she developed hypertension, arthritis, diabetes, and an inflamed gallbladder:

'I wouldn't call this place [UK] *home. As a mother and wife, I did what was best for my family and moved at the time. But now the children have grown up, my days are empty and I am always sick here. It's all catching up to me in my old age.'*

Following her husband's death, Saima moved in with her eldest son and his family. This transition brought both relief (easing of financial pressure) and a sense of cultural fulfilment, as there was an expectation for eldest sons to assume responsibility for their ageing parents. However, it also had an unintended consequence: she became reliant on her son, Aamir, for all her needs. Saima found herself becoming a passive participant in her own healthcare journey, with Aamir taking charge of booking appointments, speaking to healthcare providers, and making decisions on her behalf. With the onset of the COVID-19 pandemic, Aamir quickly adapted to digital ways of working (e-consults, telephone consultations, and video appointments) to ensure his mother's healthcare needs were met efficiently. But Saima felt overwhelmed and disconnected from these technological modes of access. She had always relied on visits to her familiar family doctor and liked to take traditional herbal remedies. The sudden shift to a technologically driven healthcare system made her feel even more detached from her own treatment plan:

'I don't know how any of this works. Aamir takes care of all this booking my appointments, he does it online, I don't know how to do any of it. It's very confusing. I get scared to do it myself.'

With Aamir by her side, Saima did have a video consultation with her GP a few months ago, but it left her feeling disillusioned. As she was used to seeing her familiar GPs in her local practice before the pandemic, she felt unnerved seeing a strange floating face on her son's laptop asking about her arthritic knee. The Wi-Fi connection was unstable, causing lapses in communication and she did not recall any small talk or pleasantries exchanged. The exchange left Saima feeling upset and disconnected:

'He [the GP] *didn't even look at me. No one tells me what's happening. The GP talks fast, I cannot understand … they are not interested in discussing with me — after all, who am I?* [laughs].'

Saima's long-standing reliance on a known GP, alongside her limited digital literacy, preference for traditional remedies, and cultural taboos surrounding mental health, combine to present substantial obstacles for her in adapting to a technology-driven service with an unfamiliar GP:

'… I don't even know my doctor's name. How can I trust someone I don't even know?'

Over time, these and other factors have led Saima to mistrust the healthcare system. She is reluctant to engage in remote consultations or have any involvement with the NHS. Previously, Aamir would accompany Saima to her face-to-face appointments and she would have an opportunity to see and talk to nurses and GPs. The shift to remote has made her feel misunderstood, disconnected, and inadequately cared for:

'Why should I see some random GP, they don't know what I need, I know what I need, they think I have some different issue but it is just my BP [blood pressure] *going high. I can fix it* [with herbal remedies], *I don't need treatment.'*

create a more or less coherent digital facsimile of the patient experience that allows different staff members to perceive continuity, from the patient's perspective the input of multiple providers is experienced as fragmented care, exacerbating their sense of loss and bewilderment.

Digital interactions may have weak presence

Although the convenience of video consultations was appealing to some participants, the downside was a sense that their provider was not fully present. They described feeling 'disconnected' from their clinician, making information exchange and shared decision making difficult. During video consultations, some patients could not discern if clinicians were looking at them, leading to perceived uninterest. A lack of affirming gestures such as head nodding and smiling also contributed to a weak presence. Some felt they had been abandoned by their providers despite a technically successful remote consultation. Several used the expression 'better than nothing' to describe their video encounters, conveying the sense that much of importance (a sense of human connection, rapport, and attention) was missing. Several participants described the video consultation as impersonal, and, like Saima, perceived the clinician as not interested in understanding their concerns.

Digital encounters do not strengthen relationships (and may weaken them)

Even when participants in our sample had successive video consultations or other remote interactions with the same provider, they rarely developed a sense that they were building a strong and positive therapeutic relationship. In contrast with the face-to-face environment, in which the patient–provider relationship is usually strengthened with each successive encounter, this strengthening did not appear to occur with virtual encounters. Indeed, some participants described a worsening of their relationship over repeated virtual encounters (unless preceded with face-to-face encounters).

Digital services reduce the patient's sense of agency

Several participants described profound feelings of disempowerment when interacting in the virtual environment.

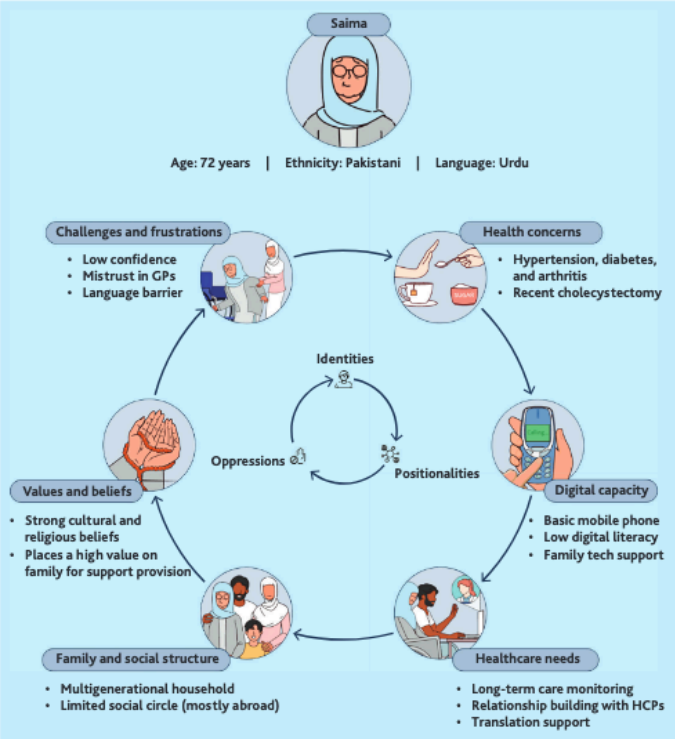


Figure 2. Saima user persona. HCP = healthcare professional.

Saima's narrative illustrates this (see quote beginning *'He* [the GP] *didn't even look at me'* in Box 1). All clinician–patient relationships are characterised by unequal power distribution, since the clinician has greater professional knowledge and holds ultimate control over decisions (for example, whether to prescribe or refer), pace (how quickly the conversation runs), and time (when the consultation will end). This power imbalance appeared to be magnified in the digital environment, sometimes to the extent that the patient who was disadvantaged felt complete absence of agency and only engaged with care passively, if at all.

As illustrated by Saima (Box 1), this sense of disempowerment appeared to stem from a number of interacting influences including disorientation and inability to navigate the system, unfamiliarity and disconnection from healthcare providers, limited understanding of the language, the fast-paced nature of consultations, and a perception that the provider was not interested in their thoughts and opinions. Some also felt disempowered when family members, often male, took over during the consultations. Uneasiness with using the technology also contributed, especially if there was inadequate support from family to set it up and ensure it was functioning as the consultation unfolded.

Digital services increase mistrust of health services and providers

As Saima's narrative (Box 1) illustrates, the disorienting and fragmented nature of remote interactions, weak sense of presence, loss of personal relationships, and (for many) a sense of disempowerment, along with lack of cultural congruence and (in some cases) perceived racial discrimination, seemed to combine to erode the person's trust in both individual providers and the system as a whole. In many cases, this fed into an escalating cycle of disengagement with services. Many participants commented that trust was essential for establishing a strong therapeutic relationship and

ensuring positive healthcare experiences (both virtually and otherwise). Without it, effective care would not result.

Suggestions to improve digital services

Participants had many suggestions to improve services in a way that reduced disorientation, improved continuity, increased the sense of presence, strengthened relationships with their provider, reduced feelings of disempowerment, and increased trust.

Although many found the virtual environment inherently alienating, they also felt that its challenges could be at least partially overcome through communication, including the provider stating their name, listening attentively, providing clear explanations, and using interpreters or bilingual health advocates when necessary (partly to help with language but also to restore, at least partially, the patient's sense of agency). Participants also exhorted providers to humanise the virtual encounter by establishing a sense of connection and empathy through active listening, positive body language (for example, smiling), and genuine recognition of patients' unique needs and perspectives.

Other suggestions included seeing the same (known) provider as much as possible, ensuring adequate technical connection and support, allowing sufficient time to progress the consultation at the patient's pace, ensuring that the patient's concerns are surfaced and addressed, and involving them in discussions and decisions.

Discussion

Summary

This qualitative study involving interviews, ethnographic observations, and focus groups highlights how remote and digital services can create significant challenges for older patients with multiple markers of disadvantage. Using an intersectional lens we have shown how limited economic, social, and linguistic resources; social and cultural isolation; perceived racial discrimination; low digital, health, or system literacy; and impairments as a result of physical illness and advanced age combine and reinforce one another as individuals attempt — with varying success — to access and receive care through digital modalities. Four contrasting personas were produced, which captured the variety and complexity of how dimensions of disadvantage intersected and influenced identity and actions. The personas illustrated important themes, including a widespread sense of disorientation (and, hence, inability to navigate the system), fractured continuity, limited presence, weak relationships, loss of agency, and a growing mistrust of services and providers.

Broadly speaking, the more markers of disadvantage an individual had, the more difficulty they faced navigating the 'digital front door' and remote consultations. For some, the combined effect of profound disorientation, loss of interpersonal relationships and continuity of care, and loss of trust in particular providers and the system led to a cycle of disengagement. This deterred them from seeking health care or engaging in treatment plans at a time in their lives when such care was greatly needed. Although our study was not designed to examine long-term outcomes, this is likely to result in a compounding of the inverse care law, in which patients most in need of health care are least likely to receive it.

Strengths and limitations

The main strength of this study is the use of an intersectional lens, underpinned by theory, to produce personas based on a detailed exploration of the lived experiences of a sample of older patients with multiple markers of disadvantage. A multilingual researcher working closely with community-based provider organisations was able to access a group of service users at the margins, whose 'subjugated knowledges' have historically been devalued, misinterpreted, excluded, or trivialised, and who have rarely been represented in research.[37]

The main limitation is that the sample was relatively narrow and homogeneous: first-generation South Asian immigrants to the UK who were older adults. Although our method for generating personas is likely to be generalisable to other disadvantaged and marginalised groups, the specific findings are not. A limitation thus far is that the personas have not been tested in practice but this phase is planned. An additional limitation is that the focus groups were conducted in English, which excluded most of the study participants.

Comparison with existing literature

Our findings align with wider literature on what is important in clinician–patient interactions in primary care generally, including a system that is accessible and navigable,[38] continuity of care,[35,36,39] therapeutic presence, a positive clinician–patient relationship,[40] patient-centredness,[41] patient empowerment,[42] and the crucial importance of trust in maintaining engagement with health services.[43] Our contribution is novel in demonstrating how these closely interrelated issues play out differently in the context of patients who are multiply disadvantaged and are attempting to access digital services.

We also make an important contribution to the literature on user personas. Personas have been used previously to enhance understanding of, and help design, services for older people with complex needs.[29,30] Of note is the Esther model in Sweden, developed by a team of physicians, nurses, and other providers with the goal of improving patient flow and coordination of care across a six-municipality region.[32] Like our study, the Esther model emphasises the power of patients' stories, which are elicited and collected to illustrate how patients' lives are affected by their health challenges and their experiences in getting care. 'Esther' is not a real patient, but her persona as an ailing but competent older woman with a chronic condition and occasional acute exacerbations inspired a region-wide programme of service improvement, including an 'Esther network' of provider organisations and 'Esther coaches' who worked with them to achieve significant reductions in hospital admissions, length of stay, waiting times, and readmissions.[32]

Our contribution to the user persona literature is novel because, unlike Esther (who is old but living independently, fluent in Swedish, engaged with services, and not obviously 'at sea' in the system), the personas developed in this study specifically represent older people with multiple markers of disadvantage who are, to a greater or lesser extent, 'at sea' and disengaged with the system. Our contribution also focuses specifically on remote and digital services.

Implications for practice

Our goal in undertaking this study was to explore whether user personas reflecting multiple disadvantage could be developed and whether these would prove useful when designing or redesigning digital primary care services. The suggestions by our participants (see

last section of Results: Suggestions to improve digital services) provide some general guidance.

We envisage that next steps include using the personas to prompt creative discussions about an actual service, asking questions such as 'How can we make this service more accessible and empowering for people like Saima?' The personas could also inspire the development of novel measures of system success, reflecting the issues highlighted as important to the users who are most disadvantaged. But such efforts must acknowledge the reality of system pressures. Measures that will optimally support and empower Saima will be costly and time consuming, and hence have an opportunity cost. In short, additional resources are needed for practices serving deprived populations.

Two surprising and troubling findings from our study have potential implications for policy. First, the challenges of digital services (disorientation, fragmentation, and a sense that digital encounters are often impersonal and transactional) tend to produce a profound sense of disempowerment, loss of trust, and disengagement with the system in patients who are disadvantaged. Second, digital interactions may not strengthen clinical relationships but may actually worsen them when patients are multiply disadvantaged, leading in some cases to a breakdown of trust. If replicated in other studies, these preliminary findings suggest that a 'digital first' policy could actually be harmful to the most vulnerable groups, and it is possible that the human and economic costs of pushing the digital model in these groups could be prohibitive.

Within the current healthcare landscape, prevailing incentives tend to prioritise urgent access and initial contact assessments, which may result in surface-level interactions and limited support for individuals experiencing intersectional disadvantage. The current system inadvertently diverts the attention, effort, and resources of practitioners away from the ongoing, relational aspects of primary care. If Saima has lost trust and becomes disengaged from the system, she may fail to seek care when acutely unwell (or, she may go directly, and inappropriately, to the emergency department), and control of her long-term conditions will deteriorate, increasing the risk (and cost) of acute complications such as stroke. For these reasons, measures promoting relationship-based care and maintaining patient engagement in patients who are multiply disadvantaged, although costly in the short term, are likely to pay off in the medium and long term.

One potential approach to supporting patients who are multiply disadvantaged involves the implementation of coding systems, alerts, or other reasonable adjustments to identify them, helping to ensure that staff are aware and oriented to addressing their specific needs. Such an approach would likely need to be combined with support for bespoke solutions, since, as intersectionality theory stresses, disadvantage plays out differently in everyone and there is no one-size-fits-all solution.

Another approach strongly supported by our data is to prioritise traditional continuity of care with a single clinician (or small buddy group or micro-team)[44] for patients who are multiply disadvantaged. In-person appointments could be offered routinely as an initial step to establish a therapeutic relationship, build trust, and surface the patient's priorities and concerns ahead of follow-up consultations by phone or video.

It is also important to recognise and mitigate technological disparities among patients. Technical support, user-friendly interfaces, and availability of multilingual resources can substantially enhance patients' ability to independently and confidently navigate digital healthcare platforms. We applaud the provision of digital training among marginalised populations — for example, through libraries and faith organisations.[45–47] Another model that might help those with weak digital skills (and that could help retain and strengthen trust) is a locality-based digital hub, based (for example) in community centres and staffed by healthcare assistants who support the patient both technically and culturally to have a digital consultation. Such hubs have been successful in remote parts of Scotland to overcome geographical distance;[48] the model might be adapted in inner-city populations to overcome cultural distance.

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Competing interests

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