

An ethics account of global health security

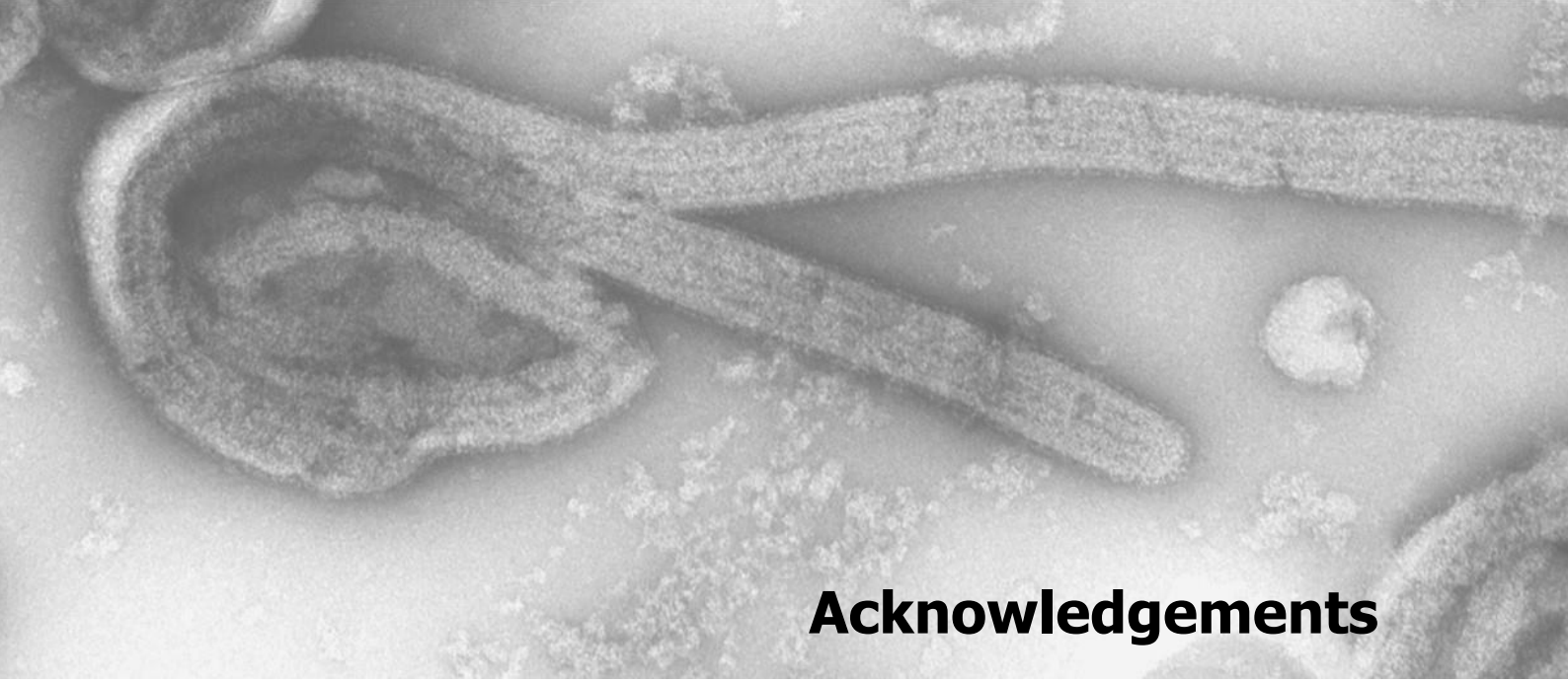
A thesis submitted for the degree of Doctor of Philosophy

By Dr. Frances Butcher

Nuffield Department of Population Health
Green Templeton College
University of Oxford

Trinity Term 2023

Word Count: 85,464 words excluding, footnotes, appendices and references



Acknowledgements

I am deeply grateful to so many people who have supported me to complete this thesis.

Supervisors: Thank you to my supervisors, Professor Michael Parker and Professor Patricia Kingori for your support and encouragement during the DPhil – from my first ideas, funding application, qualitative study, analysis, and write-up – I have continued to learn and benefit from your input and wisdom.

Funding: I am deeply grateful for the support of the Wellcome Trust in funding this doctorate through a Research Fellowship for Health Professionals in Humanities and Social Science (Award reference: 217706/Z/19/Z) as I would not have been able to undertake it without this.

Thank-you also to the Stanford University Center for International Security and Cooperation (CISAC) and the Carnegie Corporation of New York for funding a six month visiting fellowship at CISAC. This was a valuable opportunity to learn from a security and policy focused group during my doctorate.

Study Interviewees: I am indebted to the 38 interviewees who took time from their extremely busy schedules during the COVID-19 pandemic to contribute their wisdom and expertise to this study.

Academic support: I am fortunate to have completed this doctorate in the following very supportive departments: The Ethox Centre, the Wellcome Centre for Ethics and Humanities at the University of Oxford and CISAC at Stanford University.

In particular I have benefited from the bioethics training sessions in my first year ran by Associate Professor Michael Dunn and Professor Jonathan Ives; the coding workshops in my second year which were organised by Professor Patricia Kingori and Dr Fiona Groenhout, and in which I benefited from the input of Kate Enright, Scholar Zakayo and Francis Kombe; and the policy workshops organised by Dr Harold Trinkunas whilst at CISAC.

I am thankful for Susan Butcher for all her heroic proof-reading, Dr Marina Brimioulle for kindly reviewing abstracts for my literature review, Nia Roberts for her expert help with the literature review strategy, Professor David Relman for his mentorship whilst at CISAC, Mary Foulkes and Dr Fiona Groenhout for all the administrative support, Dr Jill Morris, my Training Programme Director for supporting me to undertake a doctorate during my public health training, Dr Rachel Davies for the continued insightful conversations trying to puzzle our way through empirical ethics, and all the other Ethox staff and DPhil students I've learnt from along the way.

Family and friends: To all my family and friends – in particular, but not limited, to Luke, my parents, Ben, Emma, Sophie, Julianne, Marina – thank you for your invaluable support without which I could not have done this.

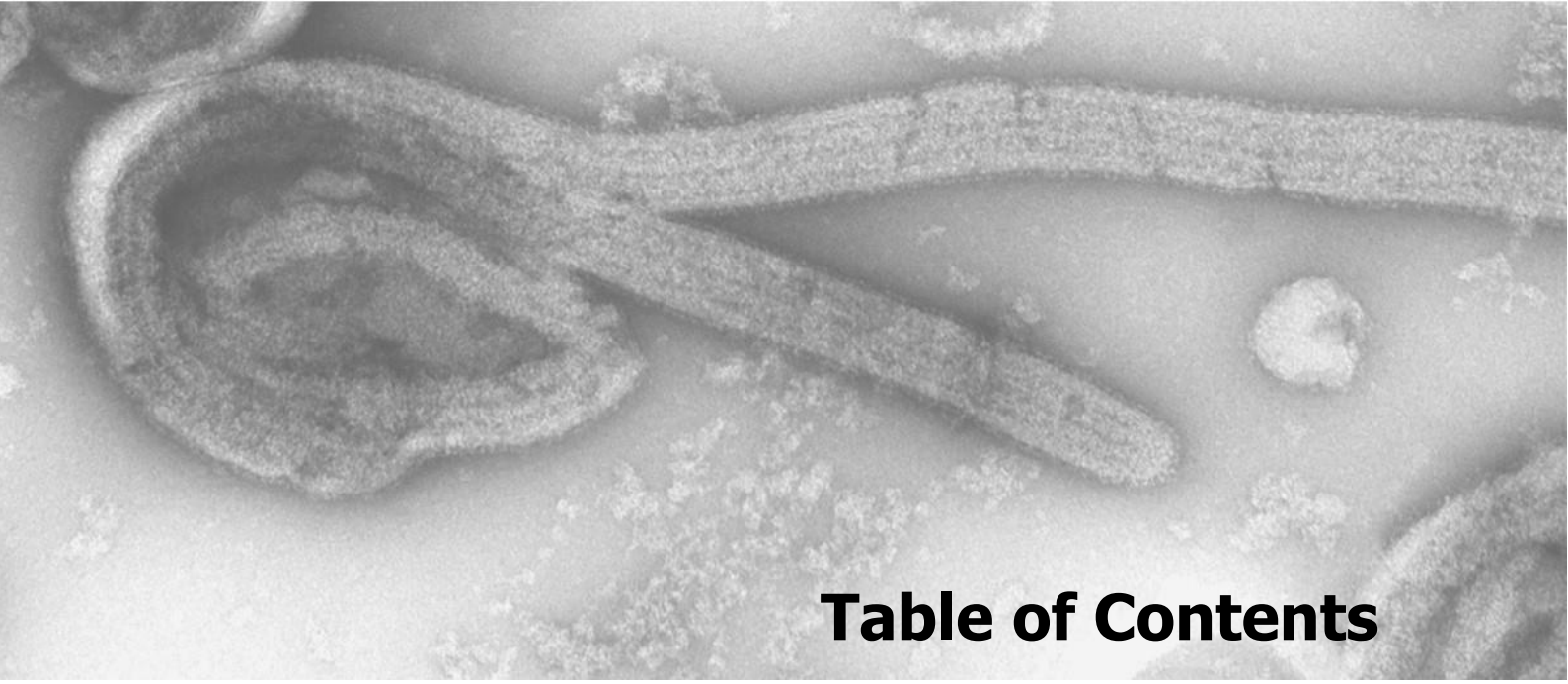


Table of Contents

Acronyms ..... **VI**

Abstract ..... **VII**

Chapter 1: Introduction **1**

1.1 The origins of global health security 3

1.2 Thesis structure 4

Chapter 2: Ethics in the global health security literature before COVID-19 ..... **9**

2.1 Introduction 9

2.2 Review aims 10

2.3 Methodological approach 11

2.4 Methods 15

Figure 1: Inclusion and exclusion criteria 19

Figure 2: Prisma flow diagram 22

2.5 Results of the Pre-COVID-19 review 25

Table 1: Pre-COVID-19 Review articles by first author's institution location 26

2.6 Definitions of global health security 27

Table 2: Typology of how global health and security interact 33

2.7 Securitisation 35

2.8 The law and governance of global health security 42

Table 3: Benefits and problems of the International Health Regulations 44

2.9 Expanding global health security 49

2.10 Principles that should inform global health security 52
Figure 3: Calls for ethical principles 61
2.11 Summary 63

Chapter 3: Ethics in the global health security literature during COVID-19 .. 65

3.1 Introduction 65
3.2 Approach adopted for the second review 65
Table 4: During-COVID-19 review articles by first author's institution location 66
3.3 Similarities and overlaps in the literature before and during COVID-19 67
3.4 Narratives that evolved during COVID-19 review 70
3.5 Novel areas during-COVID-19 review 73
3.6 Literature review conclusions 84

Chapter 4: Methods 90

4.1 Introduction 90
4.2 Aims 90
4.3 Selection of research methodology 91
4.4 Choosing an empirical bioethics method 98
Table 6: Empirical bioethics and engaged philosophy methodologies 99
4.5 Empirical method 108
Figure 4: Scoping stakeholder mapping 113
Table 7: Interviewee characteristics 122
4.6 Qualitative analysis 127
4.7 Situating the empirical analysis within the symbiotic empirical ethics method 133
Figure 5: Frith's symbiotic empirical ethics with additions from Wolff 133
4.8 Positionality and reflexivity 137
4.9 Conclusions 144

Chapter 5: Ethics in the work of global health security 147

5.1 Introduction 147
5.2 The work of global health security 148
5.3 Ethics in practice 150
Figure 6: The work of global health security 152
5.4 Ethical challenges in operational work 153
5.5 Ethical challenges in technical work 161

5.6 Ethical challenges in strategy and advocacy work 169
5.7 Ethical challenges in partnership and community work 174
5.8 Conclusions 183

Chapter 6: The meaning of global health security 186

6.1 Introduction 186
6.2 Global health security as a contested term 187
6.3 Moral concerns with global health security 208
6.4 Four moral models of global health security 215
Figure 7: Four moral models of global health security 217
6.5 Conclusions 227

Chapter 7: How outbreak origin affects resources, roles and responsibility ... 229

7.1 Introduction 229
7.2 Ethical concepts and outbreak origins 230
Table 8: Resources, roles and responsibilities by outbreak origin 230
7.3 Resources 232
7.4 Roles 238
7.5 Responsibility 242
7.6 Conclusions 245

Chapter 8: The nature and moral limits of nationalism 248

8.1 Introduction 248
8.2 The problem of nationalism 249
8.3 Vaccine nationalism 252
8.4 Interviewee justifications of nationalism 257
Figure 8: Blair's argument for the global good 269
8.5 Conclusions 270

Chapter 9: Discussion 273

9.1 Introduction 273
9.2 The moral landscape and boundaries of global health security 276
Figure 9: Moral boundaries of global health security 279
9.3 The definitional boundaries of global health security 281
9.4 The boundary between natural, as opposed to accidental and deliberate outbreaks 296

Figure 10: Siipi's reasons for (un)naturalness 300
9.5 Nationalism and the importance of geopolitical borders 310
Figure 11: Miller's nationalism (2007) 312
9.6 Conclusions 325

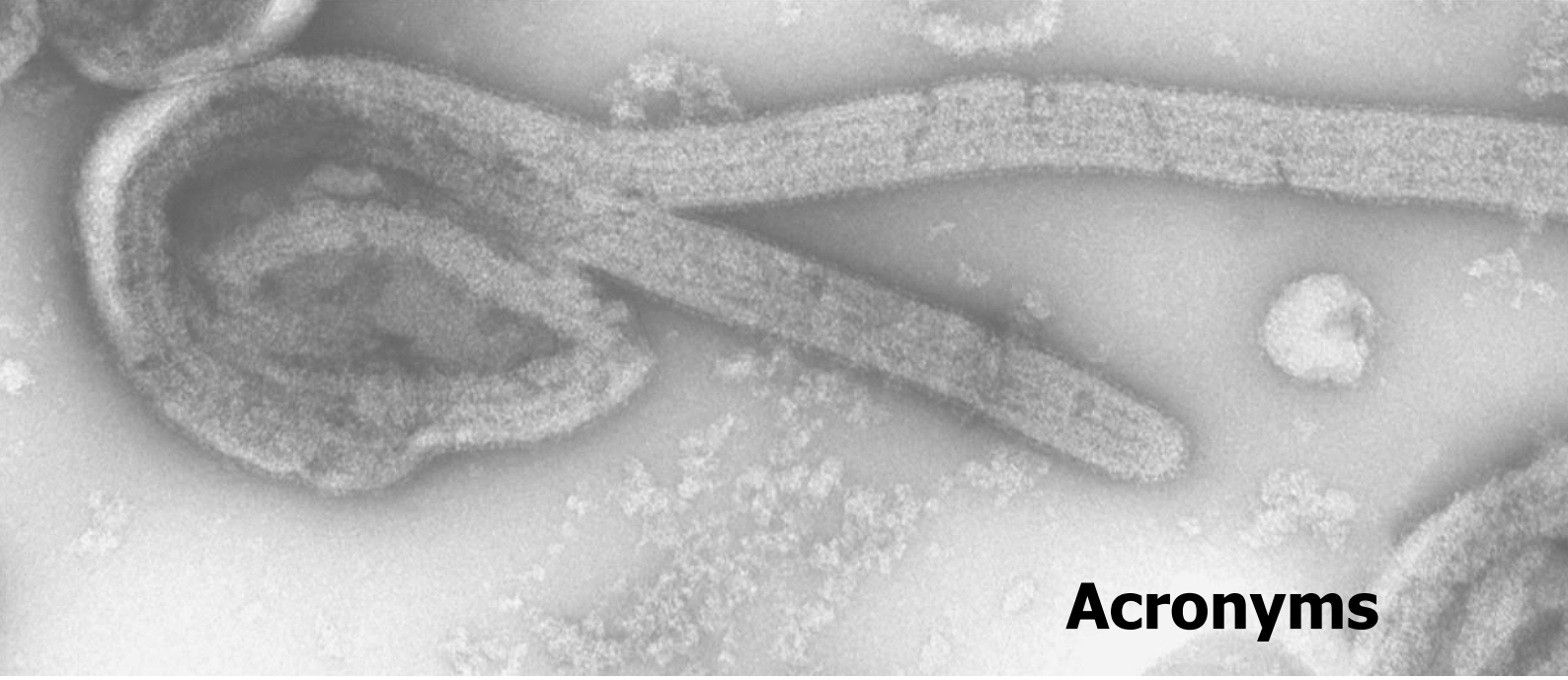
Chapter 10: Implications and conclusions 327

10.1 Introduction 327
10.2 The importance of this thesis 328
10.3 Implications for policy 331
Table 9: (Normative) judgements 332
Figure 12: Suggested outbreak origin categorisation 335
10.4 The current policy context 337
10.5 Strengths and limitations 340
10.6 Empirical bioethics reflections 342
10.7 Further Research 346
10.8 Conclusion 347

Appendices 349

Appendix 1: Image credits 349
Appendix 2: Literature search strategy 350
Appendix 3: Qualitative study documents 354
Appendix 4: Interviewee pseudonyms 361
Appendix 5: Themes and codes 362
Appendix 6: Empirical bioethics standards 365

References 368

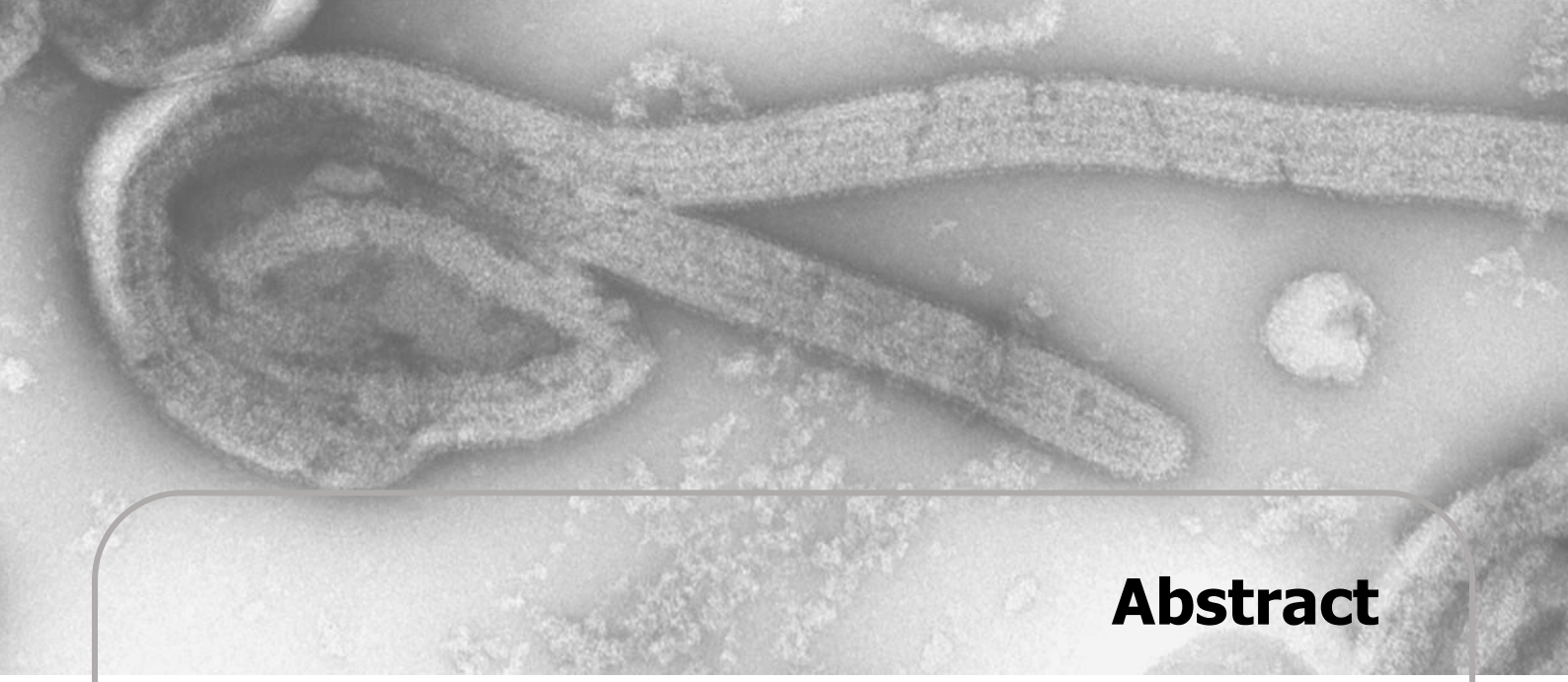


Acronyms

I have tried to avoid using acronyms in the thesis as I find they commonly reduce readability. However, I have used the following ones in which the acronym is as common, or more common, than the word/phrase.

Coronavirus Disease 2019	**COVID-19**[1]
COVID-19 Vaccines Global Access programme	**COVAX**
Human immunodeficiency virus/Acquired immunodeficiency syndrome	**HIV/AIDS**
Médecins Sans Frontières	**MSF**
Non-governmental organisation	**NGO**
Severe acute respiratory syndrome	**SARS**
Tuberculosis	**TB**
United Kingdom	**UK**
United Nations	**UN**
United States	**US**
The World Health Organization	**WHO**

[1] Also referred to by interviewees as just COVID



Abstract

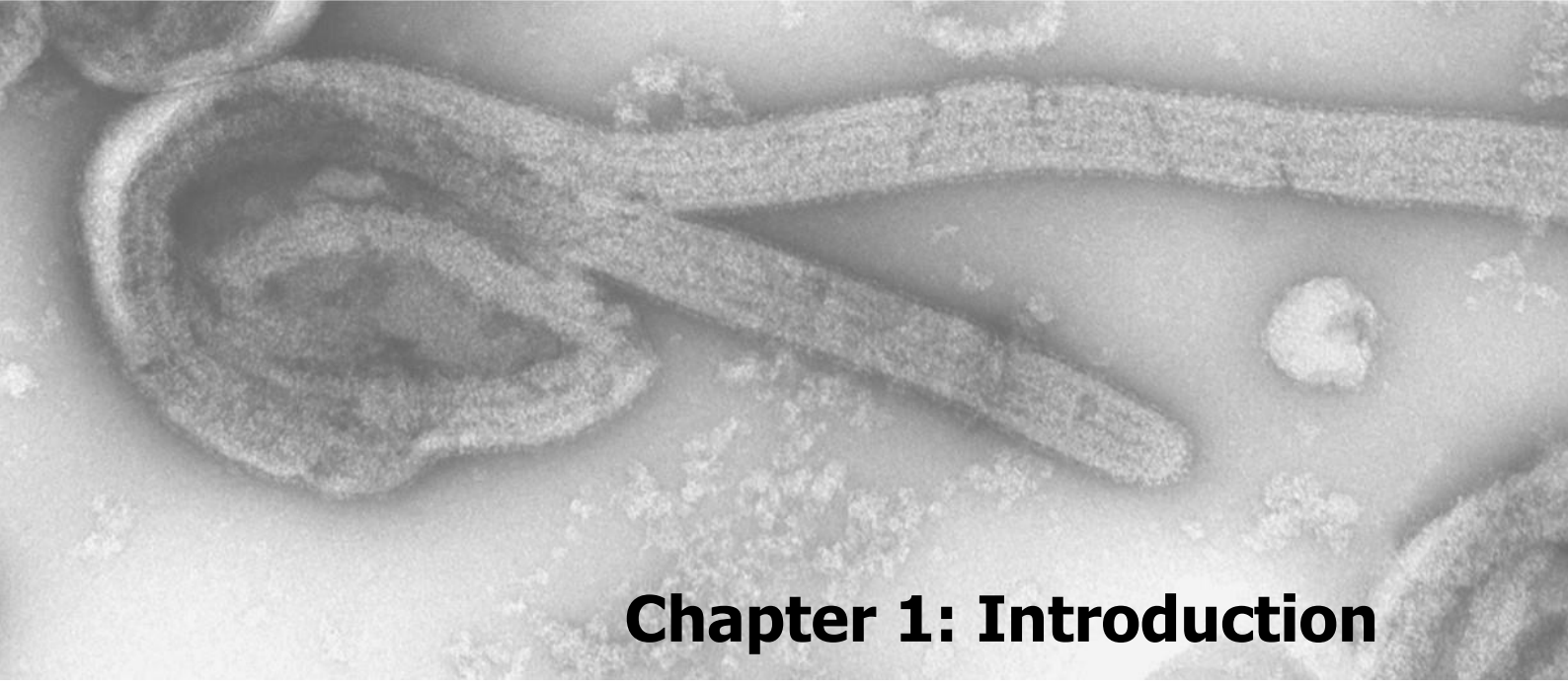
Global health security is defined by World Health Organization as "*the activities required…to minimize vulnerability to acute public health events that endanger the collective health of populations"* (2007). Despite this definition, global health security is a contested area because of concerns about the focus and beneficiaries of the enterprise. The aim of this thesis is to explore the scope, limits, and ethical issues within the global health security enterprise, in the context of infectious disease outbreaks.

The first stage of the thesis examined ethics in the global health security literature both before and during the COVID-19 pandemic. The findings from the critical interpretive review undertaken show that although ethical terms are frequently called for in global health security, there is little ethics analysis of what they mean, nor perspectives from those that work in this area.

To address this gap, a study utilising symbiotic empirical bioethics methods was undertaken. Thirty-eight qualitative interviews with professionals working in global health security, or in related areas, were completed. The thematic analysis of this data illustrates that those working in global health security operate in a complex moral landscape. This landscape involves everyday ethical considerations in the work of global health security, as well as wider concerns that can be understood as moral boundaries and borders. These moral boundaries include definitional boundaries about what global health security means; boundaries about dividing resources, roles and responsibilities by whether an outbreak is natural in origin, as opposed to accidental or deliberate; and geopolitical boundaries concerning the nature and limits of nationalism.

The final stage of the thesis brings together the findings from the qualitative analysis and compares it to relevant concepts in the ethics literature. I conclude that 1) current arguments for expanding the scope of global health security may not be the solution to moral concerns in the enterprise, 2) there needs to be care around the use and implications of 'natural' outbreaks, and 3) there is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate. I then situate these findings within the practice and policy context of global health security.

This thesis presents one of, if not, the first, empirical ethics studies on global health security, and argues that global health security must be acknowledged as a moral enterprise in order to fulfil its potential to protect persons globally.



Chapter 1: Introduction

Pestilence is in fact very common, but we find it hard to believe in a pestilence when it descends upon us. There have been as many plagues in this world as there have been wars, yet plagues and wars always find people equally unprepared.

(Albert Camus, The Plague, 1947)

In 2018, when working as a public health registrar[2], I was asked to help with the management of an influenza outbreak in a British prison. Not having had any prior experience of outbreaks within prisons, but being aware of the poor health outcomes prisoners have, I knew this might be challenging. Nonetheless I did not realise how small public health measures could be seen as opposing the secure running of the prison. Liquid soap, alcohol gel, and disposable aprons were just some of the basic hygiene measures that were seen as unacceptable: aprons that could be provided for use by those looking after sick prisoners could be twisted into a rope for self-harm. Alcohol gel could be ignited to use as a weapon against others, whilst liquid soap could provide lubrication to stop someone

[2] A junior doctor specialising in public health

grabbing you in a fight. As well as these practical problems, there were ethical challenges. Could we justify leaving prisoners in the same room as their contagious roommate, because to shift rooms was a security risk? Why were prisoners not routinely offered vaccinations when the prison was such a high-risk environment for infectious disease spread?

These context specific concerns, particularly around how far it was the state's duty to protect prisoners from the risk of infectious diseases and who should be routinely offered vaccination, led me to researching ethics in this area. One of the factors that seemed important in these ethical questions was balancing public health principles (for example, protection of the most vulnerable) and security principles (for example, protection of those working with dangerous prisoners). The interaction, and sometimes conflict, between health and security led me to discover the concept of health security, yet I could not see much interaction between health security and bioethics in the literature. Aided in exploring this field through a part time 'Emerging Leader's in Biosecurity Fellowship' at the Center for Health Security at Johns Hopkins University, I realised ethical concepts also applied to global health security and how states interact to protect security and health when an infectious disease travels over borders. Again, I realised that there was little research on the ethical questions that I wanted to ask about the practice and ethical framework by which global health security operates.

This led me to start my doctorate in October 2019, before hearing the first reports of a novel virus coming from Wuhan that Christmas. By March 2020 I had suspended my studies

and returned to working at, what was at the time, Public Health England, to help with the first wave of coronavirus disease 2019 (COVID-19) caused by the *severe acute respiratory syndrome coronavirus-2*. This professional experience, of course, shaped my perspective on the subject of global health security, through experiences such as the feeling of powerlessness when distressed care home managers called for advice as COVID-19 wove a devastating path through their residents. When I returned to this doctorate in September 2020, our everyday lives were different. Yet, at the time of writing this thesis in 2023, the opening quote from Albert Camus seems particularly apt: COVID-19 is no longer in the news, or a part of everyday life, yet the threat from infectious diseases and the need for global health security continues.

1.1 The origins of global health security

Whilst interrogating the meaning of global health security forms a large part of this thesis, it is useful at the outset to briefly understand the history of this area, in which global health (specifically infectious diseases) and security are linked[3]. Hoffman (2010) helpfully divides it into four different regimes.

From the fourteenth to the nineteenth century, epidemics such as the Black Death led to a focus on unilateral quarantine regulations on European ports. In the mid to late nineteenth century the fear of cholera epidemics led to initial international dialogues through a series of International Sanitary Conferences, while in the first half of the twentieth century that

[3] Arguably this area could also be seen to be linking health and security globally, but much more detail on the meaning of global health security is explored in Chapters 2, 3 and 5.

initial global coordination evolved via roles of other intergovernmental organisations (the Pan-American Sanitary Bureau, Office International d'Hygiène Publique and the League of Nations' Health Organization). Finally, after World War II and the collapse of the League of Nations, a fourth regime of global health security was born, with the World Health Organization (WHO) taking a central role and the International Health Regulations forming the legal framework that governs global health security (Hoffman, 2010).

Whilst this interpretation implies that the history of global health security spans centuries, the terminology of global health security in international policy is more recent. The key origin of its use in policy has been attributed to WHO's terminology of *"global public health security"* in a 2007 report (WHO, 2007), and normalised by efforts such as the Global Health Security Initiative[4] and Global Health Security Agenda[5], as well as bilateral programmes to improve global health security.

1.2 Thesis structure

The research study reported in this thesis emerged from my initial professional interest in and concern about the ethics of infectious disease control including how health and security interact, which turned into a wider interest in in the ethics of global health

[4] Founded in 2001, membership of this informal international partnership includes Canada, France, Germany, Italy, Japan, Mexico, United Kingdom, United States, European Commission and WHO (Global Health Security Initiative, 2023)

[5] Founded in 2014, this brings together over 70 countries, international organizations, non-government organizations, and private sector companies (Global Health Security Agenda, 2023)

security; an area about which I found there to be little existing research (See literature review in Chapters 2 and 3).

Chapter 2 and **Chapter 3** presents the findings of a critical interpretive review of considerations of ethics in the global health security literature. Chapter 2 begins with an outline of the rationale for the review and how it was undertaken, before looking at ethics in the global health security literature pre-dating the COVID-19 pandemic. Chapter 3 looks at ethics in the global health security literature during the COVID-19 pandemic, looking at the similarities, evolving areas, and new concerns between these two bodies of literature. Chapter 3 concludes by identifying gaps in the current academic research. Importantly it signals that the published examinations of the concept and practice of global health security is dominated by voices from the Global North and rarely incorporates an emphasis on ethical issues or experiences of those working in global health security. These omissions of Global South voices, perspectives from global health security professionals, and ethics in the literature informed the methodological design taken in this research.

Chapter 4 details the aims of this study and describes the methodological approach and methods adopted for the research. The aims for the study were developed based on the gaps identified in the literature, and were to 1) map out and analyse the range of ways in which global health security is understood, 2) explore ethical challenges and values for those working in global health security or related areas, and 3) to consider what ethical principles, values or concepts should guide global health security and how this should be decided. The chapter then sets out the rationale for an empirical ethics approach bringing

together qualitative social science methods and conceptual ethical analysis in order to develop normative recommendations, and then specifies why I chose symbiotic empirical ethics as the particular method for this study. In the second half of Chapter 4, I detail my data collection method, which utilised semi-structured interviews with professionals involved in the global health security or related fields from a range of different contexts, locations, nationalities and organisations. I then expand on thematic analysis, as my method of analysis of the qualitative data, and how this is coherent with the overall symbiotic empirical ethics method. The chapter ends with my reflections on my positionality, reflexivity, and rigour in this area.

Chapters 5 to 8 present insights from my analysis of my semi-structured interview data, with the analysis in each chapter adding another dimension to understanding how the ethical issues in global health security are reflected in the reports of the interviewees.

Chapter 5 focuses on the work of global health security and, in the process of it, presents an analysis of the moral world of those working on the ground through an exploration of their experiences. This analysis of the work of global health security forms the vital first step in identifying that moral questions and challenges were a concern to interviewees in their day-to-day work. My analyses in subsequent chapters explores this in more detail.

In **Chapter 6** I move from mapping this complex moral landscape widely to analysing interviewees' understandings of what global health security means. What becomes clear, through my analysis of the qualitative data, is that there are considerable differences in definitions of global health security. The interviewees were not necessarily confident about

their own understanding of global health security and set their own conceptual and ethical boundaries. To make sense of this conceptually contested and morally concerning area, my analysis demonstrates that views on global health security can be divided into four moral models, with different conceptual and moral priorities.

Chapter 7 explores how interviewees dividing outbreaks by their origin (into natural outbreaks as opposed to accidental or deliberate outbreaks) affects their perceptions of how resources, roles and responsibility should be allocated in global health security. The debate, as presented in the accounts of research participants, is over what should receive more funding, who has a duty to respond to what outbreak, and when it is appropriate to attribute responsibility for an outbreak.

Chapter 8 focuses on how interviewees navigate global health security as a field that seems to prioritise national interests over global good. It focuses on the moral significance of international borders. This is understood by those interviewed to affect the functioning and moral norms of global health security, and as an area in which there is a difficult balance between legitimate concerns for one's own citizens' wellbeing and a legitimate interest in the wellbeing of the global population more broadly.

Chapter 9, my discussion chapter, steps back and reflects on the analyses presented and brings together the themes from Chapters 5 to 8 as a whole. I suggest that global health security is a complex, multifaceted and morally laden enterprise which professionals have to negotiate, and one of the ways in which this complex moral landscape can be understood is through the idea of moral boundaries, borders and divisions and how these

should be set, expanded, broken or disregarded. I then explore three types of moral boundaries in the empirical data by comparing these to ethical concepts, in order to come to normative conclusions.

I conclude in **Chapter 10** by reflecting on why ethics is important for the future of global health security, the implications of the research for policy, the strengths and weaknesses of the thesis, and identify the gaps for future research.



Chapter 2: Ethics in the global health security literature before COVID-19

2.1 Introduction

This chapter presents a review of the moral and ethical issues in global health security as described in the academic literature. It is divided into two sections. The first section details and explains the methods adopted in the review (a critical interpretive review), and the second section outlines the results of a review conducted before the COVID-19 pandemic. Chapter 3 then includes the results of a later review undertaken during the COVID-19 pandemic, and the gaps identified in the current academic research for both reviews.

Existing reviews on global health security are few and far between. Of three global health security literature reviews identified in my search, none focused on ethics, although all three were useful in developing a search strategy (Aldis, 2008, Wernli et al., 2017, Ravi et al., 2019). Although not a review, Gostin's (2021) blueprint for the future of global health security provides a useful introduction to the broad range of what can be included in global health security, but again does not focus on an ethics perspective.

Although there were no ethics reviews focused on global health security, lessons can be learnt from ethics reviews in related areas. Robson et al.'s (2019) critical interpretive review of how the term global health ethics is understood does not specifically mention global health security, but provides useful insights into a relevant body of global health ethics literature. It demonstrates that, despite the diversity of disciplines, the majority of papers were written by authors from the Global North and focused on medical practice, rather than public health. As shown in this chapter, the dominance of Global North authors is also a feature of the global health security literature (see this chapter Section 2.5 and Chapter 3, Section 3.2).

These existing reviews and their limitations suggest the need for a literature review looking at global health security through an ethics lens and paying particular attention to the Global South perspective.

2.2 Review aims

In light of this gap in the literature, my aim was to undertake a literature review to:

1. Explore the meaning of global health security, and debates about this, in the context of acute infectious disease outbreaks
2. Describe the ethical issues that are discussed in this context
3. Situate my thesis in the context of relevant published literature and research gaps

2.3 Methodological approach

From the variety of available approaches to reviewing ethical research and concepts in literature[6], I chose to undertake a critical interpretive review. A critical interpretive review is a method that uses some features of a systematic review but has been adapted specifically for complex multidisciplinary questions in health and bioethics. It may clearly delineate how sources of information were selected, what arguments are made, and generate ideas that explain the literature from an ethics lens, but it does not seek to draw a single conclusion based on what 'all the evidence' suggests as per a quantitative paradigm (Dixon-Woods et al., 2006, McDougall, 2015).

The rationale for this decision was made by comparing common bioethics review methods such as systematic, scoping, and narrative reviews (Strech et al., 2008, Bull et al., 2015, McDougall, 2015, Morley et al., 2019), with my initial knowledge of the global health security literature. I understood global health security as a complex area in which ethics content was not necessarily limited to discussion in articles explicitly seen as 'bioethics', but likely to be explored in diverse areas such as editorials from practitioners and articles in international relations and law. This suggested a requirement for a broad and inclusive search strategy. In what follows, I detail some of the commonly used approaches for examining bioethical issues and appraise their strengths and weaknesses as part of my justification for employing a critical interpretive review in my research.

[6] Going forward, I use the term 'bioethics literature' in its broadest sense of the word, including all relevant ethics or philosophical literature related to global health security (e.g. public health ethics), and normative ideas, issues, and arguments in the literature of other disciplines.

2.3.1 Systematic reviews

Systematic reviews of bioethics use a transparent and systematic process, with clear inclusion and exclusion criteria, reviewer blinding to key article identifiers, and multiple reviewers. (Strech et al., 2008). Whilst the advantage of this methodological approach is to reduce subjectivity and bias, it is far from accepted that this is a valid paradigm for bioethics. Any such attempt poses difficulty in applying scientific concepts such as quality to philosophical arguments, and often can only be applicable to one type of bioethics literature (either empirical or normative) (Sofaer and Strech, 2012, McDougall, 2015). Given the multidisciplinary nature of the global health security literature, with ethics arguments often embedded within non ethics literature, this method is not suitable for exploring global health security ethics. This is because the methodology cannot include both empirical literature of relevance (for example, from social sciences) and conceptual literature (for example, from international relations), whereas my initial search showed that both types of literature were relevant.

2.3.2 Scoping reviews

Scoping reviews, (see for example Bull et al., 2015), also aim to approach literature in a systematic way, but are commonly used at the beginning of a new project to identify research gaps or questions (McDougall, 2015). This method has more flexibility than a formal systematic review as it can incorporate an iterative approach to study selection in which a research question may be refined as familiarity with the field increases (Arksey and O'Malley, 2005). Whilst a scoping review would have been a reasonable approach to my research, the disadvantages of it for my research is the lack of clarity on how to summarise and evaluate

literature from different disciplines. This is a feature that a critical interpretive synthesis prioritises (see Section 2.3.4).

2.3.3 Narrative synthesis

Narrative reviews concentrate on synthesis of literature and exploring relationships within it (see for example Morley et al., 2019). An area where narrative synthesis differs from critical interpretive reviews is with quality assessment. Whilst Schofield et al. use formalised appraisal tools for qualitative research studies (Strech et al., 2008, Schofield et al., 2019), this can be difficult when dealing with literature that may be quantitative, qualitative, normative, or conceptual (Dixon-Woods et al., 2006). This is because quality assessment of normative literature cannot be a value-neutral process because arguments are, by their nature, value-laden, and assessing the strength of an argument is not an objective process. As well as this concern with quality assessment, examples of successful narrative reviews in bioethics focus on relationships between a small volume of literature (Morley et al., 2019, Hofmann, 2023), whilst the aim for this research was a broad mapping in ethics through literature in multiple disciplines.

2.3.4 Critical interpretive review

A critical interpretive synthesis is a method of interpretive synthesis developed specifically for complex multi-disciplinary questions in health and social science, (Dixon-Woods et al., 2006). It has since been adapted for bioethics reviews by McDougall (2015). The aim of a critical interpretive synthesis is to develop a 'synthesising argument' integrating the separate studies into a coherent and generalizable theoretical framework that explains the literature.

Rather than use aggregative synthesis to group well specified quantitative data, this approach uses interpretive synthesis to aid with the development of concepts and theories grounded in the data. This inductive approach is not systematic as per quantitative standards, but "*thoughtfully-designed and thorough"* (McDougall, 2015, p.525). Thus, when applied to ethics, McDougall suggests that a *good* critical interpretive review captures all key ideas in the existing literature, generates theory and puts forward an argument (McDougall, 2015).

Importantly, it does not seek to obtain every single article relevant to the research question, but to identify relevant papers to enable a sampling frame (Dixon-Woods et al., 2006). This is a valid approach, particularly in bioethics, because, unlike when considering a biomedical intervention when all evidence for (lack of) effectiveness is important, in ethics, a strong argument may be enhanced or critiqued by further arguments, but may not be necessarily affected by further papers published on the same topic (McDougall, 2015).

Thus, the key reasons why critical interpretive review is the best method for my review of the ethics in the global health security literature can be summarised as follows. It is designated specifically for complex multidisciplinary literature, which my initial search showed to be the case for global health security. This multidisciplinary literature can include both empirical and normative literature, rather than just being limited to one as the method focuses on relevance of literature above quality assessment, which can be problematic when applied to multiple types of literature. It can cope with large volumes of literature as it uses a sampling frame rather than a process that necessitates finding all relevant literature. This last feature was important as, when I was designing the review, I was aware that if the novel coronavirus

outbreak, as it was known at that time, became an epidemic I would likely need to re-search the literature as I subsequently did, generating a large volume of literature. Finally, it has a clear process for the method (see Section 2.4.7) which results in an argument to summarise the literature; in this case an argument for the relevance of ethics to the literature (see Section 3.6.3). This was important in an area in which there were no reviews from an ethics lens.

2.4 Methods

Having outlined the reasons for adopting a critical interpretive review, in what follows, I detail the process of this undertaking in relation to the search strategy, literature extraction, inclusion and exclusion criteria, screening of results, data extraction and stages of analysis in critical interpretive reviews.

2.4.1 COVID-19 and timeline considerations

The literature search and extraction to inform this research was initially planned to take place in late 2019 (and extracted on 3rd February 2020), when COVID-19 was just reaching the news. At this point, I made the decision to go ahead with the review. This was because I could not predict how the course of COVID-19 might change the literature; the pre-COVID-19 literature was still worthy of examination; and the timeline of my doctorate made delays to this process difficult.

The COVID-19 pandemic subsequently resulted in a large volume of new literature relating to global health security, so I repeated the search in 2022 (extracted on 2nd March 2022) to

analyse similarities and changes in the literature (explored in Chapter 3). The date coincided with the near completion of my qualitative interviews as I wanted the literature and qualitative data used to reflect a similar point in time. This was because it was useful to be able to compare how previous and contemporaneous ethics concerns in the literature differed from ethics concerns by interviewees (who may or may not be following that literature) without adding the potential bias of comparing future literature to past interviewee perspectives in a fast-moving pandemic situation. However, reflections on the current policy context since the interviews were conducted are included in Chapter 10 (Section 10.4).

The review is therefore separated into the literature extracted pre-COVID-19 and the literature extracted during-COVID-19. A minority of articles that were extracted during-COVID were included in the pre-COVID-19 review if they were not about COVID-19 and made no reference to the COVID-19 context (see the Prisma Flow diagram in Figure 2). Both searches follow the same methodology but the reviews are presented sequentially rather than being merged. The reason for this is that although I kept an informal awareness of the COVID-19 literature during my qualitative study, I based my qualitative study design on the gaps in the literature identified from the pre-COVID-19 review. Thus, I did not want to merge the reviews as this would not be in keeping with the chronological order of how the thesis was designed.

2.4.2 Search strategy

The search strategy adopted in this research was developed using the WHO definition of global public health security *(as one of the most prominent definitions related to global health security[7])*, the language in WHO's Joint External Evaluations (*as these reflect some of the activities of global health security[8]*), and identification of keywords from a selection of pre-identified key papers.

I did not have a specific research question in relation to undertaking an examination of the literature, but rather broad aims in my exploring what had been published as fits with the critical interpretive review method that I will detail in Section 2.2 (Dixon-Woods et al., 2006). The strategy was subsequently refined using an iterative approach and with the advice of a specialist research librarian, Nia Roberts. The final strategy, which is seen in Appendix 2, specified acute infectious disease outbreak terms[9] plus either the specific phrase 'global health security' or related search terms around international actors, borders, and security; and rapid or emergency responses. The only change to the search strategy for the second data extract was the inclusion of the term COVID-19 within the search terms.[10]

[7] Although this is a definition of global 'public' health security, this is broadly construed as the beginning of modern global health security and defined as *"the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries"* (WHO, 2007). This is further discussed in Section 2.6.1.

[8] Joint External Evaluations are a process adopted by WHO by which countries self-report their progress against International Health Regulations targets for preventing, detecting, and controlling infectious diseases, before review of this by an expert external team.

[9] Including specific infectious diseases which were taken from the outbreaks with international spread notified to WHO between 2014-2019.

[10] SARS, coronavirus and nCoV were already included search terms in the original search, and these would identify articles both on SARS-CoV-1 virus (known as SARS) and SARS-CoV-2 virus (known as COVID-19).

Ethics was not included in the search terms. This is because the ways in which ethical concepts can be expressed is broad and search terms risk missing key papers whilst picking up on many irrelevant terms, such as ethics committee reviews. Instead, ethics content was assessed at the abstract and full article screening. Of course, defining what is an ethical concept or challenge is contentious in itself (Schofield et al., 2021). To gain a broad overview of the literature, avoid missing ethics literature, and in the knowledge that most of the literature in this area is not defined as ethics, I kept my definition broad. I understood it to encompass normative, legal, sociological, anthropological, and political or policy-based discussion about challenges in global health security or ideas about what *should* or *should not* be done.

2.4.3 Literature extraction

A broad approach to academic literature was taken including articles or commentaries in peer reviewed journal articles (even if the article was not itself peer reviewed) and academic books. Databases were chosen to reflect the broad disciplinary range of work in global health security including health and global health databases (Medline Ovid, Global Health Ovid, WHOLIS and Global Index Medicus), social and political science (PAIS Index Proquest), and academic books (Library Hub Discover). Additional forward and backward citation linking, and key author searches were undertaken. References were collated in Endnote Version 9.2 and de-duplicated using Bramer et al.'s (2016) method.

2.4.4 Inclusion and exclusion criteria

Inclusion and exclusion criteria were developed for screening of results (Figure 1). These were devised in an iterative process with the aim of including literature that was about global health security rather than national health security and included ethical challenges as per my broad definition in the previous section (Section 2.4.3). However, the volume of literature produced necessitated difficult judgements about what to include, which I justify below.

Figure 1: Inclusion and exclusion criteria

Articles were included if they:

1. Examined acute infectious disease outbreaks; that
2. Involve more than one state, international organisations, or non-governmental organisations acting internationally; and
3. Included discussion of ethical issues, concerns, dilemmas or arguments; and
4. Were published in a peer-reviewed journal (including non-peer reviewed articles in journals such as editorials) or academic book;
5. Were published in English or had an English translation published in addition to the primary publication language.

Articles were excluded if they:

1. Addressed health security in a single state or at subnational level;
2. Were of primary relevance to medical sciences only (for example, epidemiology, intervention trials, public health, basic science, economics, case reports/series, medical education, or modelling studies) without discussion of ethics; or
3. Examined infectious disease outbreaks in animal, plant or marine life without clear threat to human health; or
4. Were workshop/meeting reports, or book reviews.

Articles primarily about human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) were excluded despite this being the original securitised virus. Although HIV emerged as an acute security threat, it is now perceived as a chronic disease, albeit one that is an extremely important cause of global death. My review focuses on acute infectious diseases outbreaks over international borders – of which HIV/AIDS is no longer one.

I was initially surprised that my search strategy resulted in articles extracted that considered non-communicable diseases and universal health coverage as proposed areas of global health security, despite search terms being specifically for acute infectious diseases. I realised that these articles used acute infectious disease outbreaks as a bridging point for arguing that global health security should include other areas of health. These arguments were judged to be significant to how global health security is defined and so were included.

Articles about local actions in a global outbreak, such as closing schools in a particular country during a pandemic, were also excluded as they did not meet the second inclusion criteria in Figure 1 of involving the actions of more than one state, but country level actions affecting borders (for example, international travel restrictions) were included.

Finally, literature from ethics, philosophy and social sciences that may underpin ethical discussion of global health security, but is not about global health security, was excluded from this review. I had to choose whether the review was about ethics in global health security (even if this was mostly non ethics literature) or ethics literature on related topics (such as global health or infectious disease) that was not specifically about global health security. I chose the former option to look at the specific global health security literature due to the lack

of reviews in this area, and given time constraints that meant I was unable to undertake both reviews.

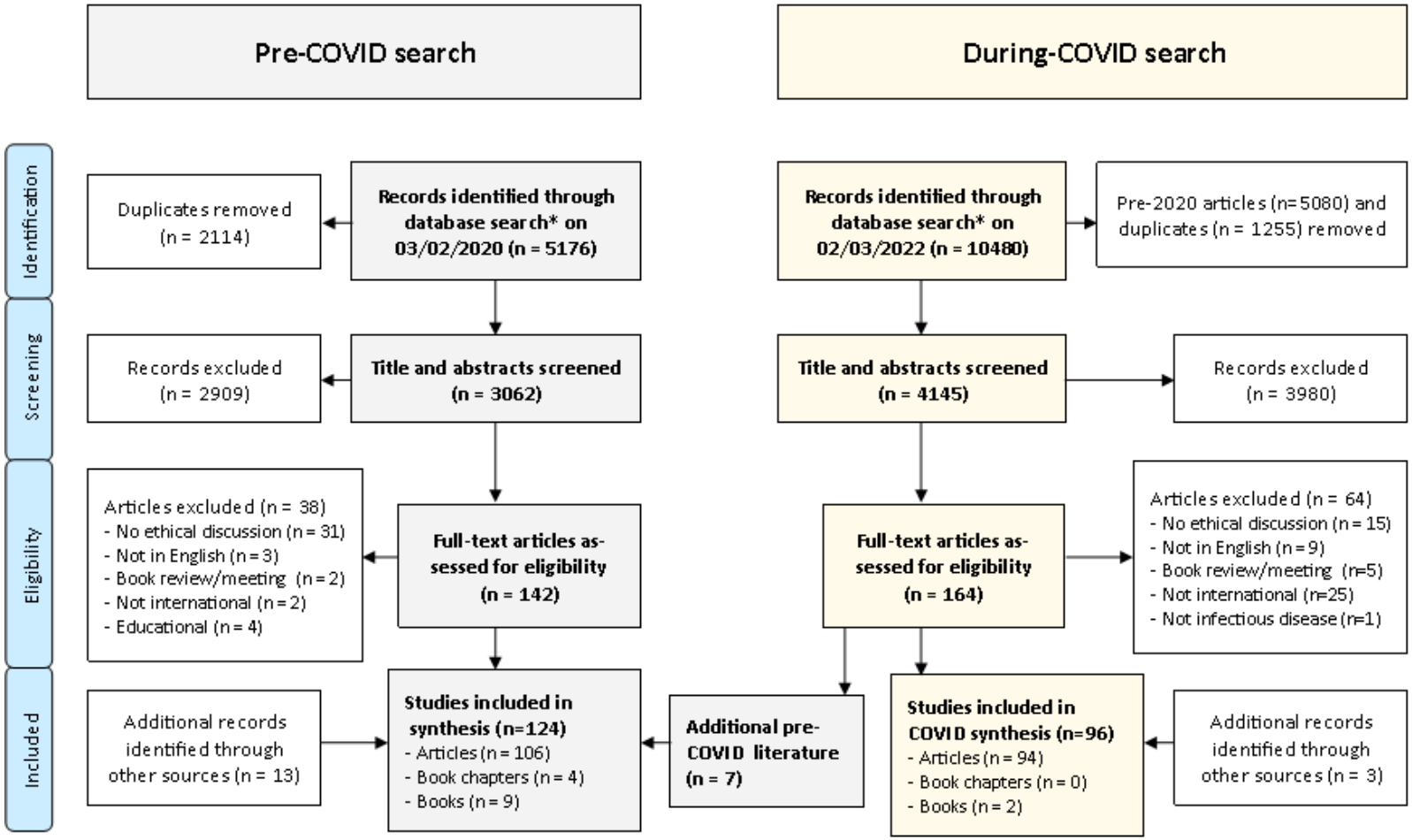
2.4.5 Screening of results

The web and mobile application Rayyan was used for screening of title and abstracts (Ouzzani et al., 2016). For edited multi-author books or single books with both relevant and irrelevant chapters, individual chapters were assessed by the inclusion and exclusion criteria.

I reviewed all of the articles, with 20% (n=608) of the pre-COVID-19 review search results reviewed by a second reviewer, Dr Marina Brimioulle[11]. The Cohen's Kappa score for assessing inter-rater reliability was 0.59 indicating moderate to good agreement. Given the subjectivity of the review criteria as a critical interpretive review, this was perceived as satisfactory. I re-reviewed the articles for which there was disagreement, and a small subsection discussed with my supervisors, MP and PK to refine the inclusion and exclusion criteria. For the during-COVID-19 extraction, it was felt that a second reviewer was not needed as their purpose was to help refine and improve the inclusion and exclusion criteria, rather than seeking objectivity as per a systematic review. I undertook full text reviewing for both reviews. Figure 2 shows the Prisma Flow Chart for the reviews.

[11] Dr Marina Brimioulle had a medical background which was useful for being able to judge more technical aspects of literature, such as which infectious diseases cause acute infectious disease outbreaks, as well as having the time and availability to contribute to this project. Although she was not a bioethicist, she had training in ethics during medical school, is used to identifying ethical challenges during her practice, and we discussed the broad definition of ethical challenges before undertaking the work.

Figure 2: Prisma flow diagram



Adapted from Moher et al. (2009)

* Databases searched were Medline (Ovid), Global Health (Ovid), PAIS Index (Proquest), Global Index Medicus, WHOLIS and Library Hub Discover

2.4.6 Data extraction and coding

Whilst the steps detailed so far have reflected a similar method of searching, literature extraction, and selection of articles as in a systematic review, it is in the process of coding and analysis where the differences between critical interpretive review and other methods of literature review are greater. The differences in quality assessment and the theoretical approach to analysis are explored in this section and the next one.

Full text articles were uploaded to, and coded in, NVIVO Version 12 – a software programme to aid with organising qualitative analysis. Data was extracted via two methods. A personal short summary of the article, used to keep track of the different papers, and coding of the papers. The coding framework was developed inductively from the text, focusing on key concepts, and ethical arguments, rather than quantitative data. The exception to this was all papers were coded quantitatively for a summary of whether they referred to global health security or health security specifically, what disease they were about, and the country of the primary author's institution.

With regards to quality assessment of articles, Dixon-Woods argues for prioritising by relevance. She rejects the assumption that all papers, once appropriately quality assessed, can contribute equally to the review and instead sees critiquing literature contributing to the review as key. As such, only *"fatally flawed"* papers are excluded (Dixon-Woods et al., 2006). McDougall furthers this idea in bioethics as including articles by relevance and assessing quality within the review, because, for example, normative papers could include both strong and weak arguments, or empirical papers could include strong empirical evidence but weak

concluding arguments (McDougall, 2015). I have thus included papers by relevance whilst critically analysing the quality of articles.

2.4.7 Analysis

The analytical approach of critical interpretive synthesis is adapted from a meta-ethnography method of synthesising qualitative studies (Noblit and Hare, 1988, Dixon-Woods et al., 2006). The key process of the analysis is lines-of-argument synthesis, in which a general interpretation of the findings of separate studies is built, by comparing individual arguments to develop the areas that are most powerful in the literature (Noblit and Hare, 1988, Dixon-Woods et al., 2006).

The comparison of individual arguments to build wider interpretations of the literature builds on the notions of first, second, and third order constructs in the social sciences. First order constructs reflect everyday understandings of meaning (Dixon-Woods et al., 2006, p.5), so some empirical social science articles may include some first order constructs as their data, for example, community perspectives on care during the West African Ebola outbreak (see Section 2.10.2.4). However, the majority of the literature includes second order constructs, which are interpretations and explanations of phenomena grounded in theory, which are used by authors in academic articles. For example, in the case of this research, these would be explanations such as understanding global health security as unjust because of the emphasis of the needs of the Global North.

Third order constructs, or to use Dixon Wood et al.'s terminology 'synthetic constructs', are those that synthesise second order constructs into a new theory (Schutz, 1962, Noblit and

Hare, 1988). So my analysis of the literature forms third order constructs. These aim to be grounded in evidence, yet transform evidence into a new conceptual form by being able to have an overview of the total sum of evidence, thus allowing different strands of this to be united in an explanatory way. An example from my critical interpretive review is my creation of a typology of all the ways in which health and security interact in a global context (see Table 2 on page 33), which is a way of understanding the literature in aggregate that was not found within one article or in this form.

After these third order constructs are developed, a final stage is to explore the differences and contradictions between studies. This is termed 'refutational synthesis'. This stage was useful in comparing differences between the pre-COVID-19 and during-COVID-19 literature, which was undertaken in Chapter 3.

Having outlined the process of undertaking a critical interpretive review, in what follows, I detail the findings of the pre-COVID-19, and then the during-COVID-19 review (Chapter 3).

2.5 Results of the Pre-COVID-19 review

The following section of Chapter 2 presents my analysis of ethics in the global health security literature in the period before the COVID-19 pandemic.

2.5.1 Article characteristics

Of the 124 articles included in the review, one hundred (79%) of articles specifically referred to global health security or related terms.[12] Six journal articles were review articles and 15 used primarily qualitative methods.

The following table presents the location of the institution of the first author of each article (Table 1). Of note is that the majority of the literature was written by first authors' academic institutions based in the United Kingdom (UK) or United States (US), with very little literature produced outside of the Global North or outside of academic institutions.

Table 1: Pre-COVID-19 Review articles by first author's institution location

First author's institution location	n	(%)	Non-academic institutions
UK	48	(38)	Public Health England (n=1), The Lancet (n=2)
US	34	(27)	Department of Defence, Department of Health and Human Services, Chemical and Biological Arms Control Institute (all n=1)
Australia	10	(8)	
Switzerland	8	(6)	WHO (n=4) UN (n=1), MSF (n=2)
Canada	8	(6)	
India	2	(2)	WHO (n=1)
Netherlands	2	(2)	The Netherlands National Institute for Public Health and the Environment (n=1)
Spain	2	(2)	MSF (n=1)
Other*	10	(8)	MSF (n=1), WHO (n=1)

* Single paper from the following countries: Brazil, China, Columbia, Democratic Republic of Congo, France, Germany, Hong Kong, Nigeria, Norway, Rwanda

[12] Including health security, securitisation, security threats

Ebola dominated the pre-COVID-19 literature search results with 34% (n=43) studies primarily relating to it. Of the rest of the literature, 50% (n=63) related to multiple diseases or was nonspecific, and only 7% (n=9) related to influenza, 4% (n=5) related to Zika, and 1% (n=1) related to Marburg, cholera, and malaria respectively. The dominance of Ebola may also have been reflected in the publication dates, since all articles were published in or after the year 2000, and 78% (n=98) of articles were published from 2014 onwards when the West African Ebola epidemic started, despite no date restrictions on the search. Although some articles also discussed the 2018 Ebola outbreak in the Democratic Republic of the Congo, other more recent Ebola outbreaks in the Democratic Republic of the Congo or Uganda will not be captured in this review for which the articles were extracted in 2020.

2.6 Definitions of global health security

From this description of the types of articles that were included within the pre-COVID-19 review, it is useful to continue the review by considering how different articles define or conceptualise global health security. This section will analyse the use of the WHO definition, perspectives on global health security being an elusive definition and strategies to distinguish global health security from global health. It will present a typology of the ways in which health and security interact within the literature.

2.6.1 The World Health Organization definition

Unsurprisingly, many of the definitions of global health security[13] in the literature used, or were influenced by, the WHO definition of global public health security (Kickbusch et al., 2015, Enemark, 2018, De Bengy Puyvalleé and Kittlesen, 2019, Wenham et al., 2019b). Global public health security is defined by WHO as *"the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries"* (WHO, 2007). A proactive activity would include surveillance to identify infectious diseases before they become outbreaks and reactive activity would include measures to control an outbreak identified. Although the application of this definition is not intended to be restricted to infectious diseases, they are noted as the most common context for global health security

[13] This review focuses on global health security, however it is worth noting the relevance of related terminology in the literature.

- 'Global public health security' was used in the 2007 World Health Report (WHO, 2007), but has since been more commonly replaced with global health security.
- The term 'health security' is as disputed as global health security, but sometimes referred to the contribution that health makes towards national or global security (Aldis, 2008). However, in this review, I interpret health security as related to national or domestic security and global health security as related to global security to distinguish these.
- Individual health security is a concept explored in Section 2.9 of this chapter.
- Biosecurity commonly refers to the measures designed to protect people from pathogens, primarily by security measures in laboratories (Selgelid, 2016). There is an interesting ethical literature around this in its own right with key discussions focusing on what degree of security risk is acceptable in gain of function research *(in which the functions of pathogens may be enhanced, e.g. research increasing the transmissibility the avian influenza virus)* and in dual use research of concern *(where research may be used for both benevolent and more nefarious purposes e.g. vaccine development and bioweapons).* The questions regarding this research include what research should be conducted, and if the research is conducted, what knowledge should be made available in publications (Collier and Lakoff, 2008, Rappert and Selgelid, 2013, Gostin, 2014b, Selgelid, 2016, Enemark, 2017b). Whilst few articles in the literature explicitly discuss whether biosecurity is considered part of global health security, this was seen to be within global health security from the use of biosecurity terms within case studies or articles about global health security (Rappert and Selgelid, 2013, Gostin, 2014b). I have therefore not separated out ethical discussion in biosecurity as a separate section, but integrated it into the review, for example justice implications for gain of function research are included in the Section 2.10 on 'Principles that should inform global health security'.

(Hoffman, 2010, Rushton, 2011, Enemark, 2018, De Bengy Puyvalleé and Kittlesen, 2019, Wenham et al., 2019b).

Despite the ubiquitous nature of the WHO definition and its influence, it has been criticised for not reflecting the structure of global health security in practice, as one which is focused on the actions of states protecting their own citizens (Hoffman, 2010, Sehovic, 2020).

2.6.2 An elusive definition

This concern about how much the WHO definition reflected the reality of global health security was the subject of debate among authors who thought the meaning of global health security was unclear or varied in different contexts. The definition of global health security was *"elusive"* (Frenk et al., 2014), *"contested"* (McInnes, 2016), *"some way away from a universally agreed definition"* (Rushton, 2011), one of "*complexity"* (Horton and Das, 2015), a *"problematic term, used differently by different people in varying contexts"* (Irwin, 2010) and was seen to have a "*fundamental ambiguity about the exact values at stake"* (Calain and Abu Sa'Da, 2015).

The lack of clarity surrounding this definition was not just the preserve of academia but contested in policy fields. For instance, in the January 2008 in a meeting of WHO's Executive Board, Brazil objected to the use of the term, arguing that there was *"not clear meaning of the term"*, it *"had no idea what the goal of international health security"* was, and the term was not used in the International Health Regulations (Tayob 2008 in both Aldis, 2008, Rushton, 2011). The lack of consensus on a definition is considered a risk for global health security because incompatible understandings between countries produces the potential for

breakdowns in global cooperation between the Global North and Global South (Aldis, 2008, Hoffman, 2010), as well as interfering with the funding and efforts to promote global health security globally (Frenk et al., 2014).

Rushton provides an alternate perspective on why the definition is contested (2011). He suggests that actually there is broad consensus of the threats of health security, namely acute infectious diseases, HIV/AIDS and bioterrorism. The debate, is instead a concern that the dominant conceptualisation of global health security is about the containment of diseases for Western countries (see Section 2.7.1.3).

2.6.3 Differentiating global health and global health security

Given these concerns, and against this background, three authors have attempted to define global health security by separating it from global health.

Davies (2010) sees global health security as aligned with the statist position, in which the state is both the object of reference and the actor. This is seen through the emphasis on protecting the population of a state from the rest of the world. By contrast, in a globalist position, the object of reference is individuals, which aligns with humanitarian and human rights-based positions. Davies sees the risk of this statist approach is that it creates an inside/outside dynamic with those in a state to be protected from the risk of disease from everyone else. Wallace Brown and Stoeva (2017) take this one step further, suggesting a cosmopolitan approach to global health security in which individuals, not states, are the unit of moral value in order to avert these state-centric problems facing global health security.

This differentiation mirrors Lakoff's (2017) theory on the two regimes of global health. Lakoff suggests that global health security originates from the need of states to protect their own citizens from emerging infectious disease threats that have not yet occurred, whilst humanitarian biomedicine seeks to alleviate suffering of individuals unable to access care in the Global South. This division enables distinction between the actors of global health security and humanitarian biomedicine *(national and international health organisations versus non-governmental organisations (NGOs))*, the target of intervention *(national public health structures versus suffering individuals)*, type of activities *(building response capacity versus providing access to essential medicines)* and ethical stance *(self-protection of wealthy countries versus common humanity)* (Lakoff, 2017).

Within the context of this review, which is focused on the ethics in global health security, these structural distinctions are important, but a notable absence is that these articles do not primarily approach global health security as a problem of global justice. They approach it, rather, as one of arguing the differentiation of the current structure of global health security from an international relations and sociological position. This idea of structure and global justice is a focus of my analysis presented in Chapter 8 and in discussed in Chapter 9 (Section 9.5).

2.6.4 A typology of global health security

In this review so far, I have analysed three different ways in which the definition of global health security is understood in the literature, firstly by the WHO definition, secondly as an

unclear and problematic definition, and thirdly as one that is differentiated from global health.

A final way to understand the definition of global health security is to look at the ways in which security and infectious disease interact in a global setting (Table 2). Rather than this being a typology presented by authors (that is, a second order construct as per Section 2.4.7), this is my synthesis of the breadth of ways security and infectious disease interact in global setting that are described in the literature (that is, a third order construct per Section 2.4.7). This was constructed by coding for different ways in which this interaction occurs and choosing one in practice example authors gave for each interaction.

Table 2: Typology of how global health and security interact

Interaction between health and security	Example
Using security principles to manage infectious disease outbreaks	Threats such as Ebola are as dangerous as other traditional threats to global security so states should use principles of war to guide their response (Agnew, 2016).
Border security against infectious disease outbreaks	In the 2009 swine influenza pandemic and 2014 Ebola epidemic approximately 40 countries implemented trade and travel sanctions, against WHO recommendations, on the basis of protecting themselves from diseases spreading to their territories (Kamradt-Scott, 2016).
Civil insecurity causing public health crises	WHO extending a Public Health Emergency of International Concern for wild polio in 2018 due to its persistence in war-torn Afghanistan and Pakistan (Gostin et al., 2019).
Public health crises causing civil insecurity and economic effects	HIV/AIDS crisis led to massive increase in illness and death in countries like Botswana, leading to loss in economic productivity, and ostracization and lack of opportunity for AIDS orphans, who are then at higher risk of criminal or terrorist involvement (Ban, 2003).
Security actors participating in outbreak response	US, China, France and the UK deploying military personnel to the West African Ebola epidemic (Roemer-Mahler and Elbe, 2016).
Medical actors participating in the security sector	Security becomes partly a medical problem: Security is not only strived for through traditional actors like the police and military but by stockpiling medicines and vaccines (for example, the smallpox vaccine). This has been called the medicalisation of security (Elbe, 2011a).
Individual health security	Global health security should include individual health security, the security that comes from secure access to health services (Heymann et al., 2015).
Violence against healthcare or public	International healthcare workers, local hospitals and staff, and those responsible for burying the dead were all targeted for violence in the 2014 Ebola epidemic, for example, in Guinea,

health staff involved in outbreak response	Médecins Sans Frontières (MSF) doctors and aids were targeted and killed (Echols, 2018).
Security services using public health tools	A Pakistani doctor hired by the US Central Intelligence Agency conducted a Hepatitis B vaccination campaign, and allegedly collected DNA samples from children being vaccinated to help track Osama bin Laden. This security initiative compromised trust in the ongoing polio vaccination initiative in the region (Calain and Abu Sa'Da, 2015).
Biosurveillance as a tool for health and security	National and global biosurveillance initiatives bring together academia, private security companies and the intelligence community, for example, the 2008 Biosurveillance Coordination Unit comes under the US Centers for Disease Control and Prevention's Coordination Office for Terrorism Preparedness and Emergency Response (Calain and Abu Sa'Da, 2015).
Disease outbreaks affecting military operations	Disease outbreaks can have a major impact on the success of military operations, with 50 out of 225 US Marine Corps members in Liberia in 2003 being hospitalized with malaria (Ban, 2003).
Laboratory biosecurity and dual use research	The debate over publication of a journal article on the successful mutation of an avian influenza virus[14] (Influenza A virus subtype H5N1) to achieve airborne transmission between ferrets (a common model for human transmission) (Gostin, 2014b).
Bioterrorism	The US anthrax attacks in 2001 on media and political targets (Milstien and Lambert, 2002).
Developing bioterrorism defences	During the US Operation Whitecoat (for two decades from the 1950s onwards), volunteer enlisted personnel participated in clinical studies involving exposure to live pathogens and receipt of investigational vaccines (Enemark, 2018).

[14] I refer to this as the avian influenza and listing the subtype in brackets if relevant, rather than by terms such as 'Influenza A virus subtype H5N1' to increase readability to those from a non-infectious disease background. The same principle is applied to the 2009 swine influenza pandemic which is referred to, rather than the pandemic caused by the 'Influenza A H1N1 virus subtype'.

It is significant that these interactions go in both directions. Not only does security enter the global health realm when states securitise the response to an outbreak, using security principles or militarising a response, but global health contributes to the security field via bringing new actors and techniques, such as biosurveillance, in a *"medicalisation of security"* (Elbe, 2011a).

2.7 Securitisation

Whilst Section 2.6 looked at four different ways in which the definition of global health security can be understood, this section next looks at the theoretical concept of securitisation, and in particular the Copenhagen School of securitisation theory, as one of the dominant theories by which global health security is understood in international relations. Securitisation is important to look at because it was the most common critical theoretical perspective on global health security found in the literature extracted in the pre-COVID-19 review.

According to the Copenhagen school of securitisation theory, securitisation is the process by which an area, in this case a threat to global health, is socially constructed as a security threat (Ventura, 2016). Security in itself was defined by very few articles in the literature, but Selgelid (2016) defines this as the protection of valuable things against loss. The steps of securitising an issue include 1) designation of it as an existential threat that requires emergency action, 2) the actor securitizing the issues is able to persuade the audience into accepting that claim, and 3) measures outside of normal politics are taken to meet this threat (Buzan et al., 1998, referenced by, Davies, 2010, Elbe, 2010, Abraham, 2011, Bowsher et al., 2016, in the context

of global health security). These measures legitimize extraordinary means to allow states to suspend legal constraints for security (Hanrieder and Kreuder-Sonnen, 2014, drawing on, Schmitt, [1922] 2005). Whilst this securitisation can be by the military, the Copenhagen School argues that it is not necessarily so and threats can involve broader social issues that are perceived as existential threats, including but not limited to infectious disease (Elbe, 2010).

With regard to the securitization of global health in the context of infectious diseases, the narrative is based on a "*fear-based imaginary, which is concerned with the protection of the integrity of the political body in the face of exogenous elements"* that may be controlled by measures such as securing borders (Nunes, 2016). In this framing, a disease *"is as much a threat to international peace and security as an act of aggression"* (Agnew, 2016) because more persons have died from infectious diseases than through wars (Aginam, 2005). The difference between the WHO definition of global health security, my typology of interactions between global health and security, and a securitisation perspective is that the emphasis is on existential threats in a securitisation perspective. The WHO definition and my typology would include wider categories of disease outbreaks with international consequences. Existential threats are likely to exclude all but the most serious epidemic threats.

Selgelid, whilst discussing gain of function research, questions whether security is intrinsically or instrumentally valuable (2016). For it to be intrinsically valuable, security would be essential to the good of society in itself. However, if it is only instrumentally valuable, it is valuable in that it can lead to promoting other intrinsically valuable objectives, for example,

security from COVID-19 might reduce inequalities in in those of older age or saves more lives. This matters because, if security is intrinsically valuable, it would potentially legitimize balancing other intrinsic values to promote security in certain circumstances (Selgelid, 2016). For example, if both security and liberty within your country are both intrinsic values, there is a much stronger argument for imposing measures that restrict liberty for the sake of security (for example, strict quarantines in suspected outbreaks). This is important to consider through the next section that looks at perspectives in the literature on the impact of securitisation on ethical issues in infectious disease outbreaks.

2.7.1 What impact does securitisation have on ethical issues in infectious disease outbreaks?

This next section continues the analysis of literature that considers global health security through a securitisation lens by looking at the impacts and consequences of what securitising an infectious disease outbreak might do, and as per the aim of this review, how these impacts of securitisation are ethically relevant.

2.7.1.1 Securitisation as justification for more measures

If securitization can legitimize exceptional actions, this has the potential to increase the authority of decision makers, commonly heads of state or directors of international organisations to undertake those actions (Hanrieder and Kreuder-Sonnen, 2014). These can include the justification of more restrictive measures for acute outbreak control, including increased financing, quarantine measures, and using the military or other non-health sectors to aid with the response (Wenham et al., 2019a). In recent outbreaks there appears to be a preference for medical countermeasures such as vaccines or antivirals, with an aim to defeat

the threat through technological measures rather than typical public health measures (Elbe, 2010, Elbe, 2011a, Elbe, 2014). These measures are often argued to be ethically justified to save lives in these exceptional circumstances.

Whilst exceptionalism can enable quick and effective measures against outbreaks, it is also seen to *"precipitate the blurring of ethical standards"* (Bowsher et al., 2016), including threatening democratic scrutiny (Ventura, 2016), justifying state violation of human rights, and unfair prioritisation of resources (perspective from Médecins Sans Frontières' (MSF's) Andre Heller Perache in commentary of a debate on global health security, Horton and Das, 2015). An example of this is the extraordinary amounts of funding spent on Ebola drugs (Roemer-Mahler and Elbe, 2016). These critiques also apply to international organisations including WHO, who may also lack checks on their transparency and accountability in decision making (Hanrieder and Kreuder-Sonnen, 2014).

2.7.1.2 Securitization leads to militarization

Although securitisation does not need to involve militarisation, the literature suggests this is a common association. A key example of this is the United Nations (UN) Security Council linking the 2014 Ebola epidemic to regional and global security which enabled a militarized response. The militarized response was unusually supported by the charity MSF, who have consistently opposed linking military into humanitarian endeavours.[15] Why they supported militarisation in this epidemic was because of the seriousness of the situation and the

[15] See for instance: https://www.msf.org/humanitarian-and-military-dont-go-together

logistical support that the military could provide (Parker et al., 2019, Roemer-Mahler and Elbe, 2016, Enria, 2019).

Despite this positive example, militarization raises concerns in the literature. These concerns included: the misuse of power by domestic military (Gostin, 2017, Parker et al., 2019); that militarization should be perceived as a last resort rather than a precedent (Burkle, 2015); and that militarization leads to more restrictive public health measures with detrimental consequences to individuals fearing to seek health treatment (Agnew, 2016). Neutrality and impartiality are hallmarks of humanitarian work, and, because of this, some NGOs have negotiated permission to operate within difficult political situations (Calain and Abu Sa'Da, 2015). The risk is, that global health security initiatives, that are not neutral but often state-run initiatives, can be to the detriment of this humanitarian work (Calain and Abu Sa'Da, 2015, Bowsher et al., 2016, Davies and Rushton, 2016).

2.7.1.3 Securitisation promotes self-interest

Securitisation of infectious disease outbreaks has led to the Global North prioritising their own interests by containing health security threats abroad (Rushton, 2011, Wilson et al., 2008, Royo-Bordonada et al., 2016, De Bengy Puyvalleé and Kittlesen, 2019). This can be seen in the lack of responses to the West African Ebola epidemic until the first infections in patients in Europe and the US (Wenham, 2016); the mission of the US Agency for International Development to end extreme poverty, primarily in order to advance US security and prosperity (perspective from MSF's Andre Heller Perache in commentary of a debate on global

health security, Horton and Das, 2015); and in considering commercial or publication interests before sharing pathogen genetic data internationally (Ribeiro et al., 2018).

However, proponents of global responsibility for global health security have used a qualified concept of self-interest as a mechanism to suggest it is in every country's self-interest to help countries with weaker health security (Tappero et al. in Heymann et al., 2015). For both Gostin (2014b) and Kamradt-Scott (2008) this outcome would be *"enlightened self-interest"* and for Kickbusch (2015)*"wise self-interest"*.

It is unclear how far this argument is persuasive outside academia. Even reported wins for global responsibility, such as the rise of open source and publicly available social media technology for detecting outbreaks, still tend to have a Global North bias towards countries that are more technically capable of using this (Roberts and Elbe, 2016, Bernard et al., 2018).

2.7.1.4 Securitisation encourages border control

Related to the self-interest of the Global North is its use of border controls particularly in the 2009 swine influenza pandemic and the 2014 Ebola epidemic. These were perceived negatively as being against WHO recommendations, having detrimental effects on world trade, impairing humanitarian assistance to affected countries, and compounding a North American and European centric interpretation of risks as cross border threats (Gostin, 2014b, Heymann et al., 2015, Smith, 2015, Bernett, 2016, Kamradt-Scott, 2016, Gearóid Ó and Switzer, 2019, Roper, 2019).

The focus on border controls was partly enabled by media or public perceptions about where disease comes from. Abeysinghe, looking at newspaper representations of Ebola, notes the emphasis on enacting border controls because of *"contagion from the third world"* (2016), whilst Abraham's work also suggests that it is common in Western films and books to depict the threat of exotic viruses from wild zones (2011).

2.7.1.5 Securitisation attracts more resources

The most positive consequence of securitisation was that it was seen to attract more resources. Multiple authors suggest one important motivation for using a security framing is that it *"lubricates the flow of resources"* (Elbe, 2011b) and motivates countries to invest in tackling (re)emerging infectious diseases (Elbe, 2010, Gostin and Phelan, 2014, Gostin and Hodge, 2016, De Bengy Puyvalleé and Kittlesen, 2019).

Although bringing further resources to bear on problems in global health security is useful, an inevitable risk is that securitisation also narrows the focus of these resources to the outbreak response and away from wider humanitarian and public health aims (Calain and Abu Sa'Da, 2015, Davies et al., 2015b, Abeysinghe in Horton, 2017, Roper, 2019, Johnson et al., 2022). For example, Barbiero (2020) argues that the response to Ebola was hyperinflated, because there was a stronger *"moral claim"* to prioritise preventing childhood mortality in the region due to the greater number of deaths. Enemark suggests the policy dilemma here is to achieve extra protection against severe disease outbreaks and biological weapons without this leading to neglect of other public health areas (2017a).

2.8 The law and governance of global health security

In this review of ethics in the global health security literature pre-COVID-19, I have so far analysed definitions of global health security (Section 2.6) and how understanding global health security through a securitisation lens can reveal ethically relevant impacts of securitisation (Section 2.7).

This section considers another perspective on global health security: how far the legal underpinning and governance of global health security is effective and promotes ethical values. In what follows, I will present a summary of the main features of the literature related to the law and governance of global health security. These are related to International Health Regulations (including some of the benefits and problems), the Pandemic Influenza Preparedness Framework that was developed after the Indonesian virus sharing scandal, and the governance of global health security by WHO. Unlike the previous section on securitisation that was dominated by perspectives from international relations or political science, this section includes more perspectives of international legal and policy scholars, alongside further perspectives from international relations.

The argument that continues through this section is that the law and governance of global health security is presented in the literature as in need of strengthening. This is an important argument which relates to the aims and scope of this project, because some of the perceived failings of the law (for example, concerns about insufficient protection of human rights in certain areas seen in Table 3) have ethical considerations.

2.8.1 The International Health Regulations

As the International Health Regulations define countries' rights and obligations in responding to public health events that may be cross borders, it is the main legalisation for global health security.[16] From the large volume of literature relating to the International Health Regulations, the key message emerging from the literature was cautious optimism about the benefits it would have for global health security in the years following the 2005 update, followed by sustained criticism of its functioning. These potential legal benefits and their problems in practice are seen in Table 3.

[16] Also important is the Pandemic Influenza Preparedness Framework (see below). Whilst other legal frameworks and conventions, including the Biological Weapons Convention and the Nagoya Protocol are of relevance to global health security, analysis of these is out of scope of this ethics review.

Table 3: Benefits and problems of the International Health Regulations

Benefits	Associated problems in practice
Includes an 'all hazards approach' to health threats. This means it is applicable to naturally occurring, accidental (for example, released from laboratories) or deliberate (for example, bioterrorism) outbreaks (Gostin, 2014a, Fidler, 2005, Hoffman, 2010).	
Requiring states to develop their own prevention, detection and responses capacities, making governments accountable to their own citizens (Hoffman, 2010, De Bengy Puyvalleé and Kittlesen, 2019).	Some states in the Global South lack the resources (De Bengy Puyvalleé and Kittlesen, 2019), and the functioning public health system (Wenham, 2016) or technical workforce (Olu, 2016) required for the implementation. There is little enforcement if states do not meet these requirements (Wenham, 2016), leading to a norm of noncompliance (Gostin, 2017) and lack of political will to improve (Olu, 2016).
Requires states to aid each other with developing capacities (Hoffman, 2010).	These obligations are non-binding, weak, and lack incentives (Gostin, 2014a, Olu, 2016).
Allows non-governmental reporting of outbreaks, whereas previously there was just state reporting. This increases state incentives for compliance with outbreak notification (Hoffman, 2010, Fidler, 2005, Gostin, 2014a).	The confidentiality of nongovernmental reports of disease outbreaks is by exception, not default, entailing a risk that organisations operating in authoritarian states could punish those that report (Fidler and Gostin, 2006, Gostin, 2014a).
Incorporates provisions for respecting human rights including that states cannot apply health measures to travellers without consent unless in specific situations (Fidler, 2005, Fidler and Gostin, 2006).	These measures apply to medical examinations, but not vaccinations, isolation or quarantine. The regulations do not include due process protections (Fidler and Gostin, 2006).

Balances trade and health security by including a state's sovereign right to restrict trade if concerned about infectious disease spread, but limiting this to necessary restrictions (Gostin, 2014a).	*This relates to both benefits to the left:* Non-binding recommendations by WHO have been ignored, such as countries banning pork products and screening or quarantining travellers in the 2009 swine influenza pandemic against WHO advice (Hoffman, 2010, Gostin, 2014a).
WHO can announce a public health emergency of international concern and issue non-binding temporary recommendations on state parties (Fidler and Gostin, 2006).	
Adoption of the Joint External Evaluations, a process by which countries first self-report their progress against International Health Regulations targets, and this is reviewed by an expert external team. The resulting report is (with permission) shared with external stakeholders in order to seek further international support for improvements (Bennett and Carney, 2017).	This is a considerable improvement on the previous entirely self-reported International Health Regulations requirements, but still does not address the funding issue (Agnew, 2016, Bennett and Carney, 2017).

This suggests that despite the hoped for benefits when they were introduced, the impact and value of the International Health Regulations, in practice, have been *"limited"* (Calain and Abu Sa'Da, 2015). Some have argued that they have acted as *"guidelines that rely on goodwill to steer inter-state behaviour"* (Kamradt-Scott, 2011b). By the beginning of the 2014 Ebola outbreak, only 64 out of 196 states reported that they had met the requirements of the International Health Regulations (De Bengy Puyvalleé and Kittlesen, 2019). However, a more positive analysis of the International Health Regulations comes from Davies et al. (2015b) who consider norms of the International Health Regulations revision process. Although

compliance is poor, they argue there is a norm towards states wanting to comply with the International Health Regulations that should be encouraged.

2.8.2 The Pandemic Influenza Preparedness Framework and the Indonesian virus sharing scandal

A second area in which there was a critical perspective on the law and governance of global health security in the literature was the 2011 Pandemic Influenza Preparedness Framework. This is a nonbinding agreement between WHO member states (although it has legally binding components for some laboratories and vaccine manufacturers) that aims to improve equity in access to pathogen samples and vaccines between the Global North and Global South. The purpose of this framework is to address a problem in global health security that was outside the scope of the International Health Regulations.

The impetus for developing the Pandemic Influenza Preparedness Framework came from the Indonesian virus sharing scandal, which was a seminal event for fairness in global health security discussed by many authors (Aldis, 2008, Kamradt-Scott, 2008, Wilson et al., 2008, Elbe, 2010, Hoffman, 2010, Irwin, 2010, Stephenson, 2011, Gostin et al., 2014, Gostin, 2014b, Gostin and Phelan, 2014, McCloskey et al., 2014, Burkle, 2015, Heymann et al., 2015, Elbe, 2018).

The incident came about in 2006 when the Indonesian government refused to share samples of avian influenza (Influenza A virus subtype H5N1) with WHO's Global Influenza Surveillance Network. The purpose of this network was to allow samples and genetic sequencing to be shared globally in order to develop vaccines. However, Indonesia argued that it was unfair

that it would likely be unable to afford vaccines developed with their samples which would, as a consequence, primarily go to the Global North (Gostin, 2014b).

This perceived unfairness led to the development of the Pandemic Influenza Preparedness Framework over five years. The framework requires states to share biological materials and the pharmaceutical industry to provide reciprocal benefits (such as a share of resulting vaccines). Whilst a step forward, there were concerns in the literature that the Pandemic Influenza Preparedness Framework is limited in its application to influenza and was a 'soft law' approach of a nonbinding nature (Gostin, 2014b, Gostin et al., 2016). These concerns were proved to be correct with the rise of vaccine nationalism during-COVID-19 to which the Pandemic Influenza Preparedness Framework did not apply (see Section 3.5.3).

2.8.3 The governance of global health security by the World Health Organization

The final problem in the law and governance of global health security was the role of WHO in the governance of global health security. Whilst the work of WHO has been praised (for example, in the severe acute respiratory syndrome outbreak (SARS) (Kamradt-Scott, 2011a, Hanrieder and Kreuder-Sonnen, 2014)), the majority of the literature is again critical about the authority and actions of WHO. These critiques of WHO are relevant to the question of ethics of global health security to understand concerns with accountability and responsibility in global health security.

Most of these critiques were applied to the 2009 swine influenza pandemic and 2014 West African Ebola outbreaks. In the 2009 swine influenza pandemic, there were critiques about

the opacity of WHO's decisions and avoidance of public scrutiny (Hanrieder and Kreuder-Sonnen, 2014), especially due to perceptions that it was putting the interests of pharmaceutical companies ahead of countries (Gostin, 2014a). In the West African Ebola outbreak, WHO was widely criticised for being too slow in realising the threat (Honigsbaum, 2017) and too slow in responding (Agnew, 2016), partly because of its disjointed structure (Kamradt-Scott, 2016). Interviews with WHO communication staff between 2004 and 2008 revealed challenges internally, including lack of transparency in aspects such as withholding information that is potentially damaging to the economic sector and having strict information controls within organisations. (O'Malley et al., 2009).

However, it has been argued that some of these governance failings may not be the fault of WHO. Member states have consistently failed to meet their funding commitments, limiting its capacity and leaving it reliant on unreliable voluntary contributions from other sources (Agnew, 2016, Kamradt-Scott, 2016, Wenham, 2016). In outbreaks in civil conflicts zones, WHO is constrained by its membership of state parties only. This means it cannot recognise oppositional groups as operational partners, leading to problems with access (Calain and Abu Sa'Da, 2015). Criticising WHO for its operational response shows unfair expectations: it has always had a normative role in directing and coordinating the response to outbreaks, rather than an operational role in deploying responders (Bernett, 2016, Kamradt-Scott, 2016, Wenham, 2017).

2.9 Expanding global health security

From these critiques of the current law and governance of global health security, I will move onto forward thinking proposals of incorporating additional concepts or areas into global health security. Such concerns are focused on improving the global health security contribution to the One Health (as the area which integrates health of people, animals and ecosystems), adding a conception of individual health or human security to global health security, implementing global health security in partnership with universal health coverage, and including non-communicable diseases in global health security. These suggestions to expand the scope of global health security included:

- **Improving the global health security contribution to the One Health:** Although One Health, as the model for the integration of human, animal and environmental health, has long been an accepted part of global health security, Connolly (2017) argues that a much closer integration is required, with the need to refocus health security governance and create an 'epistemic community' of cross disciplinary actors to influence policy. Gostin et al. similarly suggests the need for the International Health Regulations to be broadened towards One Health (2015).

- **Adding a conception of individual health or human security:** Multiple articles discussed the role of individual health security in global health security (Aginam, 2005, Aldis, 2008, Elbe, 2011b, Rushton, 2011, Heymann et al., 2015, Davies et al., 2015b, Pallister-Wilkins, 2016, Lyttleton, 2018, Karan, 2020, Sehovic, 2020). Rather than the collective health security of protecting populations against threats, this security

framing has a person-centred focus on individual access to healthcare and preventive measures and is closely linked to human rights (Heymann et al., 2015, Sehovic, 2020). Heymann argues that this is a valid part of global health security because sometimes improving individual health security can lead to collective health security, for example, by access to vaccines (Heymann et al., 2015, Karan, 2020). This approach more closely aligns with globalist and cosmopolitan understandings of global health security (see Section 2.6.3 in this chapter).

- **Implementing global health security in partnership with universal health coverage:** The rationale for linking universal health coverage is that low or no financial barriers to accessing healthcare facilitates early detection of disease outbreaks. Thus tying the two together in an overall strategy for strengthening health systems could lead to better resourcing of universal health coverage in the Global South, as well as lessening perceptions that global health security is only focused on the benefits to the Global North (Heymann et al., 2015, Jain and Alam, 2017, Ooms et al., 2017, Wenham et al., 2019b).

- **Including noncommunicable diseases in global health security:** Strongly related to the relationship between global health security, individual human security and universal health coverage is whether noncommunicable diseases should be included within the global health security remit. Rationales suggested for this are the unaffordable costs of noncommunicable diseases as Global South countries undergo epidemiological transitions from infectious disease threats to noncommunicable

diseases becoming a dominant health threat, and that this is a danger to both individual and collective health security (Heymann et al., 2015). Ban (2003) distinguishes between direct security threats which have implications for traditional security considerations (including biological weapons or attacks on medical professionals) and indirect threats (such as disease outbreaks that have destabilising social, political, or economic impacts like SARS). These are indirect threats to security because they cause significant mortality to civilian populations. Whilst Ban suggests that this only applies to infectious diseases, perceiving security threats as things that cause significant civilian mortality would be consistent with broadening global health security beyond infectious diseases.

These broadening conceptions of global health security are an important attempt to bring wider humanitarian concerns focused on the unwell individual and their wider ecosystem back into global health security, delivering a position that is less politically controversial among health professionals (Elbe, 2011b), and countering the narrative that global health security is about the West protecting its interests (Ooms et al., 2017). However, it is unclear, in practice, how this definitional broadening would work. Wenham's (2019) critique of the 'oversecuritisation of everything' makes this point: if global health security becomes about infectious diseases, non communicable diseases, universal health coverage and adopts an individual health security perspective as well as a collective security rationale, it is unclear how or whether global health security differs from other global health efforts.

2.10 Principles that should inform global health security

In addition to the suggestions to expand global health security to further areas, there were also proposals of what ethical principles global health security should be based on as outlined in the literature. This focus is of key relevance to this review which seeks to understand the ethical principles relevant to global health security.

Although there was a broad volume of literature relevant to global health security ethics as demonstrated in the Prisma Flow chart (Figure 2) presented earlier in this chapter, there is a scarcity of literature focused on examining the principles which should underpin it. For the most part, these articles argue that global health security should: be based on collective responsibility; consider unequal effects on different population groups (for example, migrants, women, healthcare and military professionals); and, be based on justice, solidarity, equity and beneficence. In the following section of this chapter, it is valuable to examine the arguments in greater depth.

2.10.1 Global health security should be based on collective responsibility

In the literature, the idea that global health security should be based on collective responsibility is presented as being in opposition to the current self-interested state of global health security (see Section 2.7.1.3 on 'Securitisation promotes self-interest'). Collective responsibility is conceptualised as the idea that as a "*risk to one person, community, or nation is a risk to all people, communities, and nations"* that all should contribute to mitigating that risk (Kickbusch et al., 2015). Collective responsibility here tends to be viewed as an aspiration,

rather than a reality (Ong et al., 2008, De Bengy Puyvalleé and Kittlesen, 2019). Framing outbreaks as a collective responsibility problem is another tool used to try to ensure that they are understood as a problem for everyone (McInnes, 2016), and is used by WHO to carve out space for collective global health from the national areas of biodefence (Collier and Lakoff, 2008).

Suggestions on how to make collective responsibility a reality, range from the operational to international treaties. Standley et al. (2015) advocate for cooperative bioengagement projects, which are bilateral projects that explicitly address the priorities of the partner country as well as the donor country. Agnew advocates for the inclusion of advance agreements, based on a model such as the North Atlantic Treaty Organization, for states to assist each other in treating a disease outbreak to one state as to all states (2016). Evidence from the COVID-19 review – discussed below – suggests that in practice collective responsibility is still pursued as an ideal but it is far from a reality (see Section 3.5.3).

2.10.2 Global health security should identify and mitigate unequal effects on different population groups

A significant volume of literature focused on documenting and exposing what are argued to be the inequalities between different groups, taking into account the social determinants of health that mean the effects of outbreaks are not distributed fairly (Quinn and Kumar, 2014). Several groups were identified in the literature as being of particular concern including migrants, women, healthcare and military personnel, and local communities affected by Ebola.

2.10.2.1 Migrants and refugees

Migrants were both a risk to global health security and at risk from outbreaks. International mobility increases the risk of international spread of outbreaks or antimicrobial diseases, whilst some groups of international migrants work in high risk sectors (for example, in poultry farming with risks of avian influenza) (Heymann et al., 2015, Lyttleton, 2018, Wickramage et al., 2018).

Migrants also face greater risks to their own health. Infectious diseases from cholera to HIV/AIDs have higher mortality in refugees and displaced persons than the general population (Connolly et al., 2004). Whilst there is a human rights obligation that states should provide disease prevention services to migrants, this is often not the case in practice (Wickramage et al., 2018). Equally, whilst the International Health Regulations specifies that states may not usually subject travellers to compulsory health measures such as examination or vaccination, this is permissible with the need to control an imminent public health threat (Gostin and Katz, 2016).

Two contrasting cases shed light on the ethical tension between the individual migrant and the state's duty to protect their population. In the first, an Indian national was detained on returning from Liberia due to Ebola being found in his semen, despite no scientific rationale for thinking he was infectious. This challenges how an imminent public health threat is defined and the measures that states can enact, even in a citizen, let alone a migrant (Devnani and Guo, 2015). In the second, by contrast, Caplan and Curry suggest that refusal of humanitarian assistance to refugees unless they agree to polio vaccination is justified in

instances where the disease would threaten local populations, due to the state's right and responsibility to control their borders (2015). These cases differ because of the perceived risk of a person to a population.

2.10.2.2 Women

The gendered dimension of outbreaks is both physical (for example, the risks to a women's pregnancy in Zika) and social (for example, in the care role and the differing access to health services women have) (Smith, 2019). These inequalities were brought into the limelight in the 2015 Zika outbreak but were also noted in the West African Ebola outbreak (Anderson and Beresford, 2016, Harman, 2016).

Zika policies were seen as particularly problematic because they left women to mitigate the effects of Zika themselves, including by avoiding pregnancy, and wearing insecticide, whilst ignoring the structural inequalities such as access to reproductive services (Wenham et al., 2019a, Wenham et al., 2021a, Linde Arias et al., 2020, Rivera-Amarillo and Camargo, 2020). Both Wenham (2021) and Rivera-Amarillo and Camargo (2020) draw on the role of security in explaining these structural injustices through the narrowness of the security lens' focus on halting transmission of disease. The methods by which this was aimed for was through control of water for domestic use predominantly by women *(women being told the right way to store domestic water to prevent mosquitoes breeding)* and control of women's bodies *(women being told to prevent pregnancies)* (Rivera-Amarillo and Camargo, 2020).

2.10.2.3 Healthcare and military professionals

Health professionals are at high risk of infection, particularly if not supplied with sufficient personal protective equipment (Agnew, 2016) and face stigma and violence due to their role in outbreaks or vaccination (Calain and Abu Sa'Da, 2015, Echols, 2018). Health care professionals that work abroad to respond to outbreaks can face complex legal challenges in negotiating their work (Davidson et al., 2015) and have reported discrimination when returning to their home country from outbreak aid work (Ventura, 2016). Echols (2018) makes an argument that because of these problems, healthcare workers who worked in Ebola should be able to apply for asylum in the US if they are trained in Western medicine and are being threatened or are a victim of violence due to the fear of Western medicine that emerged during the outbreak.

The role of health professionals may be conflicted between their healthcare role and security implications. In a provocative perspective article, Elbe asks *"Should health professionals play the global health security card?"*, exploring how global health security is a *"double-edged sword"* in that it attracts resources, but in using it health professionals could neglect the health concerns of developing countries (Elbe, 2011b). This security card tension was demonstrated in two articles. Some UK military medical personnel deployed to Sierra Leone for Ebola felt a want to undertake humanitarian work despite being part of the military, and humanitarian work being in some ways at odds with military involvement (Draper and Jenkins, 2017). Karan, a doctor himself, argues despite ethical unease with global health security, that health professionals can have a role in encouraging it to be more inclusive, for example, by

working with humanitarian agencies (Karan, 2020). In these articles, security is something ethically complicated that health professionals should consider.

Notably, no such perspective on health was found from a security perspective, perhaps reflecting the dominance of codes of ethics within medicine. In fact, the only article considering the ethical actions of the military in global health security came from Savulescu (2015), arguing that soldiers should be able to legitimately consent to lethal risk research into biological threats to national security as they consent to combat risk. Here, the ethical concern is not within current global health security practices, but an argument for soldiers to be able to serve their country through fighting disease.

2.10.2.4 Local communities effected by Ebola

Communities effected by Ebola in the West African Ebola outbreak were a group of key concern in the literature. This related to global health security ethics because the literature focuses on how the measures implemented by mostly foreign health and NGO workers did not adequately consider the community perspective which led to distrust in communities. The literature around Ebola related to four key areas: distrust of foreign workers and Western medicine; perceptions about Ebola treatment centres; lack of engagement with local communities about customs including burials; and lack of community engagement for research.

- **Distrust of foreign workers and Western medicine** (Royo-Bordonada et al., 2016, Honigsbaum, 2017, Echols, 2018). Not only were concerns about preferential treatment of foreign aid workers seen in local populations, but also in the perspectives

of foreign workers themselves, for example, over empty beds due to eligibility criteria in UK military units (Draper and Jenkins, 2017, Lamb, 2018) and lack of information on local culture in a People's Liberation Army of China medical team (Li et al., 2018).

- **Perceptions about Ebola treatment centres:** Authors explored community perceptions about Ebola treatment centres, with a concern expressed by those in the community that these were about isolation, not care of patients with Ebola (Honigsbaum, 2017, Southall et al., 2017). These concerns were understood by Gomez-Temesio (2018) as reducing people quarantined to dangerous bodies.

- **Lack of engagement with local customs and values:** Engagement with communities over local customs, including burial customs, were highlighted as both inadequate and crucial (Calain and Abu Sa'Da, 2015, Heymann et al., 2015, Armstrong-Mensah and Ndiaye, 2018, Enria, 2019, Masumbuko Claude et al., 2019, Parker et al., 2019). An article on Marburg Haemorrhagic Fever in Angola in 2005 on the need for building trust through cultural sensitivity in burials showed that this was a known area prior to Ebola (Roddy et al., 2007).

- **Lack of community engagement for research:** Clinical trials during Ebola were commonly led by international teams, but required dialogue and consensus building with local communities, which was not always achieved (Folayan et al., 2015, Rojek et al., 2016, Rojek and Horby, 2017, Alirol et al., 2017).

The consequences of insufficient or failed community engagements of international interventions in communities during outbreaks included avoidance of hospitals and exacerbating disease spread, which in turn led to worse outcomes for communities (Echols, 2018, Southall et al., 2017). Solutions to avoiding these problems were suggested to be better community engagement (Gostin et al., 2019), embedding this engagement in local governance structures (Armstrong-Mensah and Ndiaye, 2018), more sustainable funding and improvements in health, such as universal health coverage funding (Cleavel et al., 2017, Gostin et al., 2019, Wenham et al., 2019b). However, despite these proposed solutions, Mayhew et al.'s (2021) review of the subsequent Ebola outbreak in Democratic Republic of Congo in 2018 found few studies that demonstrated willingness from national or international decision-making bodies to let local populations lead decisions. Looking beyond Ebola, the consequences of failed or negative interventions in communities can be long lasting. The source of the 2010 cholera epidemic in Haiti was traced back to Nepalese UN peacekeepers. Over six years later, citizens expressed mistrust alongside some conspiracy theories about foreign intervention in their country (Fraulin et al., 2021).

Unlike the previous sections relating to migrants, women, healthcare professionals and military personnel in which the uneven effects on different population groups are predominantly attributed to state actions, in this section the problem is poor outbreak response disadvantaging communities affected by Ebola because of lack of community engagement by international responders.

2.10.3 Global health security should be based on justice, solidarity, equity and beneficence

A call for justice, solidarity, equity and beneficence was apparent through many articles (Figure 3). I have included numerous quotes in the figure, arranged chronologically, to demonstrate cumulatively quite how common these calls for ethical principles are.

The contexts in which the application of these ethical principles as presented in Figure 3 are called for, are likely to be important considerations. Many of these considerations came from reflecting on Ebola, other outbreaks including SARS, or global health security in outbreaks in general. More specific topics and examples seen to have justice connotations include vaccine access, the Indonesia virus sharing scandal and Pandemic Influenza Preparedness Framework, gain of function research, and clinical vaccine research.

Figure 3: Calls for ethical principles

- The SARS outbreak *"underscored the need for international **solidarity** against threats that can spread readily and widely"* (Ong et al., 2008).
- In an article on the Indonesia virus sharing scandal *"global health security will be created only if the issues of **equity, benefit sharing and transparency** are addressed"* (Irwin, 2010).
- The omission of genetic sequencing data from the Pandemic Influenza Preparedness Framework is *"out of step with global preferences…to advance **social justice**"* (Gostin et al., 2014).
- Health security is a *"matter of **social justice**"* (Gostin, 2014b).
- ***"[E]quity, justice and beneficence"*** are key for pandemic planning (McCloskey et al., 2014).
- Looking at the need for new antibiotics, Balasegaram et al. (2015) suggest that these would be seen as *"**global public goods**".*
- *"[I]n a genuinely egalitarian world, health security for all must be based on global **equity, solidarity, and social justice**"* (Takemi in Heymann et al., 2015).
- *"[U]niversal health coverage can strengthen national security by improving the social **solidarity** of the population"* (Yates at al. Heymann et al., 2015).
- The response to Ebola should be based on *"**global justice**"* and *"**solidarity**"* (Royo-Bordonada et al., 2016).
- Selgelid (2016) argues that there are *"**justice** implications"* for gain of function research
- The *"biggest challenge was the **justice** component"* for UK military personnel during Ebola (Participant in study, Draper and Jenkins, 2017).
- Considering clinical vaccine research Enemark (2018) suggests *"**solidarity** in the face of globally-shared disease risks could manifest as multiple individual commitments worldwide to share the personal risk associated with developing pharmaceutical solutions".*
- *"The concept of **justice**…easily comes to the forefront"* in large outbreaks like Ebola (Papadimos et al., 2018).
- Considering priorities in global health security, Karan (2020) indicates *"the global health community's failure to prioritize **beneficence** and individual health security is ethically unacceptable".*

However, very few of these articles do more than suggest that solidarity, justice, equity or beneficence is needed, with no attempt to discuss the meaning of these ethical concepts or their application. In some cases, they are the end point of the article. For example, the last sentence in Takemi's article is *"Ultimately, in a genuinely egalitarian world, health security for all must be based on global equity, solidarity, and social justice"* (Takemi in Heymann et al., 2015, p.1888). These calls are often found in opinion pieces or editorials.

This is unsurprising as most of these articles are not written by ethicists interested in analysis of normative considerations, but by global health security, international relations or legal scholars primarily from the Global North. However, there were a few notable exceptions who undertook more in-depth ethical analysis. Selgelid includes consideration of justice in a wider ethical analysis of gain in function research, noting that in weighing up risks and benefits reported benefits are often predominantly accrued to wealthier countries who are able to translate benefits of research (Selgelid, 2016). Frenk et al., whilst building on the interconnections of health at the global level, argues there are three alternative framings for international transfers of health, in which global solidarity should be preferred over development aid (which relies on a dependence relationship motivated by charity or self-interest) or international cooperation (in which the relationship is independent, relies on mutual benefit, but the actors are independent states). In the global solidarity model, by contrast, the relationship is that of interdependence, but the actors are members of a global society with shared responsibility for health based on universal rights and duties (2014). Whilst this model raises questions about feasibility, it is useful in providing an attempt to define the characteristics of what global solidarity would look like. Finally, Enemark analyses

the meaning of solidarity in the context of his idea of global bioheroes, who could be individuals who choose to undertake risks in developing pharmaceuticals for global health security because of solidarity (2018). This practical suggestion to improve global health security through faster development of pharmaceuticals via challenge studies provides one of the few concrete examples of solidarity as an ethical rationale. It is also Enemark, in his thoughtful approach to biosecurity, which in his account seems to overlap global health security, who concludes that biosecurity dilemmas will persist as long as we fail to *"be clear about what values are at stake"* (Enemark, 2017a, 184). This is a principle that seems equally pertinent to this global health security literature: Values are given that should exemplify global health security but it is unclear what these values mean. This is a clear gap in the ethics of global health security.

2.11 Summary

In this review of ethics in the global health security literature before the COVID-19 pandemic my analysis has shown the following.

The definition of global health security is far from clear. Whilst some authors used the WHO definition, others thought the defintiion was unclear, or defined it by differentiating it from global health. My typology of the ways in which health and security interacted in a global setting in the literature showed the wide number of interactions in this area.

Securitisation was the dominant theoretical framework seen in the literature, but one that raised both ethical risks and benefits. Risks included that it justifies more extreme measures

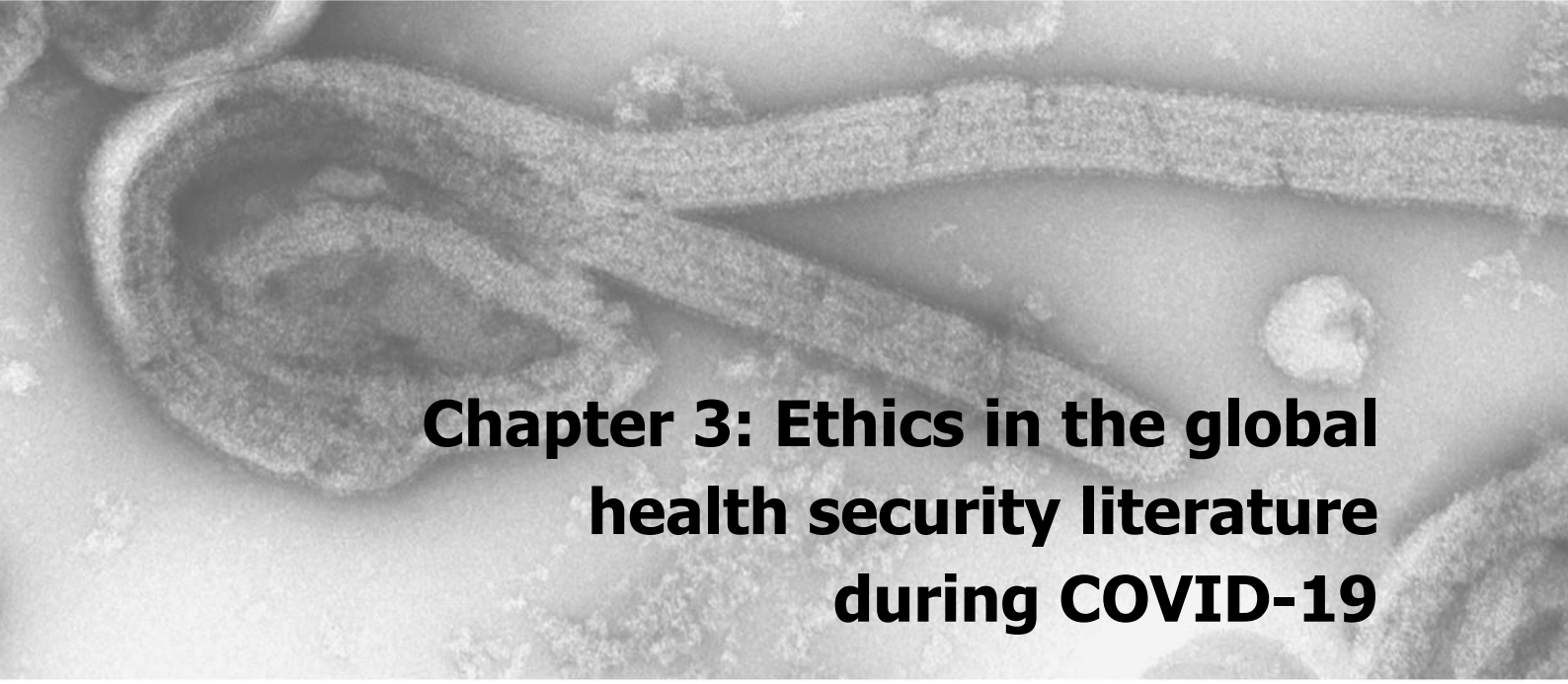
(which may be necessary and proportionate in some instances), leads to militarization, promotes self-interest of states and encourages border control measures which are not always effective. The benefit of securitiaion was on attarcting resources to the area.

The law and governance of global health security, including the effectiveness of the International Health Regulations, the Pandemic Influenza Preparedness Framework, and the role of WHO was the subject of sustianed criticim in the literature, which raises questions for responsibility in the goverance of global health security.

Perhaps as a consequence of the critiques of global health security, there were proposals to expand the scope of it to include concepts from individual secueity to non communicable disease, in order to further humanitarian ideals.

Finally, there an strong interest in aspirational principles that should guide global health security including collective responsibility, concerns to identify and mitigate the effects of outbreaks on certain groups in society, and a citing of principles of justice, solidarity, equity and benificence. These principles, although often cited, were the subject of scarce analysis.

The next section analyses literature from during the COVID-19 pandemic by comparing it to this pre-COVID-19 review. At the end of both reviews, I present my synthesis of how ethics in the global health security literature can be understood and the current gaps (Section 3.6).



Chapter 3: Ethics in the global health security literature during COVID-19

3.1 Introduction

This is the second chapter looking at ethics in the global health security literature, with a focus on the literature produced during the COVID-19 pandemic. Whilst it is an unconventional structure to have a literature review in two halves, this reflects the exceptional event of the COVID-19 pandemic during the period in which this thesis was undertaken. In this chapter, I will consider how the narratives presented in Chapter 2 have continued or shifted in light of the COVID-19 pandemic and whether any new arguments have emerged. In particular these articles date between 2020 and 2022.

3.2 Approach adopted for the second review

My review suggests that there were notable differences between the pre-COVID-19 and during-COVID-19[17] literature. Pertinent to the research undertaken for this thesis was the increased attention in the later literature to the discussion of ethics and also more variation

[17] I refer to this literature as during-COVID-19 as it was extracted in March 2022. This was approximately two years after the initial waves of COVID-19 were having global effects, but acknowledges that COVID-19 is still, at the point of writing, causing illness and deaths and will likely be with us permanently.

in author country (29 vs. 18 author countries, see Table 4). Although there are some limits to this comparison, as classifying by the institution of first author may not reflect where an author is from, this does give important insights into where these discussions are taking place.

Whilst this second review did not only aim to capture COVID-19 literature, 93% (n=89) of literature was primarily about COVID-19, with most of the rest comparing COVID-19 and other diseases. There were only 2 (2%) qualitative articles. Forty-five percent (n=47) articles specifically referred to global health security or related terms compared to 79% of articles pre-COVID-19. This may indicate a widening of authors writing in this area who are not already embedded within the global health security framework.

Table 4: During-COVID-19 review articles by first author's institution location

First author's institution country	n	(%)	Non-academic institutions
UK	25	(26)	
US	22	(23)	The US Agency for International Development, Los Alamos National Laboratory
Australia	5	(5)	
Canada	5	(5)	
Hong Kong	4	(4)	
Nigeria	3	(3)	
South Africa	3	(3)	
Switzerland	3	(3)	WHO, MSF
China	2	(2)	
Ethiopia	2	(2)	
Iran	2	(2)	
Italy	2	(2)	
The Netherlands	2	(2)	
Other*	16	(17)	WHO, UN

* Single paper from the following countries: Afghanistan, Argentina, Belgium, Denmark, Egypt, Greece, India, Ireland, Israel, Japan, New Zealand, Oman, Philippines, South Korea, Syria, Ukraine

In this review, I have divided areas into those that are similar to the pre-COVID-19 review (Section 3.3), those that are evolving narratives (Section 3.4) and novel arguments (Section 3.5), with a more in depth analysis on more novel arguments. The rationale for this was to be able to demonstrate some of the impact of COVID-19 on the literature, but trying to avoid repetition in areas in which the literature continued similar ideas.

3.3 Similarities and overlaps between ethics in the global health security literature before and during COVID-19

This section summarises the areas that were common to the pre-COVID-19 and during-COVID-19 literature. The similar areas referred to challenges with humanitarianism, calls to action regarding high risk groups, critiques of the International Health Regulations, critiques of the WHO and defining and expanding ideas of global health security. This is important as more work in these areas indicates the persistence and strength of an area. However, in order to avoid repetition for the reader these are summarised in brief in Table 5. The areas are presented in the same order as the Pre-COVID-19 review with the section they relate to in the pre-COVID-19 review included in the left column.

Table 5: Similar areas in the pre- and during- COVID-19 literature

Definitions of global health security Related to pre-COVID-19 Section 2.6	There were further: • Contributions to clarifying the meaning of (global) health security, including ensuring that people, not states are the object of concern in global health security, and suggesting that health security should be understood as the claim to protection against acute health vulnerabilities, risks and threats (Malik et al., 2021, Sehovic and Govender, 2021).
Challenges with humanitarianism Related to pre-COVID-19 Section 2.7.1.2	Arguments included: • COVID-19 being seen as a humanitarian crisis, not just a medical one. This includes paying attention to COVID-19 in conflict zones (Adesanya, 2020, Hout and Wells, 2021). • There are harms of shipping ventilators to low-resource settings (Mantena et al., 2020) • That a harm of COVID-19 border closures is stranding seafarers on ships, (De Beukelaer, 2021).
Critiques of the International Health Regulations Related to pre-COVID-19 Section 2.8.1	A reemphasis of International Health Regulations problems included: • An ineffective use of border controls, barriers to information sharing including racist responses, and challenges to its efficiency from the rise of populism (Tabbaa, 2020, Ferhani and Rushton, 2020, Wilson et al., 2020, Lencucha and Bandara, 2021). • An inconsistent and political mechanism in declaring a public health emergency of international concern (Eccleston-Turner and Wenham, 2021). To improve this a graded system was proposed (Boyd and Wilson, 2021, Blinken and Becerra, 2021) then critiqued as not addressing the political problems in declaring a public health emergency of international concern (Wenham et al., 2021b).
Critiques of WHO Related to pre-COVID-19 Section 2.8.3	A mixed critique of WHO which was: • Criticised for an inflexible operational structure and lacking constitutional power, normative power, and funding (Erondu et al., 2020, Ip, 2021, Patterson and Clark, 2020). • Found to have failed in impartiality because it praised China's actions in COVID-19 whilst focusing on the unpreparedness of West Africa during Ebola (Ho et al., 2021). • Supported by the need to acknowledge WHO as having a political role rather than the current pretence of neutrality (Lee, 2020). WHO's role could include empowering anti-colonial discourses

	through highlighting exemplary COVID-19 responses in the Global South (Ekpenyong and Pacheco, 2020).
Expanding global health security Related to pre-COVID-19 Section 2.9	Ways to expand global health security included: • Calls to make sure global health security is placing people first by taking a human centred or human security conception (Fukuda-Parr et al., 2021, Malik et al., 2021, Sehovic and Govender, 2021, Guevara, 2022). • Calls to strengthen global health security by including universal health coverage and a more holistic view of healthcare within global health security (Paul et al., 2020, Tediosi et al., 2020, Assefa et al., 2021, Fukuda-Parr et al., 2021, Lal et al., 2021). • A novel positive approach to global health security looked at how gene editing via CRISPR can be re-conceived as a tool to help global health security, not just as a risk (Watters et al., 2021)
Calls to action regarding high risk groups Related to pre-COVID-19 Section 2.10.2	Calls to action to protect: • Vulnerable groups, including sex workers, in Africa (Adebisi et al., 2020a, Adebisi et al., 2020b) • Refugees and asylum seekers (Alawa et al., 2020, Lanzarone et al., 2021) • Doctors from legal liabilities for imperfect care during pandemic demand (Al-Azri, 2020, Tozzo et al., 2020) • Women for whom epidemics and pandemics exacerbate previous disadvantage (Simba and Ngcobo, 2020, Bohoslavsky and Rulli, 2021, Nesamoney et al., 2021, Wenham, 2021)[18] and whose voices are missing from decision making (van Daalen et al., 2020). • Solutions offered included prioritising social welfare in different Africa settings (Ebuenyi, 2020, Devereux, 2021), and strengthening public health infrastructure to improve equity (Benjamin, 2020).

[18] Wenham provides a novel account of feminist global health security including an empirical account focused on Zika on how women are differentially affected by global health security policies and seeking to try to reposition women in the securitisation narrative – an account this summary cannot do justice to.

Whilst there are minor differences between these areas pre-and during-COVID-19, they show both the continued relevance of these areas through the COVID-19 pandemic and the intractable nature of some of these concerns: the argument that continues the most strongly from the pre-COVID-19 review to the during-COVID-19 review and into the qualitative study is this idea about expanding the scope of global health security (see Chapter 6).

3.4 Narratives that evolved from the pre-COVID-19 review to the during COVID-19 review

At the time of undertaking the second during-COVID-19 literature review there were a number of articles which might be best thought of as evolving narratives. This description includes areas that I considered to be similar or related to those pre-COVID-19, but which introduced a new concept or idea. These are, wider involvement of international organisations than the WHO and altered calls for ethics, which I will explore in more detail below.

3.4.1 Wider involvement of international organisations than the World Health Organisation

The critical thinking concerned with the role of WHO pre-COVID-19 identified in my first review (Section 2.8.3), evolved during-COVID-19 into thinking about other international organisations.

A key source of this was a special issue on the role of the UN Security Council from the Australian Journal of International Affairs. The role of the UN Security Council was seen as bringing mixed benefits and risks. Its strength is being a 'health outsider' so that its occasional

interventions are treated with more gravity (Rushton, 2022). Practices in enforcement (ranging from removal of the vote for unpaid fees and the collective ability for military action) could be used as lessons to strengthen WHO (Erondu et al., 2020). The risk with the role of the UN in global health security is that, even when interventions are valuable, such as its call for action on the disproportionate impact of the pandemic on women, it does not necessarily lead to action (Harman and Wenham, 2022). Rushton argues for caution in giving the UN Security Council a key role in pandemic response because it leads to late responses to crises, with mixed impacts.

Other than the critiques of WHO and the UN Security Council, there was also a minority of literature critiquing the role of the World Bank. This included concern that it was persistently prioritising private over public interests in the beginning of the COVID-19 pandemic, including a focus on public-private partnerships to deliver core public health services and continued support for market liberalisation reforms (Dimakou et al., 2021). Jain (2020) ambitiously calls for a new financing model based on donors donating to a pooled fund for a particular outbreak, rather than to agencies like the WHO or World Bank. The perceived advantage of this approach is increased coordination and reduced duplication of different agencies. This however, looks problematic for any focus on preventing outbreaks.

The focus on wider institutions than WHO likely indicates how much more pervasive COVID-19 is to lives globally than other recent outbreaks. When looking at this through an ethics lens, the literature suggests that the role of the UN and the World Bank can be seen, not only in questions about effectiveness, but also of roles and responsibilities in global health

security. The focus of this thesis in the forthcoming chapters will be to explore these arguments in greater depth, with a particular focus on roles and responsibilities of states in Chapters 7 and 8.

3.4.2 Altered calls for ethics: Cooperation and solidarity

In addition to discussion of the wider involvement of organisations other than the WHO, there were more editorials and opinion pieces calling for ethical principles (than seen in pre-COVID-19 review Section 2.10.3). Although these are not necessarily ethical analyses nor empirical data, these are valuable because they are often written by those working in global health security and so provide insight into what principles they think are important.

In the COVID-19 literature (excluding those related to the future of global health security which are included in Section 3.5.4) the most common areas were calling for stronger cooperation at a multi-lateral, global or regional level (Kokudo and Sugiyama, 2020, Li et al., 2020, Hassan et al., 2021, Yeh et al., 2021) as well as better cooperation through areas such as global health diplomacy (Taghizade et al., 2021) and cooperative engagement (Bartlow et al., 2021). Whilst the terminology around cooperation, health diplomacy, and cooperative engagement can be seen as somewhat jargon-filled and not explicitly normative, the joint weight of these papers emphasises calls for working together for a greater good, which was not always clearly defined, during outbreaks and pandemics.

Ideas of solidarity also emerged as a dominant principle in the literature. Examples of this include what has been considered the positive work towards solidarity in Africa, which is interpreted by Yimer as being related to the value of ‘African Ubuntu’ translated as a person’s

humanity binding them to each other. This regional translation of solidarity is important as solidarity is a concept not often specified. (Yimer et al., 2020). By contrast, writing in 2020, WHO leaders in the Eastern Mediterranean Region call for much more solidarity to save lives, translating this concept to actions such as the provision of financial support, donations of equipment, but also elements such as repatriating citizens (Al-Mandhari et al., 2020). This is a much wider and more practical concept of solidarity that seems much more in keeping with the calls for cooperation.

3.5 Novel areas during-COVID-19 review

In addition to the areas discussed, there are also other novel areas which included those that did not feature as a key idea in the pre-COVID-19 review. These include how data is collected, used and interpreted and also the need to balance public health restrictions against individual freedoms, encroachments to democracy and social and economic considerations. In what follows these areas will be discussed in greater detail alongside their relevance to this thesis.

3.5.1 Data and infodemics

Within the broader area around how data is collected, used and interpreted, of particular interest was contact tracing apps and the volume of (false) information relating to COVID-19 medications. These ideas are novel to the literature in the COVID-19 pandemic and are important to the review of ethics in global health security because the underlying discussions are about how data can be fairly used (Section 3.5.1.1) and how professionals in the area should respond to infodemics and false information (Section 3.5.1.2).

3.5.1.1 Contact Tracing Apps

Focusing on location data from contact tracing apps, Zwitter and Gstrein (2020) suggest that the well-established data standards in humanitarian work could be used as a model for helping balance public health use and individual freedom. Lessons include that privacy and data protection should not disappear during a crisis, and if using data, there is an obligation for high quality analysis that does not perpetuate biases. Bernard et al. (2020) discuss the contact tracing apps as an area in which citizens agree to the use of their data by signing up to the apps. They argue that agreement to use the apps, as well as the message of exceptionality they convey (as per securitisation theory in Section 2.7), disguises the coercive nature of some apps, for example, limiting freedom to participate in some areas in society. Whilst a product of the period in which COVID-19 apps were being utilised, these highlight that ethical problems in this area might set norms for future outbreaks.

3.5.1.2 Infodemics and false information

A health infodemic *(the production of a massive volume and velocity of information about a topic)*, misinformation *(false information not intended to cause harm)*, and disinformation *(false information intended to misguide or manipulate)*, were concerns during-COVID-19 (Belayneh, 2020, Karunajeewa, 2020, Zielinski, 2021). Although these areas were not novel to the COVID-19 pandemic, they were novel to the global health security literature.

There was a question over whether the volume of information in an infodemic was as problematic as misinformation. Zielinski argues that COVID-19 shows we are not equipped to cope with an infodemic (2021), arguing that whilst misinformation is important, an

infodemic would still be difficult even if all the information is true, because of the difficulty in managing and disseminating this.

Despite this, the focus of articles on this area was around misinformation in use of COVID-19 medicines. Several papers dealt with the use of chloroquine products in COVID-19. Karunajeewa (2020), looking both at the US and internationally, showed how media interest and partisan political drives overtook the generation of high quality evidence with poor public health outcomes. Belayneh (2020) detailed the risks of off-label use of, and falsified and substandard products that started to emerge in the African continent. Richey et al.'s (2021) analysis of South-South humanitarianism through the shipment of a reported herbal remedy for COVID-19 from Madagascar to Tanzania shows just how complex questions of pan-Africanism and colonial legacy can be in the context of this unproven remedy and government disinformation about the apparent end of the pandemic.

Infodemics and false information in these articles is commonly seen by authors as issues related to managing risks, but also raises implicit ethical questions for those who may work in this area, such as how public health professionals in Tanzania should respond to the humanitarian shipment of an unproven remedy.

3.5.2 Human rights

The second of the novel areas in the during-COVID-19 pandemic was the considerable focus on human rights compared to in the period before COVID-19. Some of the arguments presented in this sub-section of the literature will be explored. These include that COVID-19

responses infringe human rights and arguments about whether human rights impede or are impeded by global health security and international law.

3.5.2.1 COVID-19 responses infringe human rights

The need to balance public health restrictions against individual freedoms; encroachments on democracy; and social and economic considerations were key concerns in the literature (Horodovenko et al., 2020, Jamrozik and Heriot, 2020, Patterson and Dineke Zeegers, 2020, Sekalala et al., 2020, Dąbrowska-Kłosińska, 2021, Levine, 2021, Rainey et al., 2021, Nelson, 2021).

The ways in which rights were infringed and how infringements were enforced were classified by Edgell et al. (2021) and Coyne and Yatsyshina (2020). Edgell et al divides violations of democratic standards into those that can infringe personal autonomy *(such as Sri Lanka's forced cremation of COVID-19 victims contrary to Muslim beliefs)*; authoritarian practices that reduce accountability *(such as emergency measures without a time limit)*; and restrictions on media freedom *(including not allowing the media to contest disinformation)* (2021).

Focusing on police enforcement, Coyne and Yatsyshina, differentiate between increased authoritarianism within constitutional rules such as some COVID-19 expansions of power; state violence to enforce COVID-19 rules; direct or state facilitated surveillance of civilians *(for example, via asking citizens to report on each other)*, and state prevention of free association *(for example, blocking social or political gatherings)*. These classifications provide a structured way of categorising and condemning human rights and democratic 'slippages' and precedents beyond COVID-19 (Patterson and Dineke Zeegers, 2020, Thomson, 2020).

However, a key takeaway is that these breaches of individual rights during the COVID-19 pandemic were not just applicable to authoritarian or democratically-flawed regimes, with some measures *(for example, restrictions on social gatherings)*, being used almost universally (Edgell et al., 2021).

When considering what infringement on rights might be justified, the Siracusa Principles were commonly cited (United Nations Commission on Human Rights, 1984, cited by, Sekalala et al., 2020, Thomson, 2020, de Mesquita et al., 2021, Rainey and Giubilini, 2021). This non-binding guide was adopted by the UN Economic Council in 1984, and states that human rights can be restricted if these limitations are necessary, proportionate, and non-discriminatory. The need for proportionality was a particularly commonly cited principle (Horodovenko et al., 2020, Jamrozik and Heriot, 2020, Sekalala et al., 2020, Thomson, 2020, Dąbrowska-Kłosińska, 2021, Edgell et al., 2021, Rainey et al., 2021). The burden on the state to justify any limitation imposed was also important (Patterson and Dineke Zeegers, 2020), with a suggestion that governments need to balance the COVID-19 model of following unelected expert advice with public participation in policy (Boschele, 2020, Rajan and Koch, 2020, Rainey et al., 2021).

A novel view comes from Bellazzi and Boyneburgk (2020) who suggest that the balance between restrictive measures for public good and freedom is a false perception. Instead, they advocate for a virtue ethics approach in which we should ask whether we should, as individuals, comply with restrictions. However, as virtue ethics is based on this individual perspective of asking how one should act, what this does not deal with is how policy should be set for populations.

A minority of human rights literature was linked explicitly to the terminology of global health security. Patterson argues that the securitised framing of COVID-19 as a war was a mechanism that justified these human rights infringements (Patterson and Clark, 2020). Conversely, Burkle (2020) argues that autocratic regimes have a negative impact on health security because their response is *"handicapped by sociopathic narcissistic leaders who are incapable of understanding the health consequences of infectious diseases"* (Burkle, 2020).

3.5.2.2 International law and human rights

Whilst most of the literature considered human rights violations within countries, a minority of literature considered human rights violations between countries. These were seen in the failure of wealthy countries to assist the Global South during COIVD-19 (Sekalala et al., 2020). The international context was also more forward-looking, with the need to integrate human rights, including the right to life, more deeply into the International Health Regulations and global health law going forward (Sekalala et al., 2020, Toebes et al., 2020, de Mesquita et al., 2021). These arguments regarding the failure of rich countries to fulfil their obligations, and the need for reform of global health governance are more fully expanded in Section 3.5.3 and 3.5.4 relating to vaccine equity and a proposed pandemic treaty.

These articles have shown that the balance of human rights and public health was a key ethical and legal concern during the pandemic. However, it is important to note that with the exception of two articles, global health security was not linked explicitly to human rights. This could indicate that although these topics are arguably linked, the authorship between these fields is different.

3.5.3 Vaccine Nationalism

As well as data, infodemics and human rights, vaccine nationalism was a dominant novel area in the during-COVID-19 literature.[19]

Authors argued that the current (and at the time) future distribution of vaccines was unjust, unfair, or out of keeping with global solidarity, with the Global North buying up more than their fair share (Nhamo et al., 2020, Corpuz, 2021, Guzman et al., 2021, Lancet Commission on COVID Vaccines, 2021, Li et al., 2021, Santoro, 2021, Singh and Chattu, 2021, Smith et al.) and global solidarity was needed (Lancet Commission on COVID Vaccines, 2021, Rackimuthu et al., 2022)**.** In these articles, the terminology of vaccine nationalism was widely used to describe this unfairness in global distribution with some countries buying more vaccines leading to shortages for others. These arguments were captured by my search terms (Appendix 2) and inclusion criteria (Section 2.4.4) and were relevant to my research as they involve the global response to outbreaks across borders, but often did not use the terminology of global health security.

One of the strongest ethical arguments in this area comes from Emanuel et al. (2021). They propose a 'Fair Priority for Residents Framework' as a middle ground between an extreme

[19] Some articles dealt with time-specific vaccine concerns that are less relevant now. These included the emergency authorisation of COVID-19 vaccines, including whether an emergency use vaccine should be considered an essential medicine (Smith et al., 2021a, Smith et al., 2021b), vaccine certificates (Corpuz, 2021), and whether to vaccinate children despite their low mortality from COVID-19 (Brusa and Barilan, 2021). Because these decisions have since been made, I have not elaborated on these areas, but learning from them can be useful for planning for future epidemics.

nationalism in which a state's own residents are prioritised above all else and an extreme cosmopolitanism that takes no account of a state's special priorities for its own citizens. Aimed at the Global North, they suggest that a fair threshold for when states should send vaccine abroad is when the state can maintain a non-crisis level of mortality. This can be understood as similar to that experienced in a fairly bad year of influenza, when implementing reasonable public health measures. However, it is less clear from the article how this threshold might be defined in an ever-changing epidemiological picture.

As well as these calls for a fairer vaccine system, there were approaches that looked at the structural and market issues. From a focus on business and corporations, Santoro (2021) argues that free markets and private enterprise worked in the development, but not the distribution of vaccines. However, they go on to reject arguments about vaccinating the Global South for global economic benefit, instead arguing for an absolutist position that we should vaccinate people because they need it. This perspective seems strangely at odds with the business perspective.

Li et al. (2021) take a critical global justice approach to vaccine distribution. They argue that in the light of inherent injustice in the global socioeconomic structure, a better approach would be to reward or sanction pharmaceutical companies that respectively support or destabilise global cooperation. Although promising, this approach leaves questions about the practicality and power of international organisations to do this.

One argument that Guzman et al. (2021) put forward is an incentivising idea. They suggest the Global North should ensure pharmaceutical companies deduct government subsidies

from product prices of vaccines – not for the Global North countries that have funded their vaccine development, but for the Global South. However, this seems to be a more convincing argument for providing lower prices and deals to the Global North country who subsidised them, rather than Global South countries (Guzman et al., 2021).

Looking at these articles, it is disheartening to see this scholarship in light of the continuing global vaccine inequities. The body of work shows that innovative solutions proposed here are still far from implemented. It is also likely that the literature on vaccine nationalism is far larger than is captured by this review of global health security ethics, but this provides a useful sample of thinking in this area during the pandemic. Like much of the pre-COVID-19 review, missing from this area was the perspectives of how those working in the area thought about or managed vaccine nationalism. This is a gap my research looks to fill (as per Chapter 8 and Chapter 9, Section 9.5).

3.5.4 Moving forward with a potential pandemic treaty

The final of the four novel areas in the during-COVID-19 review was ideas about moving forward to achieve better global health security after the COVID-19 pandemic, with a particular focus on a potential pandemic treaty. Although progress on a pandemic treaty has advanced since the search in 2022, this still presents a useful insight into authors' aspirations for this. The idea of a pandemic treaty is returned to in the Chapter 10 (Section 10.4).

The idea of the COVID-19 pandemic leading to significant changes in global health security was clear in the literature. Most authors acknowledged that after each previous disease

outbreak a similar process of calling for change took place, but there was still an argument amongst authors that this was a *"unique moment in history"* (Casale, 2020, p.1729).

Multiple authors focused on the initial work of WHO and other actors in calling for a global pandemic treaty. Some authors advocated for what should be included in a pandemic treaty, with common aims being greater authority and enforcement mechanisms for WHO, clear metrics and evaluation systems, secure funding, and government buy-in beyond health departments (Duff et al., 2021, Frieden and Buissonniere, 2021). These pushes for what should be in the pandemic treaty were tempered with caution that the process would be slow and risks derailing more immediate global health security improvements that could be made. (Frieden and Buissonniere, 2021).

A stronger focus than previously was on improving global health by prevention of outbreaks before they start, rather than on detecting and responding to outbreaks already in humans. Vinuales et al. (2021) suggest that the focus of the pandemic treaty should be on preventing outbreaks from happening in the first place through tackling elements such wildlife traffic or land-use change. Although not relating to the pandemic treaty, Bernstein and Dutkiewicz (2021) make a similar argument for restricting or eliminating animal agriculture to reduce zoonotic outbreaks as being similarly justified to other infringements of liberty for public health.

There was also concern that any treaty or changes to improve global health security reflected ethical priorities. Whilst similar to the pre-COVID-19 calls for ethics (see Section 2.10.3), the focus here was moving from nationalism to shared responsibility and solidarity (Assefa et al.,

2021, Duff et al., 2021, Gostin et al., 2021, Sehovic and Govender, 2021). This reflected the increasing concerns with nationalism, including concerns surrounding vaccines (see section 3.5.3) that were less present in the pre-COVID-19 literature. Again, many of these use these moral terms to end their articles on why a change is needed.

One exception to this came from Assefa et al. (2021) who argue for moving from nationalism to shared responsibility and mutual accountability when re-imagining health systems after COVID-19. They make their argument by suggesting that security, economic and moral gains lead to state imperatives to invest more into global health cooperation. Within this, the moral argument made is that rapid spread of pandemics is led by the globalised economies and travel patterns of the Global North and so the blame and subsequent duty to help lies with the Global North. This argument goes some way in trying to reverse the 'control diseases from the Global South' conception of global health security.

Overall, these articles provide powerful commentaries on where global health security should be going next. What is notable about these from an ethics perspective is that they contain the same calls for ethical considerations written by highly respected and renowned groups of authors, but still retain the gap in analysing what this means.

3.6 Literature review conclusions

This large and varied group of literature gives useful insight into the current arguments and moral concerns in global health security before and during the COVID-19 pandemic.

3.6.1 Summary

In the pre-COVID-19 literature review, my analysis showed that: there were varied ways of defining global health security; securitisation was the dominant theoretical framework in the literature but that this could come with ethical benefits and risks; the law and governance of global health security was highly criticised; some authors advocated for expanding global health security to address humanitarian concerns; and that despite interest amongst authors in advocating for a global health security based on collective responsibility, mitigating the unequal effects of outbreaks on different groups, and the principles of justice, solidarity, beneficence and equity, there was little analysis of what these principles might mean in practice.

In the during COVID-19 review, my analysis demonstrated that that there were some areas that were similar or overlapping between the pre- and during-COVID-19 literature including a continued interest in the definition of global health security, concerns about how humanitarian work interacted with global health security, critiques of the International Health Regulations and WHO, and advocating for expanding the scope of global health security to improve it.

Other narratives that were present in the pre-COVID-19 literature had evolved in the during-COVID-19 literature. This included interest and critiques of international organizations' roles in global health security other than WHO, and a focus on cooperation and solidarity in the calls for ethics. Finally, there were novel areas in the during-COVID-19 review which included concerns about the use of contact tracing apps and how to respond to infodemics and misinformation; analysis into how the COVID-19 and global health security has negatively impacted upon human rights; ethics articles about the injustice of, and proposed solutions to vaccine nationalism, and hopes for a better global health security through a potential pandemic treaty.

3.6.2 Type of literature

The pre-COVID-19 literature has a dominance of British and American authorship, with a small group of international relations and legal expertise contributing a large volume of literature. The literature published during the COVID-19 pandemic shows some geographical broadening of contributors, alongside less mention of the terminology of global health security. The lesser mention of global health security is perhaps because of this widening authorship which involves those not working within a global health security framework, but could also be attributed to the more reactionary and less theoretical nature of literature produced as a result of COVID-19. As well as patterns in authorship by geography, there are likely to be other differentiating factors about who speaks in this area that this review has not analysed, for example, the gender balance (see for instance Viglione, 2020). This is worthy of further study but out of the scope of this already-broad review.

Most of the literature included in these reviews was not bioethics literature, although this did increase in the during-COVID-19 review. Instead, most of the literature stems from international relations, law, global health or global health security policy, and a minority from social sciences. Whilst this non-ethics literature helps to illuminate the ethics concerns and gaps both through research articles, editorials and opinion pieces, very little of it contains primary data of a qualitative or quantitative nature. The volume of literature means the attention paid to each article is brief; this bird's eye view of the literature worked in an area in which there were few reviews or considerations of ethics.

3.6.3 Synthesising the literature

I interpret the pre-COVID-19 literature as showing that global health security has definitional, framing, and, in practice, moral challenges. Global health security is conceptually problematic because the WHO definition belies the political complexity of the term, there is controversy over securitisation as benefiting the Global North, and there are critiques over the governance and practical reality of the field. It is morally complex given that many authors perceive global health security as not living up to ideals of collective responsibility and equality between groups, and thus call for it to be based on justice, solidarity, equity and beneficence.

From the during-COVID-19 literature there was a similar focus on practical concerns about the structure and governance of global health security, alongside newer concerns that reflected what was topical during the pandemic, from problems of contact tracing apps to misinformation with unproven COVID-19 remedies. Global health security also continued to

be portrayed as morally problematic because of need for greater global cooperation during the early stages of the pandemic, the problem of vaccine inequity, and the call to embed principles including solidarity when moving towards a pandemic treaty.

One notable difference between the reviews is the ethical framing applied to communities during outbreaks. In the pre-COVID-19 literature, predominantly based around Ebola, this was framed as a problem of trust, whilst in the during-COVID-19 literature the dominance was of human rights. Whilst there could be many reasons given why this is not a fair comparison, I think this raises some uncomfortable questions about why certain framings succeed. Distrust framings were applied to citizens primarily from the Global South whilst infringement of human rights framings were applied when Global North settings were also affected.

Conspicuous by its absence through both reviews was the argument that the moral concerns of global health security should lead to abandoning the concept. This could be due to pragmatic or normative reasons. On the pragmatic level, this concept, although disputed, remains entrenched within language in domestic and international policy. So even if associated with morally problematic concepts or practices, it is necessary to work within this concept. The alternative is that the concerns about global health security are seen as less than the benefits it achieves for protecting populations from epidemics and (arguably) other causes of ill health.

An interesting part of the literature is that there seems to be an attempt to improve the concept of global health security through two methods. The first is to articulate what ethical norms global health security should include. The second is to use the lack of clarity over the

definition of global health security to allow for the proposed expansion of global health security into non-traditional areas, beyond acute infectious disease outbreaks, and to give it a much wider account.

3.6.4 Research gaps

As well as providing an explanation for how the field can be understood, my synthesis of the literature has revealed research gaps in the literature of three kinds: empirical, normative and conceptual.

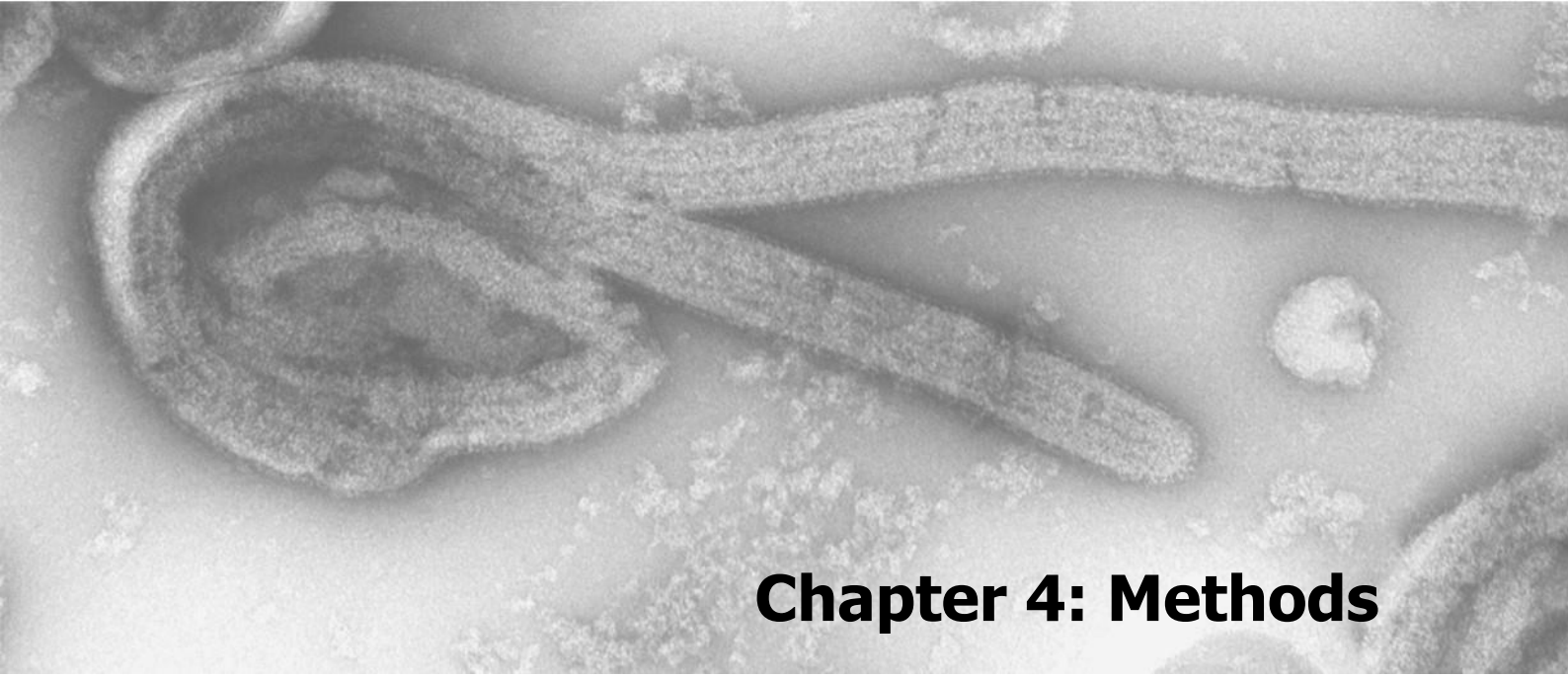
1. **Empirical gap:** This research has shown that there is an empirical gap for social sciences and empirical ethics. It is unclear, beyond the concept used in academic circles, and in policy reports, what global health security is to people that work in the area. It could be a field in itself with a workforce, norms and operations or just a framing of disparate aspects of global health in order to attract funding. It is unclear whether those working within it find it ethically challenging. It is difficult to see how global health security should be understood without investigating this empirically.

2. **Normative gap:** The normative gap in global health security occurs around lack of analysis of values within the field. What would, for example, a *just* global health security framework look like? The pre-COVID-19 literature contains numerous articles and editorials that give opinions on what global health security should be based upon with little elaboration. Although there are in depth discussions in the during-COVID-

19 literature, these related to specific topics, such as vaccine equity, with the same unspecified calls for ethics being applied to global health security as a concept.

3. **Conceptual gap:** The conceptual gap occurs when considering what a narrower or wider concept of global health security would mean for the field. As a narrow concept, global health security could be seen to be about preparing and responding to severe epidemics or pandemics and understood through a securitised lens. A wider conception global health security would be based on individual health security, universal health coverage or One Health. It is unclear what global health security is in practice, or what it should be.

My research in the rest of the thesis will address these gaps by exploring the scope, limits, and ethical issues within the global health security enterprise with a focus on the perspectives of all those that work within it. The next chapter will discuss and consider the methodological questions relating to how to go about undertaking this research.



Chapter 4: Methods

4.1 Introduction

This chapter sets out the methodological position and my methods for studying ethical dimensions of global health security. The study that I undertook aims to address some of the empirical, normative and conceptual gaps identified in the literature review (Chapter 2 and Chapter 3), particularly the lack of perspectives from those that work within global health security.

The first half of the chapter sets out the aims of the study and the rationale for the empirical ethics approach I utilise. The second half elaborates on the methods required for such an approach, and how each method was justified. The chapter ends with my reflections on positionality, reflexivity, and rigour.

4.2 Aims

Study aims were developed from the research gap identified in the literature review described in the previous chapters. The aims of the study are to:

1. Map out and analyse the range of ways in which global health security is understood
2. Explore ethical challenges and values for those working in global health security or related areas
3. To consider what ethical principles, values or concepts should guide global health security and how this should be decided

The first and second aims are broadly empirical, as these involve mapping out ethical issues which arise in practice and collating interviewee perspectives on how global health security is understood. It also includes a degree of conceptual analysis[20] given the contentious nature of the definition of global health security found in Chapter 2. The final aim is normative which requires analysis of the normative claims interviewees make, alongside the literature to consider what ethical principles, values or concepts should guide global health security and how these should be decided.

4.3 Selection of research methodology

From the aims identified in the previous section, I explored methods that would enable my study to meet these aims. The challenge with these aims is they require an approach that is

[20] As well as being descriptive this aim *(to map out and analyse the range of ways in which global health security is understood)* also involves conceptual analysis of what the terminology of global health security means in order to enable research on how global health security should be practised.

Conceptual analysis is also an important aspect of bioethics research, as ambiguity over the meaning of terms can lead to unnecessary disagreements in which *"interlocutors can't even agree on what they are disagreeing about"* (Parker, 2020). Whilst conceptual analysis is a common aim in bioethics research, this commonly involves conceptual reasoning rather than empirical data. Although my aim of using empirical methods for conceptual analysis is unusual, it is appropriate in this research project because of the lack of empirical data in practice – to attempt to use reasoning alone to define global health security could lead to a definition which risks being poorly connected to reality.

both empirical and normative, as well as one that can be used in a global setting. This is because the literature review that they were developed from revealed that there was very little empirical research from social science or bioethics, including no studies found exploring the meaning or ethical implications of global health security with those working in the field.

A purely philosophical approach that did not include data collection, risks producing a thin account of the ethics of global health security not grounded in practice. For example, whilst in the literature review there were concerns that global health security as an enterprise promotes self-interest of Global North countries (Section 2.7.1.3), it is unclear if those working on global health security programmes find this to be an ethical concern in their work. Thus any analysis of self-interest without evidence in which to ground it might be a good theoretical contribution to the literature, but would also risk analysing a theoretical rather than real ethical problem.

A purely sociological approach would enable the development of a deep and rich understanding of the moral world(s) of those working in global health security or related areas, which would meet my first and second aims. However, whilst this approach could explore what ethical principles, values and concepts those working in global health security think should guide it, it would not be possible to ask what ethical principles, values or concepts *should* guide global health security as per my third aim. This is because sociological questions examine the social meaning or pattern of the phenomena rather than normative questions of what should be done.

Having established that a purely philosophical or a purely sociological approach would not answer my research aims, I chose to evaluate two methods that enabled a mixed philosophical and sociological approach. These were empirical bioethics and qualitative examinations of ethics in global health.

4.3.1 Empirical bioethics

Empirical bioethics is a cluster of methodologically distinct but overlapping approaches aiming to integrate empirical methods *(commonly qualitative data collection)* and normative *(argument based)* enquiry. The movement towards empirical bioethics is driven by concerns that some philosophical ethics research can be insufficiently grounded in the realities of real-world problems (McMillan, 2016). Empirical bioethics typically has a close connection to practice and aims to have impact through the production of justifiable normative outputs (Dunn et al., 2012).

It is important to note, however, that views about the nature and limits of empirical bioethics are far from homogenous. Important discussed methodological questions within the field include, for example, whether it should be seen as a broad methodological approach including all studies that collect empirical data about a bioethics topic *(which might, for example, include a sociological study of ethical views)*, or whether it should be understood more narrowly as I define it above at the start of this section, i.e. as including only those studies that aim to integrate empirical *(commonly social science)* analysis with ethical analysis in order to draw normative conclusions (Ives et al., 2018). Research defined as empirical ethics has previously included that which describes attitudes towards an issue of moral concern (De

Vries, 2004); studies which consult interviewees but in which the researcher generates their own normative conclusions *(known as consultative methods)*; and those in which coming to a joint conclusion with study interviewees is key *(known as dialogical methods)* (Davies et al., 2015a). Whilst recognizing and acknowledging the importance of these discussions, in this study I have adopted the narrower definition of empirical bioethics as set out above, that is as work that involves a degree of integration of an empirical analysis with philosophical analysis in order to draw normative conclusions.

This integration of empirical and philosophical analysis means that empirical bioethics is a potentially useful method for undertaking my research because it would enable me to address both the empirical and normative aims. The key challenge with utilising an empirical bioethics approach of this kind is, however, the methodological question of what – if anything - can be normatively established on the basis of an empirical inquiry. There is a long philosophical history of debate about whether, and if so how, it is possible to move from empirical facts to normative claims, with seminal philosophical arguments relevant to this including the is-ought gap and the fact-value distinction derived from it (Hume, [1738] 2020), and the naturalistic fallacy (Moore, [1903] 2006). Whilst these arguments are all potentially problematic for the integration of empirical data with normative claims, this is the problem that recent theoretical and methodological innovations in empirical bioethics aims to challenge: Some in the field of bioethics have begun developing methodological approaches based on a view that the distinction between the empirical and the normative may not be insurmountable. How these methods justify the connection between the normative and empirical is explored in Section 4.4.

Not only does empirical bioethics face philosophical challenges about the connection between the empirical and the normative, it also faces challenges from social science. Hedgecoe (2007) has argued that empirical bioethics approach is largely redundant and does not add additional gain to research already undertaken in social sciences about ethics. To consider whether this criticism is valid for the methodology needed to meet my particular research aims, it is therefore useful to look in the next section about whether a relevant social sciences approach that would fall into the wider definition of empirical bioethics as defined above, could be a better methodology for my study than empirical bioethics.

4.3.2 Qualitative examinations of ethics in global health

The type of research most relevant to my topic of global health security can be summarised as 'qualitative examinations of ethics in global health'. In articles from this tradition, there is an explicit examination of ethical issues using qualitative methods such as ethnography (Crane, 2010, Grant, 2016, Biruk, 2017), interviews (Grant, 2016, Walsh et al., 2016), and workshops (Wahlberg et al., 2013). These more recent studies build on a literature considering clinical bioethics in its social context that developed mostly in the US in the 1990s (led by authors including Jennings, 1990, Hoffmaster, 2001).

The key difference between empirical bioethics (according to the narrower definition above) and qualitative examinations of ethics in global health is that empirical bioethics often produces normative conclusions *(that is, uses ethical reasoning and develops arguments to come to conclusions about how individuals or organisations should or should not act)* (Ives et al., 2016, Ives et al., 2018). By contrast, qualitative examinations of ethics in global health

tend to describe how ethical issues arise and are managed in practice and apply social theory to explain the occurrence of the issues identified (Crane, 2010, Fassin, 2010).

However, some qualitative examinations of ethics in global health include more normative conclusions than others. Crane, undertaking a qualitative examination of ethics in global health style, states her purpose is not to judge whether practices are ethical or unethical *"morally adjudicate"* (2010), whereas Walberg et al. do produce more normative recommendations (2013). Overall, it can be seen that many studies in the qualitative examinations of ethics in global health seem to implicitly, but not explicitly, take an ethical position. For example, in Biruk's (2017) analysis of soap as a gift for participating in research in Malawi, it is implicit in the description that soap is the wrong form of reimbursement, but this is not concluded, nor is there a recommendation on how to go forward.

Considering the context in which these two methodologies have been applied, qualitative examinations of ethics in global health evidently focus on global health concerns, and many have a focus on issues relating to Global North-South power differentials (see for example Walsh et al., 2016). These studies often have a rich narrative of a particular case, situating it within its social and political context in a persuasive and powerful way. A good example of this is the previously mentioned exploration of giving soap for participation in research studies in Malawi (Biruk, 2017). These studies often focus on wide societal principles such as social justice and power. By contrast, many empirical bioethicists by the narrower definition have focused their work on clinical encounters in the Global North (see for example Rumbold et al., 2017, looking at ethical desirability of self-test diagnostic kits for influenza in the UK).

These studies often look at ethical issues relevant to clinical decision making, such as confidentiality or beneficence.

Given the characteristics of exploring ethical issues by undertaking a rich empirical examination and a common focus on Global North-South power differentials, undertaking this study in the style of qualitative examinations of ethics in global health would be a valid alternative to empirical bioethics. In particular, the focus on Global North-South power differentials could be a good focus by which to explore global health security because of the concerns found in the literature review about self-interest of Global North countries (Chapter 2, 2.7.1.3) and vaccine nationalism (Chapter 2, Section 3.5.3).

However, despite the value and important contributions of qualitative examinations of ethics in global health, this method is not adequate to the task I have selected for my thesis which is specifically to reach some - evidence informed - normative conclusions. However, it is useful to learn from the strengths of qualitative examinations in bioethics. In particular, the research includes the richness of the social and political context, the thick description (Geertz, 1973), that adds a dimension to the research that is sometimes lacking in empirical bioethics research. This is important for these study aims because the literature review suggested that global health security operates in a complex political environment, but yet lacked any research about how professionals working in global health security understood this environment.

4.4 Choosing an empirical bioethics method

In the previous section I have set out my reasons for choosing an empirical bioethics method capable of enabling me to meet the study research aims that require empirical investigation alongside explicit engagement with how to make normative claims (see aims in Section 4.2). The next step in the process was to examine what of the available empirical bioethics methods would put me in the best position to answer my research question. The choice of empirical bioethics method is crucial because it provides the justification and steps by which the empirical-normative gap is bridged. As this is a theoretically and practically challenging task, I chose to review in more detail three different empirical bioethics methodologies (Frith, 2012, Ives, 2014, Leget et al., 2009), alongside a philosophical methodology for public policy (Wolff, 2019), to judge which is most suitable for my research. Although Wolff does not himself categorise his method as empirical bioethics, nor does it contain a method for empirical data collection, I have included it in this comparison because it is a practice orientated method for looking at ethics in public policy. Most empirical bioethics methods are orientated to individual clinical interactions, but as my topic shares more similarities with a public health ethics or health policy topic, I thought this was a useful method to include.

When reviewing these methodologies, I noted that they have key similarities in process (Table 6). Whilst the epistemological positions between theories vary, a common approach was to 1) determine the problem, 2) map the ethical arguments, 3) understand the options for solving the challenge, 4) evaluate the options, and 5) come to a normative judgement.

Table 6: Empirical bioethics and engaged philosophy methodologies

Stage of method	Symbiotic empirical ethics (Frith 2012)	Reflexive balancing (Ives 2014)	Critical applied ethics (Leget et al. 2009)	Engaged philosophy (Wolff 2019)
Epistemological position	Moderate pragmatic naturalism*	Moderate pragmatic naturalism*	The fact-value distinction is key, ultimately ethical theory renders moral judgement	A bottom-up approach starting from problem, not theory
Determination of problem	Setting out the circumstances	Identification of a moral problem	Determination of the problem as a moral problem	Identify the issue and current situation
Mapping ethical arguments	Specifying theories and principles	Disciplinary naive inquiry into the problem	Description of the problem	Identify the arguments and values
Understanding the options	Using ethical theory as a tool of analysis	Reflexive Balancing**	Effects and alternatives	History and comparisons Create a profile of possible solutions
Evaluation	Theory building		Normative weighting	Evaluation of options
Normative decision	Making normative judgements		Evaluation of the effects of a decision	Policy recommendation

The left column is a colour coded key for my summary of the stage

* The meaning of naturalism is explored in Section 4.4.2 below

** Ives' reflexive balancing is a far more sophisticated process than can be summarised in this form but in essence covers multiple of the stages of the bottom half of the table.

The key differences between the methods are how they use theory and whether they prioritise theory or treat the empirical data and theory as equally important.[21] My analysis of these methods suggests that Leget and Wolff prioritise theory over empirical data. This is because Wolff (Table 7, final column) suggests his approach is inductive but relies on secondary and historical data informing his applied philosophical approach. Leget's method (Table 7, third column) collects empirical data, but ultimately prioritises theory in order to make a normative judgement. By contrast, Ives' reflexive balancing (Table 7 second column) uses a modified form of reflective equilibrium in which the empirical and normative are treated as real equals. Frith's approach (Table 7, first column) has a stronger emphasis on theory as a methodological tool to interrogate empirical data with, but again sees theory and empirical data as symbiotically linked equals.

My conclusion from this was that any of these methods might be sufficient but that the best method would hinge on whether 1) my research aims required prioritisation of theory or empirical data or whether these were to be treated equally, 2) my agreement with the epistemological position of the method and how this fitted with the epistemological position of my qualitative analysis methods, and 3) the practical nature of how instructional I found the methodology in order to be able to follow it and adapt it to my project.

4.4.1 Symbiotic empirical bioethics

Having reviewed each of the approaches using the criteria listed above, I decided that the most appropriate methodological approach for my study would be one inspired by Frith's

[21] My analysis of methods did not find any approach that treated empirical data as more important than theory.

symbiotic empirical ethics, although I think learning some lessons from Wolff's application to public policy is a useful addition.

Frith's symbiotic ethics is the best methodology because for my study as I see the empirical and normative as being of equal importance, because of the need to engage with ethical questions arising in the real world: Both empirical data and normative analysis are missing from our understanding of global health security, and the aims of the study cannot be met without strong engagement with both.

Frith's method is instructional and suited to my research aims compared to other methods in which the process within a specific method can be less clear. This is explored in further details in Section 4.7.

However, I also found it useful to incorporate some elements of Wolff's engaged philosophy, a philosophical method for public policy starting, bottom-up, from the problem, not the theory (Wolff, 2019). In particular, I decided to include the stage of 'identifying the range of normative arguments', and looking at how normative conclusions apply to policy, as seen in the third and the final rows of Table 6. The reason these additions are pertinent to my study aim, yet are not included in Frith's methods is that symbiotic ethics is primarily applied to clinical ethics, rather than public policy. It is true that a normative conclusion from a clinical ethics project could be a policy change, but equally could lead to changing best practice among health professionals within a hospital even if this does not affect local or wider policies. My initial hypothesis about global health security was that this is an area that is more about policy than clinical practice and thus it was useful to consider, in addition to Frith's

methods, what policy arguments were being made and how any normative conclusions were relevant to existing policies in the area.

Finally, and perhaps most importantly, I find her epistemological position convincing. I will explain and justify how this is appropriate for my study in in the next section (Section 4.4.2).

4.4.2 Moderate pragmatic naturalism

The epistemological approach that Frith takes to the relationship between the empirical and the normative builds on the 'moderate pragmatic naturalism' named by Racine (2008), plus a similar moderate naturalism adopted by Parker (2009). This approach is grounded in the claim that ethical norms originate out of human experience and cannot be understood in isolation from this.

It is Racine's discussion of the distinction between anti-naturalism, strong naturalism and moderate pragmatic naturalism that is most useful for me here in outlining my epistemological perspective, because in this he articulates why there can be no coherent account of a clear distinction between empirical facts and normative claims. In the following paragraphs, I discuss why an anti-naturalist approach or a strong naturalist position are problematic for my research aims, before explaining why a moderate pragmatic naturalism is a valid approach.

An anti-naturalism perspective reflects philosophical ethics in which normative thinking is the only way in which ethical norms are developed. Rejecting this perspective is no great feat for many practical bioethicists as it is broadly incompatible with providing real life solutions to

ethical problems. Of course, this does not mean that anti-naturalists are necessarily wrong, but a strong anti-naturalist position is problematic for any applied ethics, including my proposed research aims. Racine argues that the anti-naturalist argument that the empirical can have no influence on values is untenable, as illustrated by even supposedly theory-led perspectives such as Beauchamp and Childress's influential Four Principles approach (2001) who need to reject some anti-naturalist commitments: in the process of specifying principles Beauchamp and Childress implicitly reject that idea that ethical principles have no relationship with natural properties. This is because the process involves adding context-specific content to general moral norms to ensure they are action-guiding (Beauchamp and Childress, 2001, p.15, Racine, 2008). For example, in applying beneficence (doing good) to planning an international aid programme, context specific factors such as the power dynamics between the donor and recipient, how far the aid meets local expectations, and the historic relationship between the countries would be just some of the empirical context needed to determine if an action is beneficent, or if beneficence is a useful principle here, compared to a competing principle of justice in the context of reforming aid donations.

On the other pole, Racine suggests that a strong naturalist position cannot be coherent either (2008). A strong naturalistic position might find no distinction between is and ought, thus ethical norms are natural properties, and bioethics is reduced to biological imperatives. This commits Moore's naturalistic fallacy ([1903] 2006) that it is not possible to infer that something is good from any proposition about its natural properties. An example of this might be inferring that since drinking champagne gives me pleasure, it is good to drink champagne. This would not necessarily be the case as there might be good reasons not to drink

champagne such as long-term health damage or harming others whilst intoxicated. So a strong naturalistic approach is problematic in that it reduces bioethics to these biological functions and problematically commits Moore's naturalistic fallacy.

Racine argues instead that there is a coherent middle ground that involves a closer relationship between the empirical and the normative (2008). This middle ground for Racine is moderate pragmatic naturalism, for which he draws on the writings of Fagot-Largeault (1987)[22] and Moreno[23] (1999). This involves key theoretical commitments. Of these, the most important is that rather than there being a clear distinction between *is* and *ought*, there is a fact-value continuum, in which facts are necessary but not sufficient to bioethics. On this continuum some areas will be more factual, *(for example that microbiological results have confirmed Ebola in X country)*, other areas will be more value based, *(for example, that there is value in sentient life[24])*, but most areas will be along the fact-value continuum, with facts necessary to elicit appropriate normative judgements *(for example, we should tolerate a small level of risk when asking public health workers to collect possible Ebola samples in X country).* In this example, there are both context specific facts about the risk of Ebola to public health workers, and values in what professional risk is acceptable when undertaking a job in an outbreak situation. This perspective also suggests that whilst ethical principles cannot be reduced to natural properties, ethical knowledge must take into account human capacities

[22] Racine draws upon the following source, but I have not read the original as it is in French with no English translation available: A. Fagot-Largeault. Vers un nouveau naturalisme: Bioéthique et normalité. Prospective & Santé 1987; 40: 33–38.

[23] Moreno is in turn drawing on the early twentieth century American pragmatism movement that viewed knowledge as arising from an active adaptation of persons to their environment.

[24] Although this will still be argued, and context specific

(*ought implies can*). The phrase *'ought implies can'* means that to state that one ought to do something, it needs to be within reasonable human capabilities to be able to do that. Whilst one does not need to be a moderate naturalist to believe this, any adequate understanding of human capabilities and the context of a particular problem which might limit what options are available for action, depends upon the acknowledgement of connections between the empirical and normative. Thus, these ethical norms do solely not follow from either reason or experience, but rather from their interaction.

This interaction is the core feature of Frith's symbiotic ethics, with practice informing theory, and theory informing practice. Frith's uses Nussbaum's criticisms of a top-down approach to applying theories of justice as an illustrative example of this (Frith, 2012, Nussbaum, 2000). Here, Nussbaum is called upon as an example because she argues that although theories of justice need to be able to apply beyond specific cases, in doing so these theories must be context specific. That is, they must be reshaped in application to new cases in context. The ethical recommendations that result from such a method are still subject to revision as the context may only be partially known, or may change, which will affect the application of theory, but these recommendations attempt to incrementally improve perspectives on what we should do.

Overall, I find this account of moderate pragmatic naturalism a convincing way to understand the relationship between the normative and the empirical, as well as a methodological approach that is capable of leading to new knowledge when researching ethics in global health security. Importantly, the kinds of problems that I seek to identify – ethical problems

in the real life practice of global health security – are amenable to be solved by this kind of approach.

4.4.3 Applying a symbiotic ethics approach

In this methods chapter so far I have outlined 1) my research aims, 2) how I selected an empirical bioethics approach as the best methodological approach for addressing my research aims, and 3) how I selected symbiotic empirical ethics with some additions from engaged philosophy as the best empirical bioethics approach for my study. Before moving onto the process of how I undertook the study, it is useful to provide an explanation of the stages of the method and how it is applied in practice.

Frith's method, as per Table 6, involves five stages. The first stage, which Frith labels as 'setting out the circumstances', is about describing views and opinions on the topic of concern. The second stage, labelled as 'specifying the theories and principles', involves identifying and describing the ethical concepts that arise from the empirical data analysis. The third stage, labelled as 'using theory as a tool of analysis', encompasses using theoretical ethical perspectives as an analytical tool to explore the empirical data. The third and fourth stages are closely related, with the fourth stage of 'theory building' involving considering how the theory used in stage 3 can be modified to incorporate contextual empirical factors. The final stage is about 'developing normative recommendations' based on this interaction between theory and empirical data. How I applied these stages, and incorporated some elements from Wolff, is described in full later in the chapter in Section 4.7.

Frith's symbiotic empirical ethics method is the primary method used for the study. It guides my approach to collecting and analysing empirical data and combining it with normative analysis. However, in common with other empirical bioethics methods, symbiotic empirical ethics is a specific method of how to combine empirical data with normative analysis, but utilises existing methods of collecting and analysing empirical data from the social sciences, and normative analysis from philosophy.

Although the requirement for 'extra' methods within an overarching method could be seen as a weakness of symbiotic empirical ethics, I think this is, in fact, a strength as it acknowledges the long history of methodological developments in social science and philosophy. In an article on developing standards of practice, Ives et al. (2018) emphasise the importance of rigorous engagement with, and implementation of social science methods and normative analysis.

Therefore, as I move onto the next half of the chapter by which I outline the methods by which I undertook the empirical bioethics study, I will spend the next sections specifying and justifying in detail my secondary methods for collecting and analysing empirical data as these are the crucial foundation for empirical bioethics, before returning to how symbiotic empirical ethics guides my method of integrating the empirical data and normative analysis.

4.5 Empirical method

This section moves from my methodological approach to the study, to my methods for empirical data collection. In the first section, I justify what empirical data is needed, before explaining how I collected this data.

4.5.1 Choosing an empirical method

The first stage of Frith's symbiotic empirical ethics method, which she labels as 'setting out the circumstances' (Table 6), is about describing views and opinions on the topic of concern – in the case of my study that is on global health security. As discussed in the previous section, this is flexible to the use of any empirical method that can be justified.

In Chapters 2 and 3, I argued that there was very little literature that considered global health security from an ethics perspective, and even less that gathered empirical data looking at the perspectives and experiences of those that work in this area. Informed by these literature review findings, and given my study aims, I reached the decision that qualitative methods were the most appropriate method to enable understanding of the perspectives of those working in global health security, as well as those working in related areas that may have differing views (for example, anti-security perspectives seen from some medical aid NGOs).

After considering the relative strengths and limitations of different qualitative methods, I decided to undertake interviews with these professional stakeholders. Whilst I considered focus groups or ethnography, I predicted the sensitive and political nature of global health security means that richer data is more likely to be gained when speaking to interviewees

individually than in a focus group. I did not think ethnography was feasible, because of COVID-19 barriers to in-person ethnography during the data collection period, and difficulties of access within, for example, government organisations.

I decided that my interviews would be semi-structured. This is because semi-structured interviews allow a focus on certain topics – in this case ethics within the interviewees work in global health security – but also allow flexibility to explore unexpected topics that interviewees might raise that I had not considered, but were relevant to the study aims (Bryman, 2012).

4.5.2 Data collection

The empirical study was undertaken between June 2021 to April 2022, by means of 38 semi-structured interviews.

4.5.2.1 Inclusion criteria

Interviewees were public health or policy professionals who currently or previously identify as being involved in global health security and/or working in related areas in the context of acute infectious disease outbreaks (including from public health, government, NGOs, think tanks, and academia).

4.5.2.2 Ethics Approval

An application was made to the University of Oxford Medical Sciences Interdivisional Research Ethics Committee[25] on April 28th, 2021, and received formal approval in May 5th 2021 (see Appendix 3). A later amendment was made to this approval to allow telephone calls as well as internet-based video or audio calls, after requests from interviewees who had insufficient internet bandwidth or preferred a telephone call, and was approved on 24 September 2021.

4.5.2.3 Sampling strategy

My sampling strategy used a mixture of purposive and snowball sampling. My existing networks[26] along with the networks of my supervisors were utilised as an initial method to recruit the first interviewees, before employing a snowballing technique (asking interviewees to recommend other potential interviewees) and purposive sampling for further recruitment. Purposive sampling outside of my networks included looking at professionals publicly listed as belonging to key global health security or epidemic response networks or groups (for example, the Global Health Security Agenda Consortium).

The choice of this sampling strategy was informed by a recognition of the importance of identifying and gathering data from a varied range of perspectives. To try and minimise the chance that this strategy reflected my own biases from my professional experiences in the

[25] Eligible for CUREC 1 (lower-risk research involving human interviewees and/or their data)

[26] Existing networks include from experiences as a public health doctor in the UK, an alumnus of the John Hopkins University Emerging Leaders in Biosecurity (ELBI) Programme and as a member of the Next Generation Global Health Security Network.

field, I initially undertook a scoping stakeholder mapping, using publicly available information (Figure 4)[27]. This stakeholder mapping is organised by sector, and shows that stakeholders in global health security include a wide diversity of different government departments, international organisations, non-profit organisations, academic institutions, private sector companies, as well as multiple groups and alliances. This does not in any way aim to be a comprehensive stakeholder analysis, but highlighted to me the different types of stakeholders present in this area. My hypothesis, going into interviewee recruitment, was that stakeholders who I wanted to recruit should have differences in multiple dimensions: different types of organisations (primarily government, NGO, non-governmental, but also private sector), different professional backgrounds (for example, health, policy, development), different levels of seniority, and different countries of work.

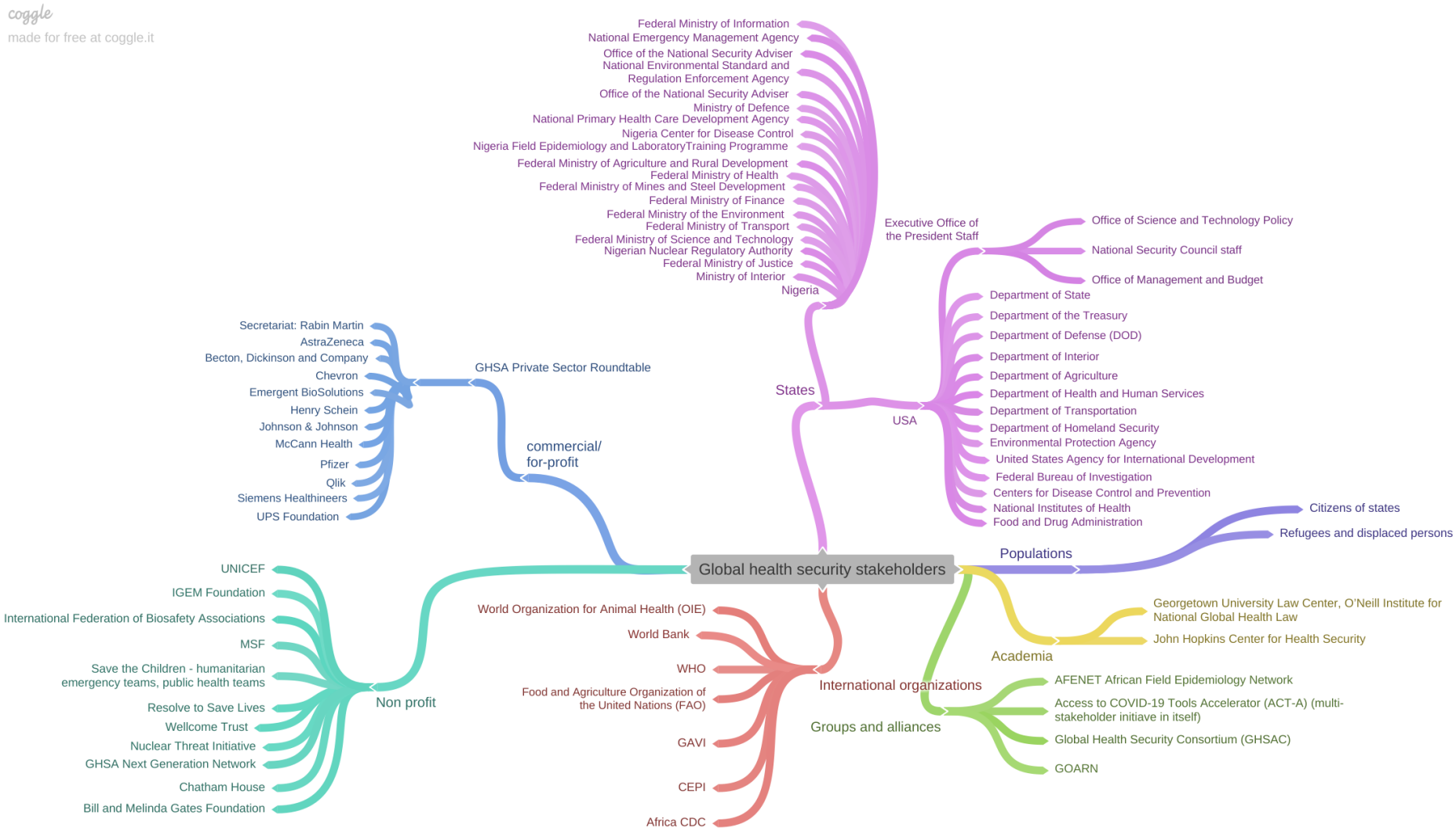
Whilst I did not seek to recruit a balanced sample of interviewees, as would be desirable in a larger quantitative study, a concerted effort was made to include a heterogeneous range of interviewees to try to obtain a wide range of opinions and experiences. The risk from snowballing and purposive sampling of unintentionally falling into a sample of convenience was mitigated by the stakeholder mapping, but also practical elements.

This included being able to conduct remote interviews from two different time zones (Greenwich Mean Time / UTC +0 between June to December 2021) and (Pacific Stanford Time / UTC -8 between January and April 2022), as well as being willing to conduct interviews

[27] Within this stakeholder analysis I chose two states, Nigeria and the US, as examples of the different government organisations which could have a role in global health security.

outside normal working hours in either time zone, which meant that there were very few time zones in which conducting an interview was impractical. Using a variety of data collection methods including online video call and telephone, which is detailed in Section 4.5.2.5, mitigated the risk of technological barriers to participation.

Figure 4: Scoping stakeholder mapping



4.5.2.4 Process of recruitment

Interviewees were primarily recruited by email, with a minority of interviewees being emailed via the LinkedIn platform, if an interviewee was recommended to me, but no email address was provided or could be found online. In both methods, an initial email was sent with attached interviewee information sheet, followed by a second reminder email, again with attached interviewee information sheet, if there was no response. If a positive response was given, my University of Oxford email address was always used to answer questions and arrange the interview time.

Whilst a risk of sending emails is that these may be overlooked by busy professionals, the relatively high response rate to this study indicated this was not the case. Of the 63 potential interviewees invited to participate, 38 (60%) chose to participate in the study. Of those who chose not to participate, 4 (6%) initially responded but I was unable to schedule an interview, 4 (6%) declined or recommended a colleague instead, and 17 (27%) did not respond to the invite. Although the reason for declining interview was not asked for, several potential interviewees volunteered that they did not have time for an interview which was understandable given the context of recruiting interviewees with infectious disease experience during the COVID-19 pandemic.

Once an interview was agreed on, consent forms were emailed to interviewees in advance of that interview, with the explanation that they could a) provide consent in advance if they felt comfortable that the interviewee information sheet and any questions asked by email provided sufficient information for them, or b) wait to the start of the interview with an opportunity to ask any further questions. Whether the consent form was received back or

not, the interviews always started with an explanation of the project and the opportunity to ask questions. Common concerns were about being qualified for the study or to talk about ethics, but these were generally mitigated through reiterating that, if they wanted to contribute, their perspective would be valuable irrespective of whether they considered that they had any ethics experience.

At the beginning of some interviews, interviewees were happy to discuss consent and fill out the consent form, but then requested me to email this through after the interview to avoid wasting interview time. As long as I established via a conversation at the start of the meeting that the interviewee understood the study, its risks, and verbally consented to this, I agreed to these requests. Some interviewees asked follow-up questions before or after the interview, which were primarily about de-identification or data sharing, for which I replied by email and offered a telephone call. No interviewees requested a call or withdrew from the study. One interviewee failed to fill in a consent form but confirmed by email their consent and, for another interviewee, oral consent only was given, following the University of Oxford guidance on oral consent.

4.5.2.5 Conducting interviews

Interviews were conducted remotely using Microsoft Teams or telephone. The remote interviews had several advantages. It allowed both a wider geographical range of interviewees and was in accordance UK and University of Oxford policy requirements during the COVID-19 pandemic. It was also a smaller commitment for busy professional interviewees, as this did not require them to travel or facilitate my entry into their workplace and, in addition, it was more environmentally friendly and cost-effective (Lo Iacono et al.,

2016, Sullivan, 2012). Having the additional telephone option avoided issues such as lack of high-quality internet access preventing participation. Given these were professional interviewees, it was not expected that there would be many potential interviewees without access to either telephone or internet connection. Some of these factors may also explain the high response rate for the study.

Although there were some potential drawbacks with remote online interviews including the risk of technical problems and it being potentially harder to establish rapport (Lo Iacono et al., 2016, Sullivan, 2012), I did not consider that these risks outweighed the benefits discussed for this research project. In practice, I found that only a minority of interviewees had technical issues as most were conducting the majority their meetings in a similar format due to the COVID-19 pandemic. Whilst it is difficult to comment on whether rapport would have been better during in-person interviewees, I found that interviewees often appeared to be in their home environment, which may have been more comfortable for them.

4.5.2.6 Topic Guide

A topic guide was developed from the study aims that included sections on 1) the interviewee's role, 2) definitions of global health security, 3) ethical concerns within global health security 4) COVID-19, and 5) final questions about any areas the interviewee wanted to talk about. This was iteratively adapted as the interviews progressed, to reflect how well questions worked and to include ideas brought up unprompted by interviewees that seemed pertinent to research aims (see further reflection on this in the pilot interview section). The key changes between the initial topic guide and the final topic guide were as follows:

1. Adding a caveat at the beginning that "*some of the questions I may ask might sound naïve, or that you may feel we both know the answer to, but this is because I do not want to make assumptions about what you mean"*. This was added because in initial interviews, I realised that, because I share some language and background in global health security with some of the interviewees, I was making assumptions about the meaning of this shared language between us, and interviewees were making assumptions about what I understood. Adding this caveat allowed me to feel more conscious of, and comfortable in, questioning these assumptions.

2. Changing the first section on the interviewee's role from open questions to brief demographic questions. This was to avoid spending too high a proportion of the interview discussing this (see also Section 4.5.2.6. a).

3. Adding in questions asking interviewees to reflect on what prior interviewees have said. For example, *"One of my prior interviewees asked "Does global health security have to be ethical to be effective?" How would you answer that?"* These kinds of question allowed me to learn from the questions and new ideas of previous interviewees.

4. Asking both specifically about ethical challenges, but also about unspecified difficulties and challenges in their work. This was because some interviewees found it hard to answer a question about what *ethical* challenges they found in their work, but were comfortable talking about challenges and difficulties in their work, and these

challenges sometimes had ethical dimensions. I was also concerned that for some interviewees, asking about ethical challenges sometimes implied unresolved challenges, and so interviewees thought I was more interested in problems than solutions, which I did not intend to be the case.

4.5.2.6. a) Pilot interviews

The first four interviews, undertaken between 6th June 2021 and 2nd July 2021, were aimed to both be an integral part of the main study, but also to act as pilot interviews for trialling the topic guide, questions, format, and structure of the interviews. These first respondents were therefore chosen to be diverse in disciplinary background and geography (with interviewees with experience in academia, government programmes, non-governmental organisations, and international organisations from Europe, North America and Africa) to see if the questions themselves translated to different settings.

A risk with this approach was if the pilot interviews showed the format and structure of the interview was problematic, it might not have been possible to include these interviews in the main study. However, these pilot interviews provided useful learning and, after discussion with my supervisors, I decided they were useful to include within the main study. The concerns and observations arising from these interviews were used to adapt the topic guide. These included:

1. **Confidentiality** – Interviewees working in government departments were concerned that their colleagues might be able to recognise them, from even anonymised quotes in a report. This was because those in the field often had specific experiences in a

narrative, for example, an interviewee worked on X disease in this country in this programme funded by this organisation. These concerns were important, so were dealt with in two main ways. It was decided not to specify countries interviewees worked in, but restrict this to continent. Secondly, the amount of autobiographical information collected in the interview was reduced to a couple of brief demographic questions at the beginning of the interview. Any aspects thought to be potentially revealing were altered or excluded from analysis.

2. **Timing** – the first interviews were undertaken with a booked, one hour timeslot for the introduction, any questions, interview, and finishing up. This was too short and I found that I overran or didn't have a chance to finish my questions (if they had to leave at the end of the hour). Despite this, I chose to keep the interviews at one hour total, as any longer might disincentivise busy professional interviewees. As above, the solution was to cut the number of autobiographical questions asked as well as better interview time management. As interviews progressed, I also booked 45 minute and 30 minute timeslots with some interviewees, if that was all they were willing to schedule.

4.5.2.6. b) Finishing interviews and data saturation

I relied on the theoretical idea of data saturation to decide when to finish conducting interviews. That is, a decision was made to conclude data collection at a point when it was judged that the data collected were a) comprehensive and in depth, and b) when there appeared to be no new key insights or themes emerging, rather than seeking all data collected to be repetitious (Morse, 2015, Seale, 1999).

As the interviews progressed, I thought I might possibly be reaching saturation with respect to some of the key ideas, for example, those relating to the different definitions of global health security and boundary setting around this term. However, I was keen to ensure this was due to the fact that all the key themes in these areas had been explored, rather than that some kinds of people had been excluded from the study (see Section 4.5.2.6. e). In one other respect too, I felt that saturation had not been reached at this point. This was with regard to the types of examples interviewees found ethically challenging in their work. I therefore continued interviews paying particular attention to seeking new perspectives on themes I thought might be saturated and targeting more questions towards the topics that were incompletely explored in the data set. For example, in later interviews I asked more provocative questions to elicit in-depth responses and understanding of interviewees reasoning for their viewpoints (for example, *'To play devil's advocate, the argument against what you are saying might be X. How would you respond to this?'*). I used these questions more often in the latter half of interviews when rapport was already established with interviewees.

I estimated that I would need to recruit around 40 interviewees (range 30 – 50) in my initial study planning. This was a higher range than many empirical bioethics studies, but this was chosen as suitable for this study after considering evidence on range of size in qualitative studies because I felt that my topic area was broad, and might require more interviews to have adequate data (Vasileiou et al., 2018). In the end I conducted a total of 38 interviews.

4.5.2.6. c) Research Interviewees

Table 7 summarises the characteristics of the research interviewees. These data are presented in aggregate form rather than by interviewee to protect their identities, as the interviewees included high profile interviewees and those in unique roles who might otherwise be identifiable. The interviewees were heterogeneous in the sectors they worked in and their backgrounds, but there were more senior career interviewees from the Global North. In the next sections I will look at these characteristics in more detail.

Table 7: Interviewee characteristics (n=38)

		n	(%)
Employer location [1]	Europe	18	(47)
	North America	9	(24)
	Africa	7	(18)
	Asia	2	(5)
	Latin America and the Caribbean	2	(5)
2022 World Bank income classification[2]	High-income economies	28	(74)
	Upper-middle-income economies	3	(8)
	Lower-middle-income economies	3	(8)
	Low-income economies	4	(11)
Career level	Senior	24	(63)
	Mid or mid-senior	10	(26)
	Early or early-mid	4	(11)
Sector [3]	Non-governmental or non-profit organisation	16	(42)
	Government or national public health organisation	13	(34)
	Academia	10	(26)
	International organisation or partnership	7	(18)
	Military	5	(13)
	For profit organisation, consulting or self-employed	3	(8)
Background [3]	Health professional	21	(55)
	Public health and epidemiology	18	(47)
	Policy, law and strategy	7	(18)
	International development and global health	7	(18)
	Emergency preparedness and operations	4	(11)
	Biomedical science and biotechnology	4	(11)
	Other, including engineering, military, business development, executive, diplomatic	4	(11)
Mode of interview	Video call	29	(63)
	Audio or phone call	9	(24)
Mean interview length	46 minutes		

1 Based on regions from UN Geoscheme, and considering country that is primary base for work

2 2022 World Bank income classification of country of employment

3 Total >38 (100%) as some interviewees define themselves as working in more than one category

4.5.2.6. d) Professional background of interviewees

Career level, sector, and background were self-described by most interviewees, with a few exceptions in which a shorter interview or interview dynamics meant that I collated this information from online sources. Common characteristics of interviewees included multiple years of postgraduate training or education and/or initial health professional backgrounds (medicine or nursing) before moving onto careers in areas of public health, global health security, or humanitarian work. A significant number of interviewees had moved between different sectors in the area of global health security during their careers (for example, national public health organisation to international organisation to academia) or had more than one role currently. For sector roles, I included current sector(s) and previous sector, if this was work they discussed during the interview or for recently retired interviewees.

4.5.2.6. e) A Global North data bias?

Although the interviewees were working for employers in fifteen different countries, a notable characteristic of the sample as a whole is that the majority of these were in the Global North (47% in Europe, 24% in North America, and 74% total in high income countries) (see Table 7).

This could be seen as problematic for two different reasons. The very categorisation of interviewees into those working in the Global North versus in the Global South is a binary categorisation that cannot adequately reflect social, economic, geographical and political complexity in categorising countries and populations. However, I still chose to use this terminology because it was used both in the literature and by interviewees. This suggests

that it was seen as a useful categorisation for those that research and work in the area. I thus adopted it as I needed to use some sort of categorisation that reflected my data.

I did consider using alternative terminology. The key alternative I could have used is high income countries versus low and middle income countries. The advantage of this is it avoids the factual errors made in classifying countries as in the Global North or Global South (for example Australia is commonly categorised as in the Global North despite being located in the Southern Hemisphere) (Khan et al., 2022). However I chose not to use this alternative terminology as it implies that the economy is the most important factor in characterising a population, whilst this is only one factor when considering what affects global health security. It also is linked to the list of countries who are eligible to receive official development assistance, which was problematic for this thesis as I did not want to start with the assumption that global health security is primarily about giving aid (OECD, 2023). Thus using the terminology of Global North versus Global South, whilst acknowledging its limitations, was my preferred terminology.

Even if the validity of this categorisation is accepted, it could still be seen a weakness of the study that I interviewed more professionals from the Global North than Global South. However, I think it is justifiable for the following reasons. Although it was harder for me to recruit interviewees from the Global South given I work in and have more connections in the Global North, I went to considerable effort to recruit these interviewees. However, as I expanded the sample to more interviewees, the perspectives of those working in the Global South did not, as a group, differ significantly from the Global North with very few new ideas gained. My hypothesis on why this was the case, was that many of these interviewees were

embedded within this specific global context, attending the same meetings and hearing the same discussions.[28]

Given the global health security enterprise is largely seen as a US, and to some extent UK enterprise (see Chapter 2, Section 2.5.1), it was also unsurprising – in retrospect – that there were more interviewees from these countries. This likely reflects the number of people who perceive themselves as working in global health security in these countries and the number of international NGOs with bases in these countries. This is not a problem confined to my study, but maybe for the field as a whole (see Chapter 8, Section 8.4.1.5).

The quantitative summary also belies the global nature of interviewees, who were often employed by organisations in the Global North, but conducted their work in multiple countries, primarily in the Global South. The following two examples (one from my field notes, and one from an interviewee transcript) gives insight into this complexity:

- **Field notes description of interviewee:** A public health professional on secondment from a European Government job, to a European non-profit organisation, but who spends most of their time working on a project in an African country, in which, they also mention, they grew up and to which they have ongoing strong links.

- **Interviewee describing countries they have worked in over the last five years:** *"Lots. So, I can, do you, I can guess the ones in the last five years. But it would be, definitely*

[28] This possible group-think is also discussed in Chapter 5, Footnote 154

France, Switzerland, Bangladesh, Ethiopia, Somalia. Last five years Iraq, Afghanistan, Yemen, and a few others. I can't, I lose track. I've worked, think I've worked in 60 countries and, and worked or visited for work in between 60 and 100 countries."

I also explore this risk of a Global North bias further in the discussion (Chapter 9, Section 9.3.2).

4.5.2.6. f) Pseudonyms for interviewees

After initially using codes that reflected the chronological order, working location, and current role of the interviewee in my labelling of interviewees, (for example, Interviewee 7, East African, epidemiologist), I replaced these in the analysis with pseudonyms. This is to make it easier for reader to follow interviewees through the thesis, and because I thought the labels were too impersonal for the thoughtful personal views expressed by interviewees. These pseudonyms were chosen to be unisex names (as gender did not appear significant to the results and risked inadvertently revealing interviewees), and with a name reflective of the area of the world the interviewee worked in. However, these may not always reflect the nationality of the interviewee (for example, an East African epidemiologist working in Northern Europe would still be given a Northern European name), because using an East African name whilst identifying the geographical location of their work would again add too much specificity and risk identification. This was a risk as I could not be sure that, for example, the East African origins of the interviewee were irrelevant, but I made an assessment that protecting the identity of the interviewee was the more important factor. The codes with the information about interview order, role and work location are also given in the footnotes for information (see also index list in Appendix 4).

4.6 Qualitative analysis

In the previous section, I described the methods by which I collected my empirical data. In these next sections, I justify and describe my choice of analysis method for the qualitative analysis, before describing how I combine these results with normative analysis.

4.6.1 Choosing a qualitative analysis method

When considering different methods that might be suitable for analysing the qualitative data for my study, I needed a method that would enable me to analyse my qualitative data and meet my study aims, whilst being compatible with symbiotic empirical ethics. My choice of analysis method was Braun and Clarke's thematic analysis (2006, 2013) because it met these requirements: it is designed for qualitative analysis, provides an inductive approach to enable me to meet my empirical study aims, and is compatible with symbiotic empirical ethics. In the following, I will explain what thematic analysis is, and why it meets these criteria.

Thematic analysis is a six stage method for analysing qualitative data in order to produce themes that explain that data. It is an inductive approach, so it is aimed at generating new understandings of the topic of study, rather than using empirical data to test a pre-specified theory. This inductive approach is important for my study as my literature review demonstrated a lack of ethical analysis specific to global health security which resulted in developing research aims that aim to inductively explore perspectives of professionals.

Although there are multiple and evolving versions of thematic analysis, Braun and Clarke's version, sometimes now called reflexive thematic analysis, takes a more constructivist epistemological position. I understand this constructivist epistemological position to be, in

short, that individuals and groups contribute to the perceived social reality through our own experiences and knowledge (Broom and Willis, 2007, Conrad and Barker, 2010). This is opposed to a positivist epistemological position in which data about the world is seen to be observable and objective. The reason why a constructivist approach is the best approach for my study is that my aims are about exploring the perspectives and values of professionals, which is part of the social reality of how global health security operates, rather than a question about the scientific basis of an aspect of global health security (for example, infectious disease epidemiology), which would require more of a positivist approach.

What a constructivist approach means for the research is that different researchers undertaking an interview with the same interviewee will produce different data, because the researcher is part of the research process. Their style of interview, background, and feelings on the day will influence the interview. Whilst in positivist approach a researcher's influence on the research process is seen as unwanted bias, in the constructivist approach taken here my influence on the research is seen as inevitable as I am part of the social world I am studying, but this is managed through reflecting on how I might be influencing it (see Section 4.8 for these reflections). What this means for the analytical approach is that themes do not emerge passively from my data, but are analytical work actively interpreted by me, but using a rigorous and transparent method. This is pertinent to my study aims as one of the key roles for me as the researcher is to analyse what is ethically relevant from what interviewees discuss, rather than trying to present all the findings.

Importantly for the methods I outline, this inductive analysis is compatible with symbiotic empirical ethics. One way of combining empirical data with normative analysis could lead to

a deductive approach to analysing empirical data in which a specified theory is used to explore the empirical data. However, symbiotic empirical ethics is compatible with an inductive approach as the thematic analysis is used to specify the principles and theories that emerge from the empirical data and these guide which theory may be appropriate (explained in Section 4.7). This means that thematic analysis is an inductive and flexible method that is suitable to using in a symbiotic empirical ethics approach.

4.6.2 Thematic analysis

I followed the six stages of thematic analysis for the interview data.

1. **Data familiarization** – This stage involves processing your data, becoming familiar with it and thinking about initial ideas generated from this (Braun and Clarke, 2006, Braun and Clarke, 2013). For my project, the initial stage was to have the audio recordings of the interview transcribed by a professional transcription service (Appen), which was a University of Oxford approved supplier for confidential research interviews. Interviews were transcribed verbatim with all verbal utterances, as needed for thematic analysis. After the transcripts were received, I listened to the audio recording to check the transcript, de-identify it, and re-acquaint myself with the data. This process was done both during and after data collection, as interviews were transcribed in batches of 5-12 as they were completed. As I conducted, listened to, and familiarised myself with the interviews, I also made notes of my observations, initial ideas, and unexpected findings from the transcripts. The transcripts were then uploaded to NVIVO Version 12, a software program that helped me to organise my analysis.

2. **Generating initial codes** – This stage involved the production of initial codes from the data. This was started as soon as data familiarization was completed with the first transcripts. Semantic codes, that categorise data according to the explicit or surface meaning, and latent codes, that categorise the underlying ideas or assumptions in the data were both of interest to me. Therefore, initial interviews were coded in great detail, with line-to-line coding, to generate a large number of initial codes (50+). These initial codes were then grouped into broader codes that were related through meaning or topic. An example of this was cardiac disease as a problem for global health security was grouped with other codes into non-communicable diseases such as cancer as a problem for global health security. After the initial interview, coding was continued at this slightly broader but still detailed level, with very few new codes being added after interview 28. After this, few new codes were generated, with the remaining data fitting into existing codes, which provided some confirmatory evidence that saturation had been achieved in data collection (see Section 4.5.2.6. b). Although the primary area of interest in the data was ethics, I chose to code more inductively, assuming a degree of epistemic ignorance in order to allow the possibility for unexpected themes to be identified. Although the coding was primarily done by me, I regularly discussed my work and presented my coding to my supervisors, and both presented my data to, and participated in a coding group with three other doctoral students, to learn from differences in how they would code my data, and, in turn, how I could learn from coding and discussing their data.

3. **Generating initial themes** – After I had coded the first half of my data, I started the process of collating codes into related groups, to build themes. This involved an iterative process of moving between codes to identify commonalities. This was not done in a sequential order, (that is, after completing coding of all 38 interviews), as I found it useful to start initial work on this area whilst continuing interviewing (at approximately half way through interviews), to ensure that I could identify if these initial groups were saturated. A risk with this approach is that, as I had already thought about themes, I would subconsciously create confirmation bias of themes in what I asked future interviewees. This risk was addressed by actively trying to look for new perspectives that might challenge these initial themes, and presenting to my supervisors at several stages, as well as other colleagues during informal opportunities[29]. I found it useful to both use the tools that NVIVO has to offer for this (for example, being able to drag and drop codes into wider categories), as well as using more old fashioned means of sorting data, via mind maps, post it notes and diagrams.

4. **Reviewing themes –** I started reviewing themes once all the dataset was coded and initial themes were developed. From reviewing the themes I had initially generated, some areas collapsed together such as initially different codes about nationalism, sovereignty and self-interest, which, on reading back, transpired to be related ideas with linguistic variation. The second stage of reviewing themes involved looking at the themes in relation to the entire dataset. Whilst the themes generated initially had a

[29] For example, whilst a visiting student at Stanford's Center for International Security and Cooperation, I presented my early categorisation of four ways of defining global health security in a Bio Policy & Leadership Initiatives group lab meeting.

higher proportion of semantic themes, this second stage review process was where it became apparent to me that there were gaps in how my themes explained the data, and it was from this process that some of the latent themes, such as the four models of global health security (see Chapter 6) were developed. This was very much a manual drawing process for me, in which I did not find NVIVO useful. As Braun and Clarke note (2006), this stage can be endlessly reiterated, a process that I had a tendency to do (as procrastination from starting writing!), and so I made a conscious decision to stop when I considered my themes were good enough.

5. **Defining and naming themes –** The process of moving from a coding map to the description of themes and justifying why these were interesting was an important final step before the write-up and continued during it. It helped me elucidate the narrative of the thesis, and distinguish between areas that were more domain summaries than themes. Themes here are shared patterns of meaning with a core underpinning concept, whereas domain summaries are areas that share a topic, but has a diversity of meaning in relation to that topic (Braun and Clarke, 2013, Braun and Clarke, 2019).

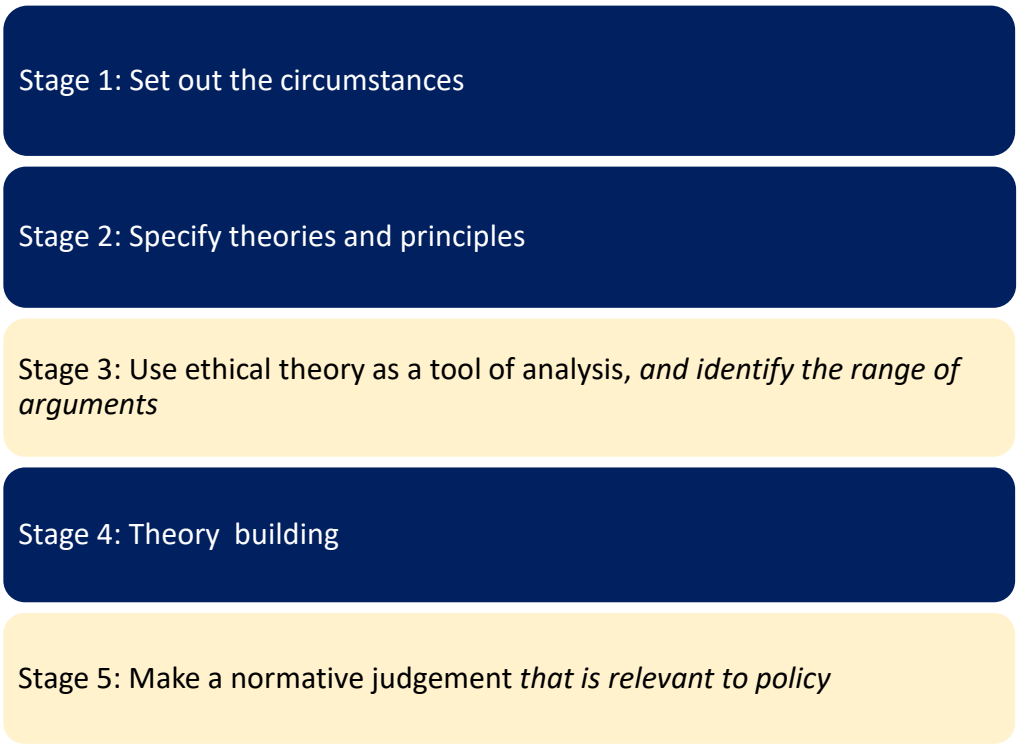
6. **Producing the results chapters -** The last step in the process was writing the results chapters – Here I owe thanks to my supervisors who were ongoing voices in our supervision meetings and in my head about writing, with question such as *"why are you using this quote?"*, *"what is it capturing?"* to enable the reader to follow my thinking more clearly.

4.7 Situating the empirical analysis within the symbiotic empirical ethics method

In this methods chapter so far I have outlined 1) my research aims, 2) my empirical bioethics approach 3) my choice of symbiotic empirical ethics as the method for my study, 4) my choice of and method to undertake semi-structured interviews, and 5) my choice of and method to undertake a thematic analysis of these interviews.

In this section, I describe how empirical study and thematic analysis fit into the symbiotic empirical ethics method, and how I combined the empirical data with normative analysis. In Section 4.4.1 I specified why I chose to use Frith's symbiotic empirical ethics, with some additions from Wolff's engaged philosophy. The steps I included in my analysis are summarised in Figure 5, and then explained below.

Figure 5: Frith's symbiotic empirical ethics with additions from Wolff



Additions from Wolff in italics, with the stage of Frith's methodology that these are incorporated into in yellow.

Stage 1: Setting out the circumstances

The first stage of Frith's method, which she labels as 'setting out the circumstances', is about collating views and opinions on the topic of concern – in the case of my study that is on global health security. In my research, this is achieved through the semi-structured interviews and thematic analysis, for which the methods are described in Sections 4.5 and 4.6.

Stage 2: Specify theories and principles

In the second stage, which Frith labels as 'specifying theories and principles', Frith takes an approach linked to her reading of Nussbaum and Aristotelian ethics (see Section 4.4.2) to understanding how theories and principles are understood in practice – here abstract principles are 'specified' to a particular context. Whilst initially this sounds like a deductive approach going from theory to empirical data, Frith illustrates how this is, in fact, inductive and grounded in the data by her example of infertility clinicians seeing impartiality as important to their work (Frith, 2012, p. 202). In this work, she argues that, by contrast with theoretical understandings of impartiality, her study shows itself to be capable of identifying and analysing the clinicians own moral understanding of this in context. In my research as reported in this thesis, the results of this stage are demonstrated through my four results chapters (Chapters 5 – 8) and briefly recapped in my discussion. An example of this is in Chapter 8 in which my data analysis showed that nationalism was important to interviewees, and where the chapter analyses interviewee understandings of this as reflecting the need to balance between legitimate concerns for one's own citizens' wellbeing and a legitimate interest in the wellbeing of the global population more broadly.

Stage 3: Use ethical theory as a tool of analysis (Frith) and identify the range of arguments (Wolff)

Frith's next stage is about using 'theory as a tool of ethical analysis' to help elicit areas of disagreement and ambiguity. By this she understands ethical theory as a body of knowledge that can be applied to different empirical issues as an analytical tool, just as sociologists might apply a theory to explain the interactions of persons in their data. It is here that I have added the addition from Wolff of identifying the range of arguments (Wolff, 2019). The value this addition adds to the method is that as well as theory being a tool of analysis, this enables critical analysis of the normative arguments presented by interviewees to be an additional tool of analysis. The value that this adds to the method is that I was concerned that my research aims, and topic guide developed to address these, might lead to interviewees discussing normatively relevant arguments (for example, about why global health security should be expanded) but that those would not necessarily align to a particular theory or value. The reason I think this is included in Wolff's methods and not Frith's is because a clinical ethics problem is often specified as choosing between two or more competing principles (for example, respect for autonomy or beneficence in whether to treat or not), whilst a policy option is often specified differently as arguments for a range of feasible policy options, in which different groups may be advantaged or disadvantaged. Because I was unsure which kind of concerns might be produced by global health security, this extra specification added flexibility to the method.

In my thesis, this stage is shown in the discussion (Chapter 9). From the empirical clarification of what nationalism meant to interviewees in Chapter 8, I compare this to a theory of nationalism (Miller, 2007), to interrogate how and why interviewees accounts of nationalism

differ from theory. It is important to note that the theory specified here is not drawn from the literature review (as this did not focus on ethical theory) but is justified from the principles and arguments specified in Stage 2. However, this does not mean that the review is not utilised but instead is useful for putting the analysis in context – for example, when considering nationalism, concepts such as *"wise self-interest"* (Chapter 2, Section 2.7.1.3) were included in the analysis.

Stage 4: Theory building

The 'theory building' stage for Frith is closely related to Stage 3 (hence the 'symbiotic' method). In this stage, the empirical data is used to develop theory (as well as theory being a tool to analyse data as above). This stage is informed by the idea that close attention to the practice of what one is researching can be useful in refining and developing theory, as well as finding whether philosophical distinctions have meaning in practice. Within this thesis, this step is also included in Chapter 9, interpreted in this context as an iterative process of refining what boundaries and borders of global health security should be, rather than building a new grand theory of global health security.

Stage 5: Make a normative judgement that is relevant to policy

The application of the theory developed in Stage 4, allows normative judgements to be made. These are not understood to be true, but are developed by the interaction of reason and theory to achieve a better account, which is defensible by reason and argument (Frith, 2012). I also found it useful to incorporate an element of Wolff's theory here to consider how any normative judgements made can be relevant to policy, in that they are feasible in the current landscape and are supported by reasons that are easily communicated and able to be part of

a wider political debate. Although this in some ways limits the scope of the normative conclusions that can be made, this is consistent with the empirically grounded methodology of this thesis which assumes that, for it to be reasonable to say that someone has a responsibility to act (and is blameworthy if they do not), it needs to be the case that acting is possible for them otherwise recommendations are of no use. In this thesis, the recommendations are focused on the boundaries of global health security.

These five stages comprise the method that is followed throughout the thesis, with the first two stages being more about empirical data (and having their own empirical methods and analysis as detailed previously) and the final three stages being more about linking empirical data to theoretical analysis in order to make justified normative conclusions. What will be observed in the thesis is that much more space is devoted to presenting the analysis of the empirical data (Chapters 5 to 8) than the later stages (Chapter 9). This does not necessarily reflect how important each stage is, but the requirements of rigour in empirical research. I reflect on the utility of, and difficulties in applying this method to address my research questions in the implications and conclusions chapter of the thesis (Chapter 10).

4.8 Positionality and reflexivity

This final section comprises my reflections on my role as the researcher in this project, and was drawn from my reflective notes written before, during, and after conducting the qualitative study, thematic analysis and combined empirical-normative analysis. Berger (2013) defines reflexivity as *"self-appraisal in research"*, including recognizing and taking responsibility for one's own place within the research. Related to this concept is the researcher's positioning in the research, including their personal characteristics, background,

beliefs, and prior experiences (Berger, 2013). In this section, I will discuss my position in this global health security research, and comment on reflexivity, including characteristics of my research that I think are important.

4.8.1 Positionality

I undertook this research into global health security from a position of great privilege. I am a female Caucasian PhD student in my thirties. I am based at the University of Oxford, have British nationality, and am a middle grade public health doctor by background. All these characteristics, with the possible exception of my gender and age, contribute to my privilege. Unlike reflections from researchers such as Keikelame (2018), who considers positionality from the lack of voices like hers as a black African women, there are many voices such as mine in the research field. I could also hypothesise that the prestige of University of Oxford label may have contributed to the high response rate for my study.

Whilst interviewees could not fail to be aware of my privileged position given the University of Oxford branding on my study materials, a minority of them commented on this. One example is from an interviewee[30] who, when rejecting a particular conception of global health security suggested that global health security should not be about *"preventing and protecting you in London, in Oxford, in Washington".*

By referring to Oxford as one of the places being the beneficiary of global health security, the interviewee highlights that I am conducting the research (from Oxford), and they are being

[30] Jo (Interviewee 37, North Europe, NGO leadership)

interviewed (from the Global North), both places are beneficiaries of the system – a perspective I always had in mind when I conducted the interviews.

4.8.1.1 Elite interviewees

Some of my research interviewees may be considered elite interviewees. Elite research interviewees were originally considered to be those with prominent roles within business and society, but a more useful definition focuses on an individual's ability to exert influence through their social or professional position (Harvey, 2011, Mason-Bish, 2018). By this definition, most of my interviewees will have significant influence in global health, global health security, or humanitarian work, and thus be elite.

When considering reflexivity and elite interviews, Mason-Bish discusses what she calls the 'elite delusion': the concern that these interviewees are difficult to access and thus researchers should be grateful for any of their time. This can lead to researchers getting so concerned with access and power that they lose some of the meaning of the exchange (Mason-Bish, 2018). She discusses her experience of elite interviews as a young female researcher casting herself in different roles such as an *"enthusiastic rooky"* or *"deferential student"*, as well as having a somewhat patriarchal encounter with an older male interviewee (2018).

There is a lot about her account that resonates with me, as I know from my experiences as a junior doctor, how easy it is to fall into the position of the 'deferential student' grateful for training from a benevolent older consultant. A minority of interviewees did seem to expect this sort of relationship – often setting up a dynamic of their time being precious via being

only able to offer thirty minute interview slots, or arriving late to the interviews. However, I am no longer in that role of the medical trainee and consciously avoided inadvertently framing my interviews as a powerless/powerful encounter, by asking more challenging questions. These were not necessarily confrontational questions, but those that asked the interviewees to explain their answers or ethical assumptions. I often found these useful both for producing data and because they often derailed the sometimes practised spiel with which a few interviewees answered initial questions. Despite these few more difficult interviews, the majority of interviewees were generous with their time and incredibly thoughtful in engaging with the subject.

4.8.2 Reflexivity

Berger reflects on scenarios in which the position of the researcher may affect the research in different ways (2013). These include if the researcher shares the experiences of the study interviewees, and conversely where the researcher has no personal experience with what is being studied. Whilst I do not think my position fits neatly into either category, these are useful for thinking about reflexivity in this research.

4.8.2.1 My relationship to the interviewees

My experience in public health, and encounters within health security, give me some of the same experiences of study interviewees. I have learnt the quantitative language of epidemiology, risk, and exposure, but also the social justice aspirations of public health through terms of equity, and the social determinants of health. My knowledge of this language coloured my interviews: I felt much more confident in talking to someone working in global health security from a public health background, than from a security background,

and this has inevitably shaped the way in which I use language, pose questions, and understand the data I gathered (Berger, 2013). I think this made me an 'insider' for some interviewees. Some interviewees in my study were also acquaintances that I know through my professional career, and this may blur the line between research and friendship (D'Souza et al., 2018).

However, I think I was also seen as an outsider for other groups of interviewees, for example, those that identify more strongly with the security world. I am a medic working in bioethics, with a grounding in public health and my critical interpretive synthesis showed numerous anti-security voices, including from medics, and so there is a risk I could be seen to be supporting this perspective. I tried to counter this by explaining that the purpose of my research is to understand perspectives from all sides.

Given these considerations, it is useful to look at how this may affect the goal of reflexivity, namely to monitor the effects of my position on my research and increase the credibility of my research by accounting for my own values and biases going into it (Cutcliffe, 2003). Ways of achieving this goal included keeping a research journal including my reasoning, judgement and reactions and having a peer-support group.

4.8.2.2 Empirical bioethics

A further consideration is how reflexivity is managed in empirical bioethics. Whilst empirical bioethics uses qualitative methods, considerations of reflexivity were noticeably absent from many seminal articles in the field. A consensus gathering approach to standards in empirical bioethics included the standard that *"empirical bioethics research ought to attend to the*

rigorous implementation of empirical methods, and import accepted standards of conduct from appropriate research paradigms" (Ives et al., 2018). This might seem to include the importance of reflexivity, if using social sciences methodologies, but the standard does not explicitly mention reflexivity. Interestingly, Ives and Dunn (2010) in an earlier article argue that the social science concept of reflexivity is needed in philosophical bioethics, because philosophers need to acknowledge that bioethics is not just an intellectual discipline, but embedded in its sociocultural context. This is equally, if not more relevant, to empirical bioethics, yet there is a lack of specific discussion of reflexivity in empirical bioethics.

I take the position here that, because reflexivity is importance in social sciences to understand my position within the research, this should be an important part of my empirical bioethics study. Given that there is both potential to exert my own values on qualitative data collection, and, in using this data, to develop normative arguments, it is particularly important to reflect, explain and justify how and why my conclusions are made.

4.8.2.3 On making normative claims

Finally, I think it is important to reflect on why I see it as important to make normative claims in my thesis. My choice of methods has been heavily influenced by my opinion that I want to, and think it important to, make arguments and recommendations about how global health security should be defined and practised. I think this position is influenced by the positivist paradigm of my medical and public health training, which taught that certain aspects of the world around us are observable and countable (for example, cases of COVID-19 in a care home).

I was challenged in this position by social science teaching, and constructivist perspectives on reality, as I agree with the perspective that the interpretation of the social world – human interactions – is not necessarily objective and is influenced by my perspective. However, I do not agree that this means that, when undertaking empirical work, this only has to be explanatory and cannot come to any normative conclusion. I think normativity is a necessity. This belief stems from the practical nature of my professional career. When we debate how restrictive to be in measures for a care home undergoing a disease outbreak (for example, can well residents see their relatives?), we need to come to a normative conclusion.

However, if our empirical research is specific only to the context examined, to come to normative conclusions that are guiding to others in the future in which the context may be different could be considered arrogant or not valid. The issue of moral authority and expertise is very difficult. However, I think it is possible to proceed with a more modest approach, as exemplified by Ives' process of *"noble failure"*, Frith's idea of producing a better account, and Wolff's approach to looking at real world feasibility (Ives, 2014, Frith, 2012, Wolff, 2019). Ives argues that the role of the bioethicist is to put to use skills in elucidating and resolving ethical dilemmas, rather than pushing a personal agenda or viewpoint. Bioethics is both pragmatic and fallible, with the purpose to produce an account that can then be bettered, rather than a universal account (Frith, 2012, Ives, 2014). Wolff looks at the possible policy choices that can be made, accepts the limited powers of regulation and policy, and in some situations finds that a harm reduction policy argument is the most he can argue for (Wolff, 2019). I think these accounts leave space for producing an account that is practically-orientated, realistic for the world that we live in, and a starting place for improvement. I do not aspire, or think myself capable of producing a perfect account, but just a better account.

4.9 Conclusions

This chapter has outlined and justified the methodological choices and methods adopted in the research reported in this thesis. It has also emphasised the importance of reflexivity in empirical bioethics.

There remain subject and methodological challenges associated with this study. Global health security is a broad and large-scale topic. Whilst I considered refining this by focusing on a particular aspect of global health security (for example, pharmaceuticals), particular outbreaks, or having a geographical focus, I chose to instead to keep a broad focus to allow me to map the field to find what the contentious areas were from the interviewees themselves.

Methodological challenges include being an interdisciplinary researcher *(a public health doctor in a bioethics research centre[31])*; looking at an interdisciplinary topic *(global health security)* and using research methods that draw from multiple disciplines *(empirical bioethics)*. My approach to interdisciplinary work is that my focus will remain on ethics. However, a basic understanding of different disciplines in the field, for example, with those using a security or international relations lens, is useful to enrich my analysis.

As regards my proposed empirical bioethics methodology, one criticism of my approach that could be made, was that I complicated my methods by using an empirical bioethics method that is heavily theory driven, for a topic in which there is a lot of potentially applicable

[31] I have undertaken training to mitigate this risk in qualitative methods and empirical bioethics

bioethics theory but that my literature review showed not much that has been applied specifically to global health security. However, I think this is consistent with my inductive approach in which theory is specified, and sometimes arises, from the empirical analysis.

Global health security is marked by broad political philosophy and public policy questions, whereas empirical bioethics has primarily been used for clinical problems. For this reason, I found Wolff's engaged philosophy a useful approach to include as well. It is a political philosophy method which takes a somewhat modest approach to useful recommendations in public policy (2019). I have taken on this learning by having the final aim of my study include the possibility of either coming to recommendations about what the scope and limits of global health security should be, or how these should be decided. This is because I appreciate that, however good an argument I use for justifying the nature and remit of what global health security should be, the range of realistic possibilities for change in this highly political area is likely to be limited. The best argument about how global health security should be managed in practice, might be to make recommendations about how a change in approach should be decided. However, I do not think this realism detracts from the project.

As well as justifying and documenting my methods carefully in this chapter, I have utilised two main strategies to try and increase rigour in my work. The first is via an approach to reflexivity. With regards to reflexivity I take the perspective that for methodological rigour, and because of the complexity of empirical bioethics, that reflecting on my role as a researcher is a key aspect of my methods. The second utilises Ives et al.'s (2018) consensus gathering approach to standards in empirical bioethics as a useful framework by which to think about the characteristics that lead to good empirical bioethics research. Whilst I do not unquestionably

accept all of their standards, I have used these as an informal tool for documenting my thinking and progress on each one (see Appendix 6), and returned to this in the discussion chapter.

My final comments is that empirical bioethics is a complex area, and one that I am continuing to learn about. Any mistakes are my own, but hope that through my transparency the rationale of my choices becomes apparent.

In what follows are the empirical chapters which detail the results of my analysis of the data collected by means of semi-structured interviews with interviewees operating in global health security and related fields. Over the next four chapters their insights on the ethical issues generated in the practice of global health security will be explored under four broad headings: ethics in the work of global health security; the meaning of global health security; how outbreak origins affects resources, roles and responsibilities; and the nature and moral limits of nationalism.



Chapter 5: Ethics in the work of global health security

5.1 Introduction

This is the first of the chapters presenting data from the semi-structured interviews undertaken. The chapter is about how interviewees working in global health security experience and discuss moral challenges in their work.

From my examination of the literature presented in Chapters 2 and 3, it is clear that there is scarce attention given to the ethics of the work and practice of global health security. In contrast to this, 'ethics in the work of global health security' was identified as a key explanatory theme in my qualitative analysis, and is the theme that unites the results presented in this chapter.

The analysis presented in the first section of the chapter suggests that interviewees working in global health security undertake work in four areas. They undertake operational work to organise and implement complex logistics of international outbreaks; undertake technical-scientific work including laboratory work or epidemiological analyses; develop strategies and advocate for global health security to leaders politicians and industry; and undertake

partnership and community work to build capacity in communities affected by outbreaks. In the majority of the chapter, I then present my analysis to show that each of these four areas of work raise ethical challenges for interviewees which range from operational issues of pay disparity between global health and global health security to considering whether protective isolation of older residents within a refugee camp is ethically acceptable.

Through this analysis of the theme of everyday ethical challenges in the work of global health security, it becomes apparent that dealing with moral questions is an important part of interviewees' work.

5.2 The work of global health security

Imagine shadowing a global health security expert for the day. What sort of work are they doing? Are they sitting at a computer looking at data, working in the laboratory, collecting samples in the field, treating patients, or presenting in the boardroom? As I conducted interviews, I realised that although I had some professional experience in the area and had undertaken an in-depth literature review, I did not have a clear idea of what the work of global health security was: This was a gap in the literature. Although there have been excellent insights about the work of pandemic preparedness[32], there was nothing that looked at the actual practical tasks involved in the work of global health security.

[32] I found Caduff's ethnographic work of US Pandemic Preparedness being particularly influential for me with his critique of views that he argues amplify the apocalyptic nature of these pandemics for scientific opinion and advocacy towards preparedness, even if they do not occur (Caduff, 2015). However, this was US based, pre-COVID-19, and not explicitly focused on global health security.

Interviewee accounts of their work were useful in illuminating what is involved in the work of global health security. My analysis suggests that there were four main types of work that interviewees discussed. These are operational work, technical-scientific work, strategy and advocacy work, and partnership and community work. In what follows, I will provide an outline of their main features:

- **Operational work** comprised organising and implementing the complex logistics of international outbreaks. From setting up laboratories to organising the deployment of specialist staff to outbreaks, this work was complex and required technical knowledge of the areas in order to do it effectively.

- **Technical-scientific work** involved working as advisors, in laboratories, or conducting epidemiological investigations. It seemed common that more junior professionals were engaged in this technical work, but a deep level of understanding and engagement with the scientific disciplines of global health security was seen through most interviewees, with only a couple having non-scientific or health backgrounds.

- **Strategy and advocacy work** was about advocacy for global health security to receive more attention and funding to those in power, through tasks related to promoting global health security for politicians and industry, such as inviting them to simulation exercises.

- **Partnership and community work** focused on working with partners, such as states, or communities, to reduce the risk from infectious disease outbreaks. Work in this area often had a focus on training others, for example, in surveillance or infection control.

All of these types of work involved some office-based work that interviewees could do at their normal base of work *(for example, organising the deployment of staff to outbreaks as part of operational work)*, but some tasks that involved work outside their base *(which might include visiting a partner country to deliver infection control training, or running a simulation exercise on a global outbreak in a government department)*.

5.3 Ethics in practice

From this categorization of the work of global health security that interviewees undertook, I next provide an in-depth analysis of the ethical challenges that interviewees described themselves or their colleagues as experiencing in this work.

What was included as an ethical challenge was established inductively from the analysis, and included any issues, concerns, dilemmas or arguments that interviewees present as having some ethical features. This meant it included challenges that interviewees acknowledged, unprompted, as ethical challenges during our discussion, and also those that during my analysis I interpreted as ethical challenges that may not be perceived as such by interviewees. This is because some interviewees did not present challenges using ethical terminology such

as what should happen, or concerns about concepts such as justice, but in more practical terms. Equally some interviewees found it hard to answer a question about what were *ethical* challenges in their work, but were comfortable talking about challenges and difficulties in their work, and these challenges were similar to those other interviewees presented as ethical challenges (see also Section 4.5.2.6). For example, in Section 5.5.1, which is about some global health security donations being contextually inappropriate, many interviewees discussed their frustration with this, but some interviewees were clearer about why this was an ethical problem.

Throughout the chapter, there are also two kinds of ethical challenges. Sometimes an interviewee describes themselves as encountering an ethical problem in which they need to decide what to do, and in other cases an interviewee describes a situation they think is unethical. Both these scenarios were included in the analysis as they are both presented by interviewees as important challenges in their work and enable insights into the ethical challenges in the landscape of global health security.

The importance of the analysis is that it demonstrates that ethical challenges in global health security occur in all the different categories of work interviewees undertake. Figure 6 illustrates this categorization of types of work, examples of the activities, and ethical challenges that emerged from this data.

Figure 6: The work of global health security

(n) = interviewee number as per Appendix 4: Interviewee pseudonyms

Operational

Examples of work:

- Setting up a public health laboratory (10, 15)
- Overseeing the emergency operations centre (2) or setting up a treatment centre (21) for a specific outbreak
- Coordinating sending healthcare equipment internationally (5)
- Organising deployment of technical staff to partner countries in outbreak situations (16, 18)

Ethical challenges (Section 5.4) include pay parity between global health and global health security staff and inequalities between care of international responders and locals

Technical

Examples of work:

- Conducting Joint External Evaluations, risk assessments, and building action plans for countries (4, 10, 36)
- Epidemiological investigations for outbreaks (7, 9, 36)
- Participating in meetings as an expert (2, 35)
- Specialized high containment biological laboratory work (26)
- Research for infectious disease preparedness and response (3)

Ethical challenges (Section 5.5) included contextually inappropriate donations and perceptions of conducting vaccine trials in the Global South

Strategy and advocacy

Examples of work:

- Developing investment cases for things like vaccine development or stockpiles (31)
- Lobbying to get people to invest more in preparedness (2, 23)
- Advising government and international organisations (1, 10, 36)
- The development and conduct of outbreak simulation exercises, inter- or after-action reviews, mass gathering planning (3, 6)
- Writing policy reports and recommendations. For example, post COVID-19 (22) or about the structure and governance of global health security (23)

Ethical challenges (Section 5.6) included how interviewees manage and find solutions for difficult relationships in international relations

Partnership and community

Examples of work:

- Setting up partnerships between national, regional and multi-lateral bodies strengthening pandemic prevention and response (5)
- Global North military health teams providing training on infection control for healthcare workers in the Global South (25)
- Training village health workers on behavioural change in communities, for example COVID-19 mask wearing (9)
- Training health workers on identifying and reporting diseases in the communities (9)
- Communicating public health information and risks to the public (36)

Ethical challenges (Section 5.7) including balancing health and wellbeing for different community groups, and individual rights against populations.

5.4 Ethical challenges in operational work

Operational work such as organising and implementing the complex logistics of international outbreaks, were described as being a focus of experiences of ethical challenges in areas including the pay and working conditions of the workforce, the healthcare of local populations compared to international responders, legal barriers to international response, and how to prioritise emergency work compared to routine work (see Figure 6). In what follows these challenges will be described in greater detail informed by the accounts of those interviewed.

5.4.1 Pay disparity and the brain drain

An ethical challenge related to operational work was pay disparity between those that worked in global health and global health security. Berhane[33], who worked in global health security in East Africa, admitted that there were differences between the higher salaries received by those working in health security than global health, but justified these to the high risk and specialised field of global health security.

> *I can tell you that a health security expert may earn almost four times as much as their counterpart in any other field…It's because it's a high risk …highly specialised field. This person is putting their life on the line, they have to get specialised training, so they end up attracting such a high salary that, that different government structures cannot sustain. [Berhane][34]*

Whilst Berhane admits that the higher salaries can cause "*resentment"* from those in global health, the ethical worry Berhane has is not that these higher salaries are not justified, but

[33] As a reminder to the reader, all interviewees are given unisex pseudonyms and are sometimes referred to as they, even if a singular interviewee, because of the need to keep gender identity confidential (see Section 3.4.3.2).

[34] Berhane (Interviewee 2, East Africa, emergency preparedness)

that they are dependent on international funders and cannot be sustained by government structures. Thus for those with high global health security salaries whose funding comes to an end, this may lead to *"a huge brain drain whereby the highly skilled people cannot survive in the low middle income environment, and most of them leave"*.[35] Here, the increased salaries given to those working in global health security risks exacerbating the problem of skilled workforce leaving the country for jobs in the Global North., leaving them with *"not enough people to work in [the] system"*.[36]

5.4.2 Moral disorientation

Whilst discussing the risks to global health security workforce, it is equally important to note the operational challenge of mental and physical exhaustion faced by interviewees[37], whom I interviewed during 2021 and early 2022 when they had been working through waves of the COVID-19 pandemic. How this exhaustion could affect their moral values was exemplified through Kyrie, who had been working on global COVID-19 vaccine distribution. When I asked about what values were important in global health security Kyrie replied:

> *I think probably at this point I'm not really sure what my work values are, except kind of keep going…and stamina over… you know, stamina and pragmatism over reflection [Kyrie]*[38]

[35] Berhane (Interviewee 2, East Africa, emergency preparedness)
[36] Berhane (Interviewee 2, East Africa, emergency preparedness)
[37] As reported in interviews by Kyrie (Interview 31, North European, public health policy), Cruz (Interviewee 32, North European, strategy generalist), and Femi (Interviewee 36, Latin America and the Caribbean, public health), but also by other interviewees in the conversations before the interview began
[38] Kyrie (Interviewee 31, North Europe, public health policy)

The stamina here was to keep trying to improve the global vaccine distribution and the lives it could save. This sentiment, which was echoed by many interviewees, demonstrates another risk to global health security through the challenge of supporting a workforce who deal with massive, unpredictable emergencies. One of those effects on the workforce, seen through Kyrie here, is the difficulty of thinking about reflective or wider concepts in a crisis, with appeals to pragmatism and stamina instead.

One reading of Kyrie's quote could be that it is not moral disorientation but a justifiable focus on the moral goal of saving lives and reducing suffering. However, I think, even if this is the case, Kyrie's account is significant as they felt like they could not reflect on what values were important. The evidence from this is consistent with a growing body of medical literature on burnout in both frontline workers and public health workers, both before and during the COVID-19 pandemic (De Hert, 2020, Gemine et al., 2021, Stone et al., 2021). Since burnout is characterised by symptoms including emotional exhaustion and depersonalization (Maslach et al., 1997), it is unsurprising that some interviewees found it hard to reflect on ethics as this is likely to involve a degree of introspection and emotional engagement.

5.4.3 Inequalities in treating locals and the international workforce

Another ethical challenge related to operational work was how interviewees should respond to differences in how foreign responders were treated compared to locals. Kim, who had a strong international focus to their current work, discussed two instances of this. In the first, Kim comments on the ethical issue of treating Global North patients differently from local patients in Sierra Leone.

> *to the Western responder…'But do not worry if you get Ebola you will get a first world care from the moment you have it,' even though the people you were treating, you know, are getting very much a third world care, you know [Kim]*[39]

Kim defines this inequality in care standards as an *"ethical issue"* but explains that it was *"justified on the basis that if we did not do that, we would not actually have any Western responders at all, so, you know, there is the greater good"*[40]. The ethical tension here is whether there should be action taken to equalise care between Global North responders and local population. On one hand, Kim thinks it is unfair that the local population receive worse care, but on the other hand they perceive that equalising the care for all patients might mean reducing the overall standard of care, which would be a disincentive for international responders and lead to worse overall outbreak outcomes for the local population.

The difficulty that Kim felt in balancing what ethical option was right in treating the local population in the above scenario was in contrast to their certainty that it is right to treat Taliban combatants in Afghanistan alongside their own soldiers, despite opposition from the media and relatives of soldiers.

> *The newspaper and a number of relatives of those who had been injured clearly believed that it was completely unacceptable to actually treat Taliban alongside our injured people. Which it actually, it is an ethical issue, it actually happens to be a legal issue because our [human resources] requires us to do that. But primarily I would have said it is an ethical issue. [Kim]*[41]

[39] Kim (Interviewee 12, North Europe, military health)
[40] Kim (Interviewee 12, North Europe, military health)
[41] Kim (Interviewee 12, North Europe, military health)

As a senior military health professional, Kim sees it as their responsibility to *"nip in the bud through…proactively arranging to be interviewed by [a media company]"*[42] the idea that military medics should not treat injured enemy combatants and civilians. Although Kim acknowledges that this is a legal necessity, their certainty that this is the right thing to do ethically is also evident.

These perspectives appear to give different standards to local populations. By this reasoning it might be justified to treat local populations differently to international responders in outbreaks, but not acceptable to treat enemy combatants differently to national troops in military medical facilities. Whilst there are nuances to this (the ongoing treatment and rehabilitation of our national troops once repatriated is likely to be much more than enemy combatants receive), but the ethical challenge remains of when health inequalities during international work can be justified.

5.4.4 The ethics of managing legal barriers

In one scenario, legal barriers presented an ethical challenge for international responders to overcome. Kim gives the following example of buying petrol in Syria, and need for humanitarian exceptions to counterterrorism legislation.

> *So if you actually look at some of the organizations providing healthcare in Syria, they had to buy petrol because otherwise they did not have generators, if they did not have generators they did not have lights or proper light, they did not have anything to drive those medical instruments that needed power. But petrol was embargoed so therefore they were breaking criminal law, including [Northern European Country] criminal law…So there are, now as far as I am aware nobody was ever so prosecuted …but it does have a dampening effect because it is, you know, if*

[42] Kim (Interviewee 12, North Europe, military health)

> *you are a naïve 23-year-old and someone who says, 'Well, do not worry you will not be prosecuted,' it does not actually necessarily fill you with confidence. [Kim]*[43]

The counterterrorism law is seen here as an unintentional extra factor to concern international responders, who must inevitably break a law to accomplish the good of the response, here by buying petrol for humanitarian work. The balance of ethical considerations here is between whether breaking the law to provide much needed humanitarian aid to the civilians affected is ever ethically acceptable. Progress to avert this tension by creating a humanitarian exception to counter terrorism legalisation has been made, but is as yet, far from universal (Gillard, 2021).

Whilst this particular context is specific to Kim, counter-terrorism law as a barrier to responders was also mentioned by Venni[44]. Whilst this legal barrier was only raised by two interviewees, I judged this as important to include, as it was a serious impediment to the response work for which the interviewees giving the accounts were in key positions to experience.

5.4.5 Prioritisation of emergency work

As well as numerous operational challenges related to the workforce, the emergency nature of some operational work in global health security also caused ethical challenges. Bo

[43] Kim (Interviewee 12, North Europe, military health)
[44] Venni (Interviewee 27, North European, humanitarian)

discussed this in the context of being a problem of novelty and exceptionality. Commenting on when the avian influenza outbreak started and took over from SARS Bo says:

> *And literally from one day to another the news that children were dying in Vietnam from what appeared to be Avian Influenza H5N1 completely closed the chapter of SARS. Of course, this is ridiculous because the sources of SARS the animal reservoir, the laboratory contamination it was still there. But there is something in the collective mind of scientist or public health officer that makes, shifts the focus to what is new. And I do not say that people overreacted to SARS, to COVID-19 etcetera, but there is obviously a shift in priorities that has some element of being irrational. And you know that many people, it has been counted for in the response to Ebola outbreak in West Africa, many people died of malaria or surgical complication or birth or problematic deliveries because there was nobody to take care of them. [Bo]*[45]

Bo talks about this shift in focus from one outbreak to the next being irrational, both between the newest outbreak taking over and the difference between Ebola and more endemic causes of death. By doing so Bo makes a practical point about not finishing the work of the outbreak (for example, not investigating the reservoir in SARS) but also a moral point that lives lost during new outbreaks should not matter more than lives lost for other causes. Elsewhere in the interview Bo states this question in explicit moral terms asking *"what makes these outbreaks or epidemics so special that standard rule-based ethics can be quoted or bypassed or reviewed?"*[46] Whilst this is phrased as a question at this point in the interview, it is clear that Bo does not see this exceptionalism as justified: They clarify that this exceptionalism is problematic if it displaces resources from other causes of ill health that cause more deaths.

[45] Bo (Interviewee 13, North Europe, infectious disease)
[46] Bo (Interviewee 13, North Europe, infectious disease)

The ethical challenge of allocating resources between ongoing work and emergency work was a tension also brought up by multiple other interviewees. Berhane, who grew up and worked in an East African country, talked about the personnel being directed to the COVID-19 response in their country being *"very disruptive to the normal flow"* [47] of programmes like their HIV and tuberculosis (TB) programmes. Louison, who worked for a European NGO, contrasted how established long-term programmes, even within the same NGO, do not want any urgent responders coming in because this disrupts the normal work.

> *So, your country programme, your country programme will say, "We don't want anyone to surge in here please." Because for them, you're getting in the way. You are trampling all over their very carefully constructed relationships and systems, networks, processes, the programme that they're doing…And they will, they, as they see it, have to deal with a tidy up, even if it's to do with a mess that you leave behind. For the risk humanitarian responder, these people are entirely mad. People on the ground are dying and you can see them on the TV, what on earth are you doing stopping us coming in? That's basically how it plays out. Every time. Every organisation. [Louison]*[48]

Whilst these interviewees do not discuss these scenarios in ethical terms, they can be seen as scenarios about prioritising ongoing work against emergency work, and what degree of disruption to this long-term work is justified. The principle that appears to be being balanced here is saving lives at immediate risk from a humanitarian crisis, against saving future lives via maintaining systems and relationships with the country in question to be able to implement future programmes effectively. Whilst prioritisation during the COVID-19 pandemic was a major topic[49], this was much more commonly discussed in terms of prioritisation in the Global

[47] Berhane (Interviewee 2, East Africa, emergency preparedness)
[48] Louison (Interviewee 18, North Europe, health operations)
[49] It is worth noting here that Berhane's comments were specifically about COVID-19, but Louison was making a more general claim.

North between COVID-19 patients for allocation of scarce resources such as ventilators (for example White and Lo, 2020, Peterson et al., 2020), and vaccine prioritisation both nationally and globally (for example Emanuel et al., 2020, Rhodes, 2021).[50] There was much less literature and guidance focused on prioritisation between COVID-19 and other causes of ill health, prioritisation between acute and chronic diseases in international aid (Aebischer Perone et al., 2017, Royal College of Royal College of Physicans, 2021), or prioritisation within the Global South except in the context of how to prioritise research in global health emergencies (Nuffield Council on Bioethics, 2020). This is an important gap in the literature that this evidence addresses by reminding us that prioritisation in outbreaks is more complex, and occurs in more contexts than the literature focuses on.

5.5 Ethical challenges in technical work

In the previous section, I analysed interview accounts of ethical challenges in operational work interviewees undertook, including pay disparity amongst global health and global health security professionals risking a 'brain drain', the moral disorientation of professionals during the COVID-19 pandemic, inequalities in treating local populations and international responders, the ethics in managing legal barriers to humanitarian work, and how far to prioritise emergency work.

[50] Where I use 'for example' before a citation in this thesis, this indicates examples of work in this area out of a vast volume of literature that cannot all be cited here.

In this section, I move onto the ethical challenges interviewees' encountered related to technical-scientific work, which is the second category of work in global health security seen in Figure 6.

Although the technical work of global health security, for example, epidemiological or microbiological analyses, formed the basis of much of the work done in global health security, this was an area that most interviewees did not bring up as particularly challenging, with two key exceptions. I think this is because scientific work was often not seen as ethically challenging by my interviewees. The exceptions to this were two ideas which might perhaps be best characterized as outrage at wastefulness in global health security and concern about vaccine research ethics. These themes both could have fitted into other categories, particularly as some elements of what I will describe fit into operational work (for example, Section 5.5.1 sending medical equipment to another country) or working with partners or communities (for example, Section 5.5.2 how to provide research in a setting in which local ethics committees are lacking). However, I think these should be seen as ethical challenges related to technical work because it is often the interviewees' expert knowledge and specialty in these areas that enabled them to identify the issues as challenging or even make a judgement about current practice being immoral.

5.5.1 Contextually inappropriate resources

Interviewees found managing inefficient donations that did not sufficiently take into account the context that they were delivered to a frustrating part of global health security. This was because sometimes they could not prevent donations, despite having the scientific or

technical knowledge of why these donations would have a negative impact. Whilst multiple interviewees suggested this was a problem, the following two examples present some of the more concrete examples related to laboratory resources and healthcare equipment of poorly thought-out donations.

1. **Wasted laboratory equipment:** *"a laboratory that received…equipment, and they can't, the plug, the electrical cord, isn't aligned with the country, right? And so you can't plug it in. So I'm talking, like, probably a 10, 10,000, 15,000 USD, you know, machine that the laboratories get, but then they can't even plug it in. And so the likelihood of trying to either get a new power, it's not just so simple as, you know, exchanging a new power port or, you know, getting a, a, yeah, a different type of port to use, but it's, what happens is that, you know, that, that machine's just not used" [Avery]*[51]

2. **Inappropriate hospital equipment:** *"[A Northern European country] ordered too many [of a type of equipment]*[52] *during the COVID-19 crisis and rather than, you know, I don't know sending them back or sharing them with European neighbours, it was decided it wants to send them to developing countries. And my colleague has had the job of trying to make that make sense…. You can imagine lots of different ways that could go wrong, right. So yes, yes I guess in one case you'd end up with sending the things over and they just don't get used. You could imagine scenarios where they get sent over but there's nobody to use them properly and people actually suffer clinical harm as a result of it. There's the reputational risk and then there's the diversion of the opportunity costs." [Eike]*[53]

The problem here is, as Eike, who has a background in development work puts it, there is an *"opportunity cost"* to these interventions, which means the money and resources devoted to them is lost to more valuable opportunities. A specification of what these more valuable opportunities could be comes from Makena[54], who when considering a similar waste in

[51] Avery (Interviewee 33, North America, health security policy)
[52] Type of equipment removed at interviewee request to avoid being able to identify this case example, but multiple examples could fit this, including emergency outreach or intensive care equipment.
[53] Eike (Interviewee 5, North Europe, health policy)
[54] Makena (Interviewee 7, East Africa, epidemiologist)

"*duplication"* of activities between external funders suggests that *"if they could just divert those resources to something else, maybe their country could…meet an urgent need"*. The problem outlined here is the waste in resources and failure to engage sufficiently with local communities and providers.

Unlike some of the ethical challenges discussed earlier, such as whether to break the law in order to provide humanitarian aid, providing contextually inappropriate resources was seen as an ethical failing, rather than an ethical challenge. These failings were presented as important and frustrating for interviewees who wanted to prevent having to work on a programme that they perceived as ethically wrong.

This was not simply a donor problem, as Louison, who works in logistics of health operations, indicates, when discussing requests from countries seeking interventions.

> *almost all of them have started off with a Ministry of Health asking us for, for a range of interventions that probably aren't appropriate. So, generally what's happened is you know, a country has got in touch with us and said, "We want a team of 20 intensive care people who can intubate." And then we start saying, "Okay, have you got ventilators, have you got an oxygen supply? At what point in your primary system are people referred? What level of critical of care are you talking about here? Have you got rehab facilities? Have you got …" and the answers to all of these things are generally, "No, we haven't thought about it." Or, "What does that mean?" And then you get to the point where you think, "Actually you're just gonna kill people."" [Louison]*[55]

Here, Louison said that they were so well practised with conducting conversations in which they refuse requests for inappropriate resources, that they no longer found these

[55] Louison (Interviewee 18, North Europe, health operations)

conversations challenging. By contrast with the above scenarios in which the resources are wasted as they do not meet local needs, here there is a lack of attention by those representing the receiving country to their own country's needs. Rather than Ash and Eike who were frustrated by the moral failure of their organisations providing contextually inappropriate resources, Louison's example shows the moral work of repeatedly preventing these moral failures happening.

For these interviewees, the challenge is responding to or averting moral failures when others, without sufficient or scientific-technical expertise, have failed to pay attention to what resources are required. In the example of the inappropriate hospital equipment, it seems that the problems can occur at a political level. In this example it left the implementer, with their specialized technical knowledge, having insight into the problem, but still sometimes unable to prevent (as Louison does) the donation proceeding.

5.5.2 Perceptions of global vaccine research ethics

The second area of technical work that was perceived as ethically challenging was vaccine research ethics when balancing research relationships between the Global North and Global South.[56]

[56] Whilst my topic guide did not include any specific questions on research, many interviewees spoke about research or had dual roles in research and practice. The separation between research and practice in global health security was therefore a somewhat blurred line in this dataset. The activities of global health security contributed to this blurred line with dual use research and laboratory biosecurity being a key target of global health security because they give rise to a risk of epidemics (see Chapter 6, Section 6.2.2.6). Thus, my

Toni discussed a colleague advocating for the use of a new Ebola vaccine that had not been approved by the US Food and Drug Agency in an Ebola outbreak in Africa. Whilst the interviewee sided with the argument in favour of using the vaccine, they explored both sides of the argument:

> *it wouldn't be long until people would begin saying that the US had an experimental vaccine and they were testing it on poor Africans so it could be then safely used in the United States. And so that to me was one of the biggest ethical issues I've actually seen. You know, we can theorize about everything, this was a real one, people were dying in Africa, here we have a vaccine that might work but we haven't done the testing to know how safe it is or how effective it is so would you use it on people in Africa to protect them? Or would it in effect be we're using poor Africans to test our vaccine so we can use it at home? [Toni]*[57]

In this example, the barrier to the good that the vaccine might do in a clinical trial is balanced against international relations dynamics, the perception that they should not test on *"poor Africans"*, and the worry that if this trial went ahead but damaged trust in the vaccine that this might have a significant impact on the vaccine's future uptake. It is worth noting here, that whilst initial safety trials (Phase 1) could be conducted anywhere in the world, since Ebola only occurs via outbreaks and is not endemically present in the world, the effectiveness of the vaccine could only be tested in clinical trials during outbreaks, which it subsequently was, being effectively used in the Democratic Republic of Congo (Wells et al., 2019, see Hoff et al., 2022). Whilst this is an example that was resolved, Toni's take on it was important because it

analysis of this data, that research can be a domain of global health security that is ethically challenging and interwoven with practice.

[57] Toni (Interviewee 29, North America, military)

demonstrates how those working in the area worried about the perceptions of their decision being seen as a type of colonial imposition, not just about the consequences of that decision.

In the second example related to perceptions of inequality between the Global North and Global South, Carey advocates that it is wrong to use the same risk tolerance for adverse events caused by a vaccine between different locations where the risk of dying from the disease is different. The example used here is about the higher risk of dying from rotavirus in India than the US:

> *Yeah rotavirus vaccines were licensed in India and around the world based on the FDA regulations and WHO prequalification. When there were nine rare events that occurred in the US that vaccine was withdrawn from the US and then all other countries that had regulated it based on the US also withdrew it for a period of, I think it was two to three years, and during that period there would have been incredibly increased numbers of deaths from diarrhoea disease which the risk benefit would have said you should have continued with this vaccine in that country 'cause the risk of serious side effects is much, much lower than the risk of death from ... of, of death from rotavirus [Carey]*[58]

Here, Carey thinks it is wrong that the standards for adverse events in the US stopped the vaccine distribution in areas in which rotavirus may have killed more people. For them, this is a misrepresentation of the principle of equality because for the risk environment that children were in, the risk of the vaccine compared to the risk of contracting and dying from rotavirus was very different. For Carey, this is not an equality issue, that all countries should be held up to the same international standards, but an equity issue, that unequal risk of disease means unequal use of the vaccine is justified. Whilst this is the opinion of the interviewee, it

[58] Carey (Interviewee 11, North Europe, public health)

also relates to a high profile debate about this vaccine (see for example Melton, 2000, Weijer, 2000, Schwartz, 2012).

Although these example related to an Ebola and rotavirus vaccine were both important global examples that remained a concern to interviewees, they are essentially resolved as the vaccines are now in use. They do show, however, like the volume of literature on resolved outbreaks such as the problems with community engagement in the West African Ebola outbreak in Chapter 2 (Section 2.10.2.4), that past experiences are significant to developing global health security as a practice. What is important about these examples is that it is the perception of not treating the Global South equally to the Global North that gave rise to the issues, rather than the evidence that this was the case. Despite these important cases being resolved, a smaller scale case suggests that this perception problem does not seem to be. Quang[59] expressed a view that a lack of research ethics committees in the Global South meant that *"the infrastructure is not there to ensure a global common, I guess, a common standard can be assured."*. Whilst Quang supported the need for local ethics approval for research in emergency circumstances, a standard needed in the Global North, they found that this standard prevented research occurring in places in which there was no local ethics committee, because of perceptions of not having local ethics approval. This reduced their ability to conduct helpful research in these communities, for which they had the scientific expertise to undertake.

[59] Quang (Interviewee 35, Southeast Asia, public health)

5.6 Ethical challenges in strategy and advocacy work

In the previous two sections I have analysed ethical challenges in operational work and technical-scientific work in global health security. I now turn to ethical challenges in strategy and advocacy work in global health security.

With many interviewees working in highly political jobs with international work or partners, it was inevitable that some of the ethical challenges faced by them related to these complex relationships. These include managing contentious relationship when working with a *"big player"* and solving moral problems related to strategy. In what follows these will be described in further detail.

5.6.1 Contentious relationships with a *"big player"*

Cameron, who worked in a government public health agency, found working in the political environment of global health security difficult because of the need to work with what they call a *"big player"* to be effective:

> *[Global health security is] a really difficult space to work in…where if you want to have any kind of influence you need to be doing it with a big player, right...that's [a specific government agency] [Cameron]*[60]

The type of difficulties that working with a government might lead to was illustrated by Luca, who had a leadership role in a European branch of an international NGO but had to maintain a relationship with the foreign government in the country they operated in. For Luca, it was

[60] Cameron (Interviewee 23, North European, public health)

about knowing where the red line was beyond which their organisation would speak out against the country they were operating in. This was a difficult decision for them, and those in the organisation, as they were a large NGO which had been operating in the country for decades, but conditions in the country over the past few years included both periods of stability and periods of high risk civil unrest.

> *So obviously speaking out you risk everything really…and quite a few of the agencies were suspended when they were there. So none of that is straightforward….I said to the country director, "we need to be really clear what, what are the principles we will speak out on." So the fact that our staff and the communities are currently under siege and we're continuing to provide life-saving services, that is not a moment where we speak out. However, if we get to a point where our staff and the communities are under siege and, for whatever reason, we're unable to, so we're literally not able to do anything for the community, do we then become complicit by not speaking out? And that's not a sort of yes, no, easy question or answer…it's still a very live conversation. [Luca]*[61]

Here, Luca justifies working in a country, and not speaking out when that country is harming its own citizens, as necessary when their organisation can still provide aid to those citizens. The future ethical challenge Luca is concerned about would occur when the conditions in the country deteriorate so much that they cannot provide aid. In that scenario Luca is concerned that they should speak out against the country as to not be ethically complicit in its wrongdoing, but that speaking out would risk their organisation being suspended and not being able to resume operations in the country if, and when, the situation starts to stabilise again. This shows a case in which an individual's values are important in these large-scale situations.

[61] Luca (Interviewee 19, North Europe, humanitarian public health)

This difficult navigation was not unique to Luca. Kyrie[62] felt they had to balance ideal public health outcomes with donors wanting to *"earmark them [donations] for specific countries of which they have a strategic interest"*. On one hand, working in a resource constrained international organisation, they wanted to accept donations, but on the other hand they *"don't want to become an instrument…of geo-political dynamics"*. The similarity of these accounts is finding the difficult line when dealing with high level political dynamics, and how the interviewees' personal morality affects these situations.

5.6.2 Solving moral problems of strategy

The ethical challenges in this chapter thus far have been those identified by interviewees as ethical challenges or problems arising in their work. In this section, I present those challenges reported by interviewees that relate to solving moral problems of strategy. In one important sense the presentation of these problems was particularly interesting in that this was an area in which interviewees offered solutions to problems they identified.

These issues arose at both the local level and international level. In the first, Alvi reports being asked to help develop laboratories in Sierra Leone to develop capacity for testing viral haemorrhagic fevers including Ebola virus, but chooses to include a local need for testing Hepatitis B virus in order to justify working in a *"protectionist"* team that was established to manage threats to the Global North as its primary remit.

> *As a professional working in this space the way I navigate that is, 'Okay your interest is Ebola,' I am interested in a much more widespread endemic viral haemorrhagic fever, the laboratory*

[62] Kyrie (Interviewee 31, North Europe, public health policy)

> *capacity to diagnose Ebola rather than just being able to diagnose Ebola, which by the way was what happened in Sierra Leone. Sierra Leone currently has six laboratories that can do viral haemorrhagic fever diagnostics, but they cannot diagnose Hepatitis B. So the approach I take is, 'Okay that is what you are interested in,' my interpretation of that is the country needs to have a functional laboratory system. And if it has that system, it can respond and it can adapt to whatever the emergency is and try and leverage that interest into a health system strengthening approach, that's what I do. That is how I justify working with a term that can feel very protectionist sometimes. [Alvi]*[63]

Here, the strategic focus of the group in which they work is on the securitized disease Ebola, whereas Alvi considers it more important to consider and address endemic disease.

A different approach to changing the system was seen by Azul:

> *"We formed alliances with people that we weren't supposed to form alliances with and we got vaccines that way. So, maybe we need some more maverick institutions at the sub-regional level and things will change." [Azul]*[64]

This was in the context of their region buying COVID-19 vaccines outside the COVID-19 Vaccines Global Access (COVAX) programme, because they felt underestimated and deprioritised by the programme. It underestimated their ability to maintain a cold chain for the Pfizer vaccine and deprioritised them because there were worse COVID-19 outbreaks in another part of the wider region they were classified in, and at that time *"You only got the vaccine if people were dying. So, we were relegated"*.[65]

[63] Alvi (Interviewee 15, North Europe, public health)
[64] Azul (Interviewee 27, Latin America and the Caribbean, public health)
[65] Azul (Interviewee 27, Latin America and the Caribbean, public health)

This is an interesting case as it contrasts with wider COVID-19 narratives that the Global North took all the vaccines, leaving other countries waiting for COVAX. In this account, the smaller region successfully fights for its own vaccines sooner. This individual also felt like they needed to justify their actions on an international level, as their tactic "*was massively frowned upon by the global public health fraternity"*. Azul's justification was that the global system was wrong as it penalized those with good initial responses to COVID-19: as their region tried to *"filter"* who was coming through their borders, they had a lesser burden of COVID-19 and so were entitled to fewer vaccines through COVAX. Less vaccines meant for them that their tourism industry, which was important for the local economy, could not be restarted.

These examples do not necessarily answer the question of whether these interviewees were doing the right thing in any particular case, but demonstrate how some individuals are able to find solutions for their moral problems in strategy and advocacy. From the few examples given, it is difficult to extrapolate as to why solutions to moral problems were offered to these but were not as commonly offered in other areas. One explanation might be that this chapter includes both ethical challenges interviewees identified as thus, and challenges which my analysis of the data revealed to have an ethical component. It may be that the language of asking about ethical challenges, which I use in my interview, sometimes implies unresolved challenges, and so interviewees gave me more problems than solutions (see Chapter 4, Section 4.5.2.6 on the topic guide).

5.7 Ethical challenges in partnership and community work

In the chapter so far, I have analysed that the work of global health security can be divided into four areas and shown that operational work, technical-scientific work, and strategy and advocacy work all present ethical challenges for my interviewees.

The final area of work that raised ethical challenges for interviewees, as illustrated in Figure 6, was partnership and community work. The ethical challenges I have brought together under this subtheme concerned balancing the needs of different groups in a population and individual rights against population benefit.

5.7.1 Balancing health and wellbeing in communities

A key ethical concern for interviewees was the balancing of wellbeing and health for different populations, communities and households. This is traditionally seen as an area of public health ethics, and many interviewees in my study defined themselves by public health credentials. Therefore, it made sense that some of the ethical challenges they experienced were in this area because they are more likely to be interested in and attuned to recognizing them. Concerns related to balancing different groups were perceived on different levels. I chose the following three cases because they are examples from my analysis that typify the kind of thinking about ethical balancing of potential impacts between groups, at three related scales: household, community and global.

5.7.1.1 Household level ethical considerations

At a household level, the need for confidentiality in outbreaks was illustrated by Chari. In the following quote Chari illustrates that a household with infectious disease cases want confidentiality and privacy to be maintained, whilst not necessarily saying that the information about their illness should not be used for public health reasons.

> *So you go in the community. You are responding for a cholera outbreak…And, yes, you come to my home…So if in your response I would prefer you refer me as to Mr or Madame X, have sick people in their home, but I wouldn't want people out there to know we are sick. Fine, in your records we can have it as six cases, but not for everyone in my village to know that it's that home with this number of people, because, yes, because you never know what, what my neighbours or all the people around would think of me. They would think we've brought the disease to the community for them, and some communities are violent. They might end up stoning or wanting the cases out of their community. So I think confidentiality is important in this case. [Chari]*[66]

Chari frames confidentiality in public health data as a norm. They suggest that confidentiality is needed not only because of the private nature of medical records, but because breaking confidentiality risks serious consequences for those patients including violence and loss of their home. As well as this risk, Chari implies a courtesy and respect relationship between the individual who is giving up their data and the responder, who must appreciate the limits of this. In doing so they ground this norm as both of consequentialist importance and a relational norm between public health practitioner and the case. The language of this example confirms the public health context: Instead of patients, we have cases, and the number of cases is important, but the names are not.

[66] Chari (Interviewee 9, Central Africa, public health)

5.7.1.2 Community level ethical tensions

Looking at the community level, Luca elaborates on having had *"very, very tense"*[67] conversations over the management of elderly populations in refugee camps for the displaced Rohingya population in Bangladesh during April 2020. The question was over whether the elderly population should be moved to a residential home type facility for shielding rather than staying in the camp. The context for this was the concern that modelling showed that this elderly group could have high levels of mortality and morbidity, and the rate of COVID-19 in the crowded refugee camp was likely to be high in the next peak. However, the norm in the Rohingya community was multigenerational living. Luca was uncomfortable with the proposed scheme and argues strongly against it.

> *But it was more the cultural appropriateness, to be honest. You know, the Rohingya population, multigenerational living. I wasn't there. I was here having these conversations before I went in early May. But for me it just felt, you know, we were just putting our sort of energy in the wrong place and it was more appropriate and culturally acceptable for us to try to improve sort of individual measures at a, at a household level. And then you just get into the whole logistics of it….You know, all of that stuff was just, it just was unfathomable to me, to be honest with you. [Luca]*[68]

The ethical problem faced by Luca was whether to concede to those within their decision-making group who believed their modelling showed that the elderly population should be isolated to save further lives, or trust their own moral instinct that this was the wrong action. Luca articulates two reasons why they thought it was the wrong action: that it is culturally inappropriate and that it is impractical. The culturally inappropriate rational has an implicit

[67] Luca (Interviewee 19, North Europe, humanitarian public health)
[68] Luca (Interviewee 19, North Europe, humanitarian public health)

ethical basis when it acknowledges that the predicted best action for reducing the deaths from COVID-19 might not be the best action for the community involved, as it splits up traditional structures and family groups, with significant non-physical harms. This was balanced by Luca against the fear that some of the predicted deaths in this community could be prevented.

When I read this section back after the interview, one of my thoughts about this debate is that it seems quite paternalistic. The key actors are the academics who did the modelling and NGOs involved in the implementation: It is all about decisions being made on behalf of this population. The culture of the community seems to be perceived as something that cannot change in light of events or evidence.

However, another interviewee also spoke about the lack of community structures in the Rohingya refugee camps that made community led healthcare so difficult.

> *So, the Rohingya refugee camps, a million people, one camp, four times the population density of, of Manhattan, and they are absolutely terrified of any form of authority, for very good reasons, and, and they have no real community structures. So, you can't create community-based healthcare systems because the community structures didn't really exist. Because when the Rohingya, or in Myanmar, anybody who stuck their head up and said, "I'm a community leader", normally, unfortunately, literally had it shot off [Finley]*[69]

Consequently, there needs to be acknowledgement of the complexity of health care in the refugee camp, the urgency behind this decision and the context of it being debated when there were increasing deaths in care homes in Europe. What this example shows is the

[69] Finley (Interviewee 21, North Europe, humanitarian development)

difficulty of moral decision making in light of uncertain data models, community contextual factors, and urgency.

5.7.1.3 National level

On a national, or in some cases, global scale, interviewees were concerned about disadvantaged groups during the COVID-19 pandemic. From questions like *"should we sacrifice children's education for the sake of old peoples' health and security?"* [70] to should we be *"denying people time to spend with their elderly loved ones whose lifespan is short"*? [71], and the risk of *"diminishing those kind of those economic, educational consequences"*[72] that were collateral in COVID-19. These concerns that interviewees bought up were those of justice and equity between population groups that were written about and widely discussed in popular media and academic writing during the pandemic. What was noticeable amongst these accounts compared to the media, is that even though many of these comments were after the waves of the pandemic when lock downs of care homes and school closures were over, there was a clear sense that these issues are not resolved. Interviewees did not see this as a near history exercise, but as an after action review to learn lessons for when this happened in future outbreaks, as Harley illustrates.

> *Yeah, I think something we've been thinking about is, is kind of the uneven impacts of pandemics, you know, no matter their source on kind of marginalised populations, and how that really kind of had further, like, furthered any negative consequences, you know, basically like why should we care so much that they are negatively impacted? I'm, I'm actually curious that, you know, about how to make that case better because I recognise, you know, that was a huge part of COVID-19 was the uneven impact to vulnerable communities and, you know, how did*

[70] Teagan (Interviewee 6, North Europe, public health)
[71] Teagan (Interviewee 6, North Europe, public health)
[72] Blair (Interviewee 38, North America, health security)

> *that further increase the, the total, like, negative impact of COVID, COVID globally. So I don't know, and I, you probably don't want to deal, like, just with COVID, but I think that's important to understand for future pandemics [Harley]*[73]

In this description, Harley is asking about two separate aspects related to global health security and balancing impacts on vulnerable populations. Harley speculates on how the impact of health inequalities can be used to further the argument about the importance of global health security to outsiders (the advocacy work of global health security as seen in Figure 6), and also what can be learnt from these inequalities to improve global health security policy going forward.

These examples of interviewees thinking about balancing the impact upon different groups at individual, community and national or global levels, shows how concerned interviewees are with the unintended or collateral consequences of the decisions and policies made in global health security, and that they recognise that these are more than just policy or evidence problems, but ethical problems. They recognise that there are 'vulnerable' populations, but also that COVID-19 has shown who that vulnerable population is, or for what they are vulnerable to – from mortality to loss of educational opportunities – can differ between outbreaks and needs to be prepared for. Given the debate in bioethics around how the concept of vulnerability needs to take into account non-homogenous populations and the agency of marginalized groups (see (Luna, 2009, Luna, 2014, Rogers et al., 2012), it is positive

[73] Harley (Interviewee 8, North America, global health security policy)

to see interviewees reflecting on what this means in global health security for different communities.

5.7.2 Rights based approaches

Some interviewees were concerned about the importance, or lack of, placed on rights-based reasoning. This was an ethical challenge related to partnership and community work because these examples often looked at the balance between the rights of individuals and the good of the community.

Only a small subset of interviewees talked about rights, but those that did spoke with great feeling and in depth about these.[74] I judged it was important to include this small amount of data on rights based approaches, despite it being a concern for a minority of interviewees, because it showed that in their practical day to day work these, sometimes abstract discussions over what a right is, were relevant to some of them. These included two interviewees who worked in the humanitarian sector that saw rights as the fundamental approach to their work, and a public health interviewee who argued that rights-based approaches could be disruptive. These concerns over rights were identified in my analysis in relation to three diverse areas:

1. The individual right to choose to have a vaccine
2. Whether or not we have a positive right to health
3. Whether health security and public health is an impediment to human rights

[74] This included Luca (Interviewee 19, North Europe, humanitarian public health), Finley (Interviewee 21, North Europe, humanitarian development), Luca (Interviewee 19, North Europe, humanitarian public health), Quang (Interviewee 35, Southeast Asia, public health)

A few interviewees were confident that the right to choose to have a COVID-19 vaccine or not was paramount because of the "*right to choose what to do with their own body*"[75], but at the same time were *"concerned"* [76] about vaccine hesitancy and Luca joked that they might make vaccines compulsory if they were a *"benevolent dictator"*[77]*.* Finley describes the difficulties of this perspective.

> *Do you enforce it? Do you impose it? Do you turn up, round people up, vaccinate them and then send them out, knowing that it will probably save more lives in the community? Or do you accept someone's right to choose or not to choose to, to be vaccinated? And you can apply that, I think, you know, in, in a lot of countries, but it tends to play out very heavily in, in the developing world, where a lack of education, a lack of information is there. [Finley]*[78]

Finley here solves their own conflict by appealing to the more extreme version of the argument for mandating vaccines – of literally holding the person down – as illustrating that we should not mandate vaccinations. A more nuanced perspective might be on education, incentivisation, or penalties for not getting the vaccine. Whilst Finley was conflicted over their rights-based approach to vaccines, they were much more definite on the positive right to health, but observed that this caused challenges in international aid as illustrated in the following example that draws on the differing views between the US Agency for International Development (USAID) in the below example and the UK Department for International Development (referred to as DIFD[79]).

[75] Finley (Interviewee 21, North Europe, humanitarian development)
[76] Finley (Interviewee 21, North Europe, humanitarian development)
[77] Luca (Interviewee 19, North Europe, humanitarian public health)
[78] Finley (Interviewee 21, North Europe, humanitarian development)
[79] DIFD has now been replaced by the UK Foreign, Commonwealth & Development Office

> *The two biggest donors in [a Central African country] for a long time were USAID and DIFD when it existed. And you would, you would have adjoining areas where they had big programs where at some places, that healthcare was free at point of service, next it was funded by DIFD and then you'd go to the next village and healthcare was a, a, a paid, a paid for service in order to become sustainable, economically sustainable, and that was effectively a USAID funded project. And what you'd end up with is these different philosophies about whether healthcare and access to public health is a fundamentally human right, therefore should be free at the point of service, or whether it is a service along with, with everything else like food that we're expected to pay for. And those underpinning philosophies I found, created quite a lot of tension within the aid sector [Finley][80]*

This demonstrates that my interviewees considered there to be important differences between a UK and a US approach, in which right to healthcare is seen as a right to this interviewee, and more generally in the context of the UK's National Health Service and insurance based schemes in the US. Notably missing from this account is the perspective of the recipient country. What strategy did the government want, and what did they think was sustainable for that population?

A completely different conflict over rights came from Quang, when they suggest human rights discussions, whilst being important, derail health security discussions.

> *For global health security one of the very interesting areas, or fights that I usually come across in meetings, global meetings, they start. People very easily will jump into the right and wrong, and they will actually get tied very much into the whole discussion of human rights. Which I support, don't get me wrong, I support. But then they actually allow people because of how this terms usually associated, or how you protect communities. And then, this, then people start to write what is the right of the individuals. Do they have a right, or their own choices, or do they follow a state when it comes to emergencies?...Once you got health security, some people start to feel very uncomfortable because they feel, oh you're getting the human rights discussion. Which we know it's not. [Quang][81]*

[80] Finley (Interviewee 21, North Europe, humanitarian development)
[81] Quang (Interviewee 35, Southeast Asia, public health)

Here, Quang does not think it is about human rights because they take a stance that the good of the community is more important than individual rights, and seem to reject that discussions about outbreak interventions like quarantine should be human rights focused.

Whilst considering individual versus population goods was a common concern of interviewees (see Section 5.7.1), this perspective endorses the community perspective beyond others in dismissing human rights. While differing perspectives on human rights are seen in global health, a solid basis in human rights is dominant in the field (for example, right to live and right to health as embedded into Sustainable Development Goal 3 (Office of the High Commissioner for Human Rights, 2022)). To speak out against the importance of human rights is therefore quite unusual and brave in the context of an ethics interview. This is important as it acknowledges, yet challenges, the implicit orthodoxy in the field that human rights are embedded in global health security.

This section also highlights that human rights does not feature as strongly as a theme in interviewee perspectives as in the during-COVID-19 literature (See Chapter 3, Section 3.5.2).

5.8 Conclusions

Through this analysis of the theme of everyday ethical challenges in the work of global health security, it becomes apparent that dealing with moral questions is an important part of interviewees' work. My analysis suggests that the work of global health security and the ethical challenges interviewees face fall into four main areas. Ethical challenges related to operational work included ethical issues from pay disparity between global health and global

health security professionals risking a brain drain to how far emergency work should be prioritized over long-term work. Ethical challenges to technical work included aid donations of contextually inappropriate resources. In the section on ethical challenges in strategy and advocacy, interviewees worry about their red lines when working in a larger geopolitical context, whereas when working with communities, interviewees balance household rights to confidentiality versus community goods. These findings are important because there is very little in the literature (see Chapters 2 and 3) that gives insight into these ethical challenges.

Looking at this analysis as a whole, large differences in the scale of ethical challenges are present throughout the analysis. These ranged from concerns that were on quite a local level *(for example, Section 5.7.1.1 on protecting the confidentiality of individual families within their community when they contract infectious diseases)* to global level considerations *(for example, Section 5.5.2 on global vaccine research ethics).* It would be an oversimplification to suggest that there were just ethical challenges on different scales *(for example, interpersonal, community, national, international)*, as the challenges were also about how these different scales interact and are in tension *(for example, in Section 5.6.1 an individual advocating to have a red line to speak out against a state)*.

One way of understanding this might be to suggest that only some of the work and challenges in this chapter relate to global health security, with the rest relating to health security on a national or local level. Working in global health security could include those, for instance, someone in a think-tank working on changes to the International Health Regulations to promote global health security. It would exclude someone working on the application of

International Health Regulations in one country, and a clinician reporting a single case of infectious disease through their local reporting system. However, I do not think this makes sense as a paradigm either as it excludes a lot of the tangible work done in global health security, leaving it to be mostly a field of policy. It makes global health security, as an area, contingent on data and action from other areas, and belies the evidence seen in this chapter, of, for example, the problems of pay disparity between a global health and global health security workforce seen in Section 5.4.1.

Instead, this analysis shows the work of global health security can be understood as a complex ethical landscape in which work and ethical challenges occurs in four different areas: operational work, technical-scientific work, strategy and advocacy work, and partnership and community work. Identifying, and sometimes managing these ethical challenges has emerged as an important aspect of the role of working in global health security. Where the boundaries are for considering what might be included or excluded as part of global health security is the focus of the next chapter.



Chapter 6: The meaning of global health security

6.1 Introduction

In the last chapter, my analysis showed that the work of global health security raised multiple ethical challenges for interviewees and that this was an important aspect of their role. In this chapter, I move from mapping this complex moral landscape widely to presenting my analysis of interviewees' understandings of what global health security means. Unlike in Chapter 5 in which there was scarce literature on ethics in the work of global health security, Chapters 2 and 3 showed that there is interest and attention paid to the meaning of global health security but a lack of definitional and conceptual clarity regarding the term.

The analysis presented in the first half of the chapter suggests that, although the terminology of security is familiar to most interviewees, there are considerable differences in their definitions of global health security, in how confident interviewees are in their own understanding of global health security, and in how they set conceptual boundaries. Added to these conceptually contested definitions, interviewees also raise moral concerns about the nature of global health security, that is, they see the choice of definition as morally significant.

To make sense of this conceptually contested and morally concerning area, my analysis demonstrates that views on global health security can be divided into four different moral models, with different conceptual and moral priorities, which I label as the threat model, the collective model, the reframing model, and the humanitarian model.

6.2 Global health security as a contested term

Whilst the chapter is all about the meaning of global health security, this first section analyses two aspects of this: how interviewees differed in their initial definitions of global health security and how they set boundaries for what is inside or outside the concept.

6.2.1 Definitions

All thirty-eight interviewees were asked to define what they considered to be global health security. In the interviews, I used their definitions as a starting point for discussing global health security in much broader terms and also used it to frame and contextualise many of their responses to other key questions during the interviews. Whilst a variety of definitions were provided, my analysis of the data suggests that these responses could be grouped under three broad themes: Policy-orientated definitions, global protection definitions, and pragmatic or flexible definitions.

6.2.1.1 Policy-orientated definitions

Interviewees who used a more policy-oriented definition of global health security commonly drew on the definition coming from the Global Health Security Agenda[82] and Joint External Evaluations[83] that global health security is about the need to *"protect, detect and respond"*[84]. This almost mantra-like phrase was presented by multiple interviewees. Whilst this language was not necessarily intended to be used just in relation to infectious diseases by the partnerships and agencies that devised them, it was the main focus of interviewees' definitions. The phrase refers to three different features which are commonly described as the aim of global health security which are:

1. **Protecting** populations from infectious diseases or other hazards before they occur
2. **Detecting** threats at early stages through surveillance activities
3. **Responding** to and mitigating events when they occur

Unlike the WHO definition, there is no cross border element to the definition. Instead, the phrase used in the context of Joint External Evaluations, implies a greater focus on the duty

[82] See examples of this phrase used in Global Health Security Agenda related documents here: https://www.cdc.gov/globalhealth/security/actionpackages/default.htm

[83] The Joint External Evaluations also originated within the Global Health Security Agenda, before being adopted by WHO. See an example of the phrase in the Joint External Evaluations here: https://www.who.int/emergencies/operations/international-health-regulations-monitoring-evaluation-framework/joint-external-evaluations.

[84] This phrase was used by Berhane (Interviewee 2, East African, emergency preparedness), Teagan (Interviewee 6, North European, public health), Harley (Interviewee 8, North American, global health security policy), Chari (Interviewee 9, Central African, public health), Ade (Interviewee 10, West African, public health), Alvi (Interviewee 15, North European, public health), Evan (Interviewee 30, North American, global health security) and Drew (Interviewee 26, North American, scientific business development).

for each nation to protect, detect and respond to infectious diseases, rather than necessarily a global focus.

The 'protect, detect and respond' phrase was often used by interviewees in combination with other policy-orientated language around cooperation between countries and disciplines to indicate the wide nature of the global health security effort as the following interviewee explains in their definition:

> *it's [global health security] really a, a large effort, a multi-sectoral effort, a multi-disciplinary effort to improve countries' capacities to prevent, detect and respond to infectious disease threat [Evan]*[85]

Although not all interviewees using this phrase referred directly to the Global Health Security Agenda or Joint External Evaluation structures, from which the phrase originates, their word-for-word use of it suggests that they have – even if unknowingly - been influenced by the terminology used in these contexts. Interestingly, by contrast, the definition used by WHO in 2007 for global public health security[86] was not one that was discussed by interviewees, suggesting that the more recent phrasing of the Global Health Security Agenda (which was launched in 2014) is more influential in practice.

[85] Evan (Interviewee 30, North America, global health security)

[86] Global public health security is *"the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries".* (WHO, 2007)

6.2.1.2 Global protection definitions

While the policy-orientated definitions explored in the last section describe actions of global health security in terms of 'protecting, defending and responding', an alternate definition focused much more around the value of enhancing health and less around idea of threats. As one interviewee described it, global health security is about *"how we can actually enhance the health of the world".*[87] This emphasis did not necessarily exclude a policy-orientated focus, but was grounded in a broader framework of health priorities. In the following extract, this same interviewee – who is from a military background - explains their broad definition of global health security.

> *I would interpret global health security to mean the, the sort of network of health agencies, domestic systems, International Health Regulations and health bargains that we collectively agree on in order to ensure that the global population meets the requirements of a healthy population, as defined by World Health Organization. So that the health status, not just being free from disease but also being, you know, mental wellness and societies that can interact with each other with a view to ensuring that they can prevent future disease, that they can, their populations health and wellbeing for economic and social development. [Kim]*[88]

In the quotation above, the interviewee has called upon the WHO definition of health[89] to expand the definition of global health security beyond infectious diseases, and even beyond a more narrow account of 'health' to economic and social development. This idea of expanding the definition of global health security is continued in Section 6.4.

---

87 Kim (Interviewee 12, Europe, military health)

88 Kim (Interviewee 12, Europe, military health)

89 Health as "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"* (WHO, 1946)

6.2.1.3 Pragmatic or flexible definitions

Whilst there were different understandings of global health security provided by interviewees, another notable element was a difference in confidence between whether global health security was a clearly understood term or not. Those drawing on their policy-orientated definition unsurprisingly saw global health security as a *"clearly defined area"*[90] but other interviewees that did not offer a policy-orientated or global protection definition found it an area of *"flexibility"*[91], a term with "*a lot of interpretations"* [92], a *"political construct and… and it is a convenience label"*[93] or stated that they *"don't think it means much"* [94].

The lack of meaning perceived by interviewees was reported by those interviewed as being related to the complexity of the term. It was not just about formal definitions such as in policy, but included the political landscape as well. The following interviewee articulates the difficulty in presenting a clear definition:

> *Because now I am struggling to be able to define what is global health security because it has so many different components. And then you are saying what are these components, look I do not know every single one of these components, but it has to be with types of diseases, it has to be about security within, like biosecurity so being able to screen and to protect countries against different types of bioterrorism. Then there is also the political component linked very closely with finance as well. [Nikko]*[95]

[90] Cameron (Interviewee 23, North Europe, public health)
[91] Rowan (Interviewee 20, North Europe, policy advisor)
[92] Ade (Interviewee 10, West Africa, public health)
[93] Alvi (Interviewee 15, Europe, public health)
[94] Jordan (Interviewee 22, North America, humanitarian aid)
[95] Nikko (Interviewee 16, Southeast Asia, global health)

The political component referred to in this interview extract related to the opinion held among interviewees that global health security was more than a defined discipline, but a pragmatic way of framing work to achieve the maximum amount of funding (see also Section 6.3.3). Whilst this left Nikko struggling to come up with a clear definition, this lack of clarity was useful to Rowan, who worked in policy, and spoke about the usefulness of a definition of *"constructive ambiguity"*[96] that stops global health security being too limited, for strategic and political reasons.

> *But if it's [the global health security definition] too limited if, if you try to limit it specifically only of, for example, global health security if you only limited that to emerging pandemics then…you're omitting pandemics that are still ongoing that just do not have the media attention. So I'm hoping that the ambiguity that I'm providing gives enough or that I've included in my definition provides enough flexibility.* [Rowan][97]

However, the risks of ambiguous definition for pragmatic reasons are illustrated by the quote from Cameron below who found themselves adopting a different concept of global health security than other attendees when invited to speak at a conference.

> *I was at a conference, again, it was, like, a few years ago where there was a panel on global health security….And everyone was talking, it was, it was a stupid panel, because everyone was talking about a completely different topic* [Cameron][98]

[96] Rowan (Interviewee 20, North Europe, policy advisor)
[97] Rowan (Interviewee 20, Europe, policy advisor)
[98] Cameron (Interviewee 23, Europe, public health)

This analysis shows that not only is there disagreement between interviewee perspectives on whether global health security is amenable to a clear definition or not, but also about whether an ambiguous, pragmatic definition might be useful or detrimental in practice.

6.2.2 Boundary setting

As well as these three different ways in which interviewees gave definitions about what is meant by global health security, another strategy interviewees used for defining it was by setting boundaries on what was inside or outside the concept. This was both something I actively explored in my questions (for example, prompts on: *"is malaria a global health security problem? Why? / Why not?"*), but was also something interviewees spontaneously brought up. It is perhaps unsurprising that *"conditions that have epidemic potential"* [99] – particularly COVID-19 and Ebola – featured as core areas included in global health security rather than cases near the boundary, but the doubts and inconsistencies expressed by interviewees about what other areas are, and what should be, in global health security, provides interesting further nuance about the features relevant to interviewees in their considerations of how best to understand global health security. In the next sections I analyse the boundaries of global health security as related to COVID-19, Ebola, endemic diseases, noncommunicable diseases, health systems strengthening, biosecurity and the military role.

6.2.2.1 COVID-19

COVID-19 and Ebola were both key infectious diseases that were seen as global health security problems by all interviewees. This is unsurprising, and reflects the experiences of

[99] Ade (Interviewee 10, West Africa, public health)

interviewees in living through, and working to mitigate COVID-19, and many who also worked on previous Ebola outbreaks. It is also consistent with the significant volume of both policy and academic literature framing COVID-19 as a global health security problem (see for example Sehovic and Govender, 2021).

When discussing what a global health security threat is, one interviewee included COVID-19 within this definition, but commented that the initial characteristics of COVID-19 *"on paper"* meant that it was:

> *"something that prior to the pandemic we probably wouldn't have been, been as concerned about" [Ash][100]*

Their rationale for this was that their work was focused previously on global biological catastrophic risks, understanding these as those that had major death rates, were highly infectious, and had very quick spread, with the implied meaning that, at the beginning of the pandemic, COVID-19 was not thought to meet these criteria. This gives insight into perspectives from some interviewees that global health security is only concerned with the most serious of infectious diseases – that initially even the virus that went on to cause the most serious pandemic of the century – was not considered sufficiently concerning to constitute a global health security problem.

[100] Ash (Interviewee 3, North America, epidemiologist)

6.2.2.2 Ebola

The 2014-2016 Ebola outbreak in West Africa was an influential experience for some interviewees in its severity. Louison elaborated on the contrast between the terrible situation in West Africa compared to the overreaction of the rest of the world.

> *I mean a lot of the rest of the world…shut down for days at a time because of Ebola, despite the fact the risk to them were miniscule…And…at one point…the solution in…Monrovia was going to be put everybody in the football stadiums, surround it with troops and shoot anyone that comes out…[U]ltimately they didn't need to. And the reason they didn't need to was because they…started burning bodies in the open. And when the population saw that their behaviour changed. Overnight. [Louison]*[101]

In this narrative, Ebola is a devastating regional health security problem, but becomes a global health security problem through fear rather than actuality of risk. This was the case even for my interviewees who had an expert understanding of the low risk of global spread. Whilst features of this particular outbreak were new and important – it was transborder, urban, and the military were needed because there was a *"danger of losing control of civic society"* [102] - these aspects were overshadowed, for interviewees, by the terrible nature of the disease and human suffering. This meant that, for them, it was of global importance despite not actually being global.

At first glance, this is consistent with the dominant Copenhagen School understanding of securitisation, in which infectious diseases are securitised by states because they "*inspire particular human dread, and which therefore generate a level of societal disruption*

[101] Louison (Interview 18, North Europe, health operations)
[102] Jo (Interviewee 37, North Europe, NGO leadership)

disproportionate to the morbidity and mortality burden they pose" (Enemark, 2007, p.131), (see also Chapter 2, Section 2.7). However, interviewees' understanding of global health security were subtly different: It is not that they bought into the narrative of fear of Ebola spreading, for example, in Europe, but that the outbreak was so terrible to those effected to be of global importance despite the low global risk.

6.2.2.3 Endemic diseases

The absolute agreement that COVID-19 and Ebola were global health security problems despite differences over the features that made them so, was in contrast to the differing views of interviewees about whether or not, and under what circumstances endemic infectious diseases might constitute global health security problems.

Using heavily militaristic language such as *"skirmish"*, *"war"* and *"troops"*, Berhane differentiated between the global health focus on tuberculosis, HIV and non-communicable diseases and the health security focus on outbreaks like Ebola and COVID-19.

> *HIV is like a couple that skirmish with your neighbour, where health security is like a war. Because here you have the potential for escalation, you put troops on the border and then that's it, you know you've maintained your defence agenda, but health security is the surprise attack, it's the…it's very different. [Berhane]*[103]

Whilst this deliberately militaristic language was unique to Berhane in emphasising the links between health and security, this interviewee's comments reflected a common trend that

[103] Berhane (Interviewee 2, East Africa, emergency preparedness)

global health security is about the scale and surprise of the *"attack"* with this level of escalation – of diseases that spread rapidly through large areas. There is also an interesting element in that HIV, one of the original securitised diseases, is now excluded from this paradigm (for an important discussion on this see Selgelid and Enemark, 2008). This is likely because it is now understood – when treated – to be a chronic disease, in contrast to the fearful threat it was when it first began to spread in the 1980s.[104]

This clear differentiation made by Berhane between diseases of global health and global health security differed from the boundaries of other interviewees, especially with regards to malaria. Malaria was an example I used in the interviews as I thought, from prior research, that it might be a potentially interesting boundary case. This proved so: Malaria was both seen as outside and inside the global health security paradigm.

Blair's perspective that malaria was not a global health security problem was the more common position:

> *I wouldn't necessarily say that bed nets or safe water ... while I, you know, have deep, you know, appreciation and commitment for those issues, I would say those are more things that people would talk about in kind of a, a, a global health understanding writ large. Probably wouldn't include the term security around that*. [Blair][105]

Whilst Ebola indicated features that could lead to the inclusion of global health security through the dread associated with the disease, malaria reveals reasoning about what is

[104] I also used this reasoning to exclude HIV/AIDS from my critical interpretive review in Chapter 2.
[105] Blair (Interviewee 38, North America, health security)

outside the paradigm, by lacking the urgency of the response – the *"sudden, urgent discontinuity that needs to be prepared for and responded to"*[106].

However, an opposing and less common perspective from Chari suggested malaria was a global health security problem because of the movement of infected persons into other countries despite the lack of transmissibility there.

> *Diseases move. Just like the world that has become a global village, so diseases are moving within, within the shortest time possible, and … So as much as countries like Europe or America are not having a lot of malaria given their cold conditions, if they travelled here and got exposed they would still get back home and fall sick. So I would still think malaria is a [global health security] problem. [Chari][107]*

Whilst this was a minority perspective of some interviewees, the difficulties with the global health security label start to become apparent through interviewees differentiating that malaria is not a global health security problem, but *"it should be"* [108]. Through delineating the difference between their perceived understanding of global health security and their ideas about what ought to be in it, they indicate that the boundaries of global health security are external, and not for them to define. The reasons behind this normative phrasing were that the features of malaria outbreaks which have a very high burden, that cause disruption, were not any different to those on which global health security focuses. However, this was not seen as a global health security problem by Ade[109] and Lerato[110] - even if it should be - because

[106] Blair (Interviewee 38, North America, health security)
[107] Chari (Interviewee 9, Central Africa, public health)
[108] Said by Lerato (Interviewee 14, South Africa, global health) and Bassey (Interviewee 34, West Africa, biotechnology)
[109] Ade (Interviewee 10, West Africa, public health)
[110] Lerato (Interviewee 14, South Africa, global health)

they argue global health security wrongly focuses on Global North priorities. This explored in more detail in Section 6.3.

6.2.2.4 Non communicable diseases

Interviewee perspectives on the role of non-communicable diseases in global health security were also mixed. Some interviewees had never considered that these could be part of a definition of global health security, whilst others supported perspectives on this, having heard them from colleagues or in the academic literature, where a growing body of literature is framing these as global health security problems (see Chapter 2, Section 2.9).

Interviewees, for whom this was a new concept introduced by me as the interviewer, often rejected these as *"global health concerns"* [111] rather than global health security threats. One interviewee was so deeply embedded in their understanding of global health security being about deliberate events that when I asked about non-infectious global health security threats, they thought of non-communicable bioweapons which would be part of global health security, before going on to consider, and reject natural non-communicable diseases.

> *We don't want to think about that a lot, you know, for example the [Biological Weapons Convention] covers things like ricin and, I want to say anthrax but, like, so there are toxins that were also cognisant of, that can cause, like, negative health events in humans. But I mainly deal with infectious disease threats, like, you know, I don't think we would count a non-communicable disease, you know, like heart disease, cancer as a global health security threat. [Harley]*[112]

[111] Ade (Interviewee 10, West Africa, public health)
[112] Harley (Interviewee 8, North America, global health security policy)

For interviewees who didn't have such a focus on bioweapons, the 'lifestyle' causes of non-communicable diseases was seen as both the reason by which they were and were not considered global health security problems by different interviewees.

> *How do I put it…ethically? Obesity is something that a number of us can control. I mean let us look at parts of the world where this is now becoming a problem, I mean it is the kind of food you eat, it is the kind of food the governments allow, sugar intake, sugar production, the fact that this industry are not taxed etcetera…So it is something that people can and government can do something regularly about if they wanted to protect the populations. [Lerato]*[113]

For Lerato, the quality of obesity that means it is not a global health security threat is that it is actionable by individuals and government and is not out of control like an infectious disease. This perspective was in direct contradiction to Eike, who saw noncommunicable diseases as part of global health security because they were not under individual control but caused by companies whose strategies involve damaging health of those across borders.

> *I take a very broad perspective…which is that it can really be anything that affects our health, that can cross borders. And so that is anything from an infectious disease, which is what most people tend to think about, to climate change. It can be the action of transnational, multi-national companies, and what effect they might have on us…This is a view, for example, that tobacco is a global health security threat...That the actual global international and tobacco companies because of the way that they strategically try to damage health in a way that crosses borders that that is a…global health security threat. [Eike]*[114]

This helps reveal another quality of global health security threats for some interviewees. As well as urgency and the terrible nature of some infectious diseases, global health security can

[113] Lerato (Interviewee 14, South Africa, global health)
[114] Eike (Interviewee 5, Northern Europe, health policy)

also be about those diseases outside individual control. Infectious diseases are in this category because it is hard to reduce risk of infections in some outbreaks, outside of social distancing as COVID-19 demonstrated, but it is also hard to reduce risk for some noncommunicable diseases too because of wider societal influences.

6.2.2.5 Health systems strengthening and universal health coverage

Related to the question of whether noncommunicable diseases are part of the global health security paradigm was a question about whether health systems strengthening and universal health coverage were. Whilst these two concepts are separate, they are dealt with together, as health systems strengthening is often understood as the means to work towards universal health coverage, and the concepts were discussed as interconnected by some interviewees.

Ensuring resilient health systems that could cope with the challenge of epidemics, was seen as important to many interviewees, especially when drawing on the example of COVID-19. The interrelated challenges of health system strengthening and global health security included protecting healthcare workers, enabling early reporting of disease outbreaks, and preventing secondary negative impacts of epidemics.[115] Whilst there was broad consensus on the importance of health systems strengthening in the data, whether that importance meant that health systems strengthening and/or universal health coverage were part of global health security was something about which interviewees disagreed.

[115] Spoken about by Berhane (Interviewee 2, East African, emergency preparedness), Ash (Interviewee 3, North American, epidemiologist), Teagan (Interviewee 6, North European, public health), Makena (Interviewee 7, East African, epidemiologist), Harley (Interviewee 8, North American, global health security policy), Lerato (Interviewee 14, South African, global health), and Nikko (Interviewee 16, Southeast Asian, global health).

Carey argued that health security included public health, health systems and enabling healthy populations – taking a very wide approach which includes health systems as a subcomponent of health security.

> *And then there was the pandemic which has shown that really there are three interlocking functions that are necessary if you want health security. One of those is strong public health, which is what we used to call health security. The second is resilient health systems that can take care of those people who are infected with the outbreak, but also others who have routine health problems. And the third is enabling healthy populations so that populations don't ... aren't susceptible to these infections which occur.* [Carey][116]

Other interviewees, whilst acknowledging the importance of it as *"two sides of the same coin"* [117] and *"a critical foundational piece"*[118], thought it was a related or interconnected concept. This was due to the problem of considering health systems strengthening – a massive area of work – as part of global health security – another massive area, however much it makes sense to do so.

> *I, I think it's, it's an important, but, I mean, you can't say it's a necessary first step, because it, it, it will take huge amounts of time to achieve …and we need to be acting now until it's been achieved. So, I think for it, for global health security ever to be fully realised, and then you will need universal health coverage. [Harley]*[119]

Thus, health systems strengthening and universal health coverage are both integral to the aims of global health security – if populations cannot have healthcare, infections remain

[116] Carey (Interviewee 11, Europe, public health)
[117] Berhane (Interviewee 2, East Africa, emergency preparedness)
[118] Harley (Interviewee 8, North America, global health security policy)
[119] Harley (Interviewee 8, North America, global health security policy)

untreated and cannot be picked up by the surveillance systems, meaning the crucial aim of stopping outbreaks early before they become epidemics or pandemics is at risk. However, how central this is to the work of global health security is contested.

6.2.2.6 Biosecurity

The connection between security and the importance of being able to address deliberate or accidental release of pathogens from laboratories might seem a more straightforward link than natural outbreaks: of course, these events would have security links, as they are by definition crimes or safety issues with civil liabilities. This proved to be the case with some interviewees who discussed these events, one confidently articulating that global health security includes "*the range of problems from deliberate, accidental and natural origins of biological events"*[120]*.* It was notable that the terminology of deliberate, accidental and natural outbreaks was dominant in those that discussed these risks, which is consistent with their use in policy[121]: 'Natural' meant outbreaks that have occurred in nature, accidental indicated the release of pathogens from laboratories, whereas deliberate indicated bioterrorism.

Whilst most interviewees who discussed deliberate and natural causes emphasized the importance of these due to the *"scariness"*[122] of a deliberate event and the *"80% overlap"*[123]

[120] Said by Blair (Interviewee 38, North America, health security) with similar perspectives from Nikko (Interviewee 16, Southeast Asian, global health) and Drew (Interviewee 26, North American, scientific business development).

[121] An example here is in the Global Health Security Agenda 2024 Framework, p.2 which starts with *"Countries continue to face health security threats posed by infectious diseases, whether naturally occurring, deliberate, or accidental"*

[122] Harley (Interviewee 8, North America, global health security policy)

[123] Blair (Interviewee 38, North America, health security)

between what is involved in working on a deliberate or natural event, some did not consider deliberate or accidental events at all – when their sphere of work was the traditional public health area of natural outbreaks. This meant that, whilst not all interviewees considered these concerns, no interviewee rejected these as part of global health security.

As well as the risk from deliberate or accidental outbreaks, some interviewees discussed biosecurity. This is commonly understood as security measures designed to prevent the loss, theft or misuse of pathogens, often related to a laboratory setting (Renault et al., 2021). Interviewees used imagery to suggest that global health security is the space in between public health and biosecurity, with Drew[124] suggesting global health security lay at the *"intersection"* between bioterrorism and natural events, and Kyrie[125] suggesting global health security is *"the space between you know development and biosecurity, which health is trying to straddle"*. In these depictions, biosecurity and deliberate events are central to the definition of global health security as the purpose by which it exists, to bridge this boundary.

Evan's perspective adds a practical example to this boundary, distinguishing biosecurity from global health security, as separate but *"cross-cutting"* areas. In Evan's example of collecting and transporting a pathogen sample, the surveillance purpose of the task is seen as a function of global health security, whilst the biosecurity aspect is the process of transporting that sample securely.

[124] Drew (Interviewee 26, North America scientific business development)
[125] Kyrie (Interviewee 31, Europe, public health policy)

> *an epidemiologist going to collect a particular sample in maybe a rural village…not only collecting that sample but making sure it's being stored in its transportation, you know, on the route back to the official laboratory that it's, you know, secure, that there aren't any risks of…maybe it's someone who's on a, a motorbike who is transporting this, you know, sample or a box of samples from other people, making sure, you know, it, it, it gets to where it's going and safe and secure [Evan]*[126]

In contrast to global health security seen as bridging the space between health and bioterrorism, in this definition, biosecurity is seen as a separate, but complementary partner, aiding the work of global health security.

Overall, deliberate and accidental causes of outbreaks were both seen as part of global health security by those that considered these, even if they were not brought up by all interviewees. How ethical issues can differ between natural, accidental and deliberate outbreaks in global health security is discussed further in Chapter 7.

6.2.2.7 Military

Whilst most of the areas interviewees discussed as boundaries to what is included, or excluded from the definition of global health security were specific diseases (like COVID-19) or categories of disease (like deliberate outbreaks), the involvement of the military was seen by interviewees as an operational factor that could also be used to set a boundary of global health security.

[126] Evan (Interviewee 30, North America, global health security)

The link between securitization of health and militarization has been a controversial one in the literature (Ross, 1989, Watterson and Kamradt-Scott, 2015). Does framing health as a security issue necessarily lead to involvement of the military and defence services, and is this a positive or negative development? Whilst a minority of interviewees – mostly with military backgrounds themselves – spoke on this, a nuanced view was seen. By contrast with the sometimes caricatured, portrayal of the military as a negative interfering force in health security seen in some global health literature and events[127] interviewees appeared to have a more balanced perspective. This saw global health security proponents advocating for a role for the military in global health security and the increasing acceptance of the role of the military, but also reflections on the ethics of this, and the benefit to the military.

Toni, a North America military interviewee, spoke about the origins of health security in their country in the late nineties, when they were trying to persuade a government defence organization that *"public health was a national security issue"* and of hiring a physician about whom *"some of the old-time civilians that were there from the Cold War days said, '…why are you hiring a physician? What's he going to do give us, flu shots?'"* [128]. This historical beginning was contrasted with perspectives of an interviewee working in military health in Northern Europe who talked about working towards having the military integrated into preparedness, rather than just being used in a reactive way in emergencies. Such integration *"arguably could*

[127] At one conference I went to a military speaker felt the need to note that it is not like they are *"trying to park our tanks on the hospital lawn"*

[128] Toni (Interviewee 29, North America, military)

be said to be a spin off from the fact that health is now starting to be recognized as a security issue" and this "*has made the world more open"* to military work in health.[129]

Despite advocating for this work, Kim, who had a health role within a European military, acknowledged that there were ethical issues in working for the military because some see the prime purpose of the military is to *"kill other people"* which is the *"antithesis of health"* so framing things in defence terms could be problematic. However, Kim counted themselves as a pragmatist, who realises that if you separate off the "*theoretical perfect world and you have got the real imperfect world"* and *"people like me recognize the need for violence, but expect that that violence is conducted within certain rules"*.

The need for some military involvement in health events, in some circumstances, was also acknowledged by an interviewee working in the NGO sector, relating to Ebola, because of the skills needed there.

> *I understand why it almost had to be militarized because there was a danger of losing control of civic society. And, and the logistics that were required in order to change the curve of the epidemic required the engagement of the military in a way that hadn't had to be done before because of its scale and spread. So I would ideally love to avoid the militarization of these things, but I think actually in that circumstance particularly in Liberia and to an extent in Sierra Leone and less so in Guinea the, the contribution that the military ultimately make to logistics and to supply chains was absolutely in the end important. [Jo]*[130]

While these descriptions present a pragmatic and sometimes essential need for the military in health security – both domestically and internationally – the advantages accruing to the

[129] Kim (Interviewee 12, Europe, military health)
[130] Jo (Interviewee 37, North Europe, NGO leadership)

military in this relationship were less clear. Interestingly, another military interviewee thought the military role was much more limited and indirect, stating:

> *But, but whether the military has a role in, in wider health security, in most places I think it has quite a limited role in that from the [organization] perspective we support the wider military. The wider military supports wider security and that should create the environment in which health security is secure, is availably secured, but I don't necessarily think there's a direct link. [Vanja]*[131]

My analysis suggests that the question of whether and in which respects the involvement of the military ought to be seen as an established – and a welcome – part of global health security is far from resolved. There was certainly no evidence that these interviewees thought that militarization was a central and increasing facet of global health security.

6.3 Moral concerns with global health security

Thus far in this chapter, my analysis has suggested that global health security is understood in a number of different ways by global health security practitioners and those in related fields. Not only were there different understandings of the definitions of global health security among my interviewees falling broadly under policy-orientated, global health or pragmatic concepts, but the boundaries interviewees set on what to include or exclude within this term are very different – from bioterrorism to obesity.

[131] Vanja (Interviewee 25, North Europe, military health)

In this section, building on the previous, I provide an analysis of interviewees' moral concerns about global health security. These concerns, which were expressed by many interviewees, are relevant to this chapter on the meaning of global health security because they are concerns about the enterprise and language of what global health security is. By interviewees expressing these concerns, insights are gained about the moral meaning and standards global health security should have.

The moral concerns expressed by interviewees fall into three groups: that global health security benefits the Global North at the expense of the Global South, that these health problems should be seen as important in themselves without needing a security rationale, and that the terminology of global health security has grown to mean something negative. In the sections that follow I provide an analysis of each of these clusters in turn.

6.3.1 Concerns that global health security benefits the Global North at the expense of the Global South

A key moral concern about global health security was that the security framing led to an "*us and them mentality"*[132]. This framing is seen as a wider problem arising out of differences in the value attributed to lives in the Global North versus the Global South, as exemplified by Jo:

> *I think there is a darker side to it which is, 'We care about my health, and I don't care about your health, and this is about security of my country of me.' And I think unfortunately that is often how it's portrayed in, in non-rich world countries that the global health security agenda is actually about protecting people in rich countries. [Jo][133]*

[132] Alvi (Interviewee 15, Europe, public health)
[133] Jo (Interviewee 37, North Europe, NGO leadership)

This Global North-South divide was also seen as a factor in what diseases were important to global health security. Cameron, who took a somewhat sceptical view of global health security despite previously defining as working in it, talks about being challenged about why TB does not fit into the definition.

> *I, I interestingly got challenged once…before COVID at a conference when I, kind of, made the point that...if…pandemic preparedness wasn't sufficiently invested in, you know, you would have something like we're seeing with COVID which wouldn't just kill lots of people but it would also have huge financial economic impacts…and someone made a really good point that, like, we, we already have a respiratory illness which is killing loads of people and has massive financial implications, like, TB.* [Cameron][134]

Concluding that TB is not part of the global health security paradigm because of the *"people it affects"*, Cameron argued that this can be seen as a further dimension of the dominance of the Global North – where diseases endemic to the Global South are not seen in the global health security paradigm. At the core, this reflects interviewees disquiet about global health security being unfair with advantages accruing to the already privileged Global North.

6.3.2 Health as important in itself

The second moral concern with global health security identified in my analysis is that the issues that global health security represents are important in and of themselves and should not *need* the security rhetoric to make them important. In the following quote, Robin objects to the need for security as a motivator for decision-makers rather than the intrinsic worth of stopping global outbreaks being enough in itself.

[134] Cameron (Interviewee 23, Europe, Public Health)

> *"it would be a better environment if these issues were taken seriously because they are, they are important, not just because they are security threats." [Robin]*[135]

This was about the importance of outbreaks, in themselves, for Robin, but a related concern was expressed by Jordan, who had a long career in humanitarian aid, and wanted to make sure it was the patient at the centre of global health security. Jordan emphasized repeatedly in the interview that it is essential that:

> *"in the narrative of global health security that we do not basically displace the patient at the centre of the provision of the response in a crisis" [Jordan]*[136]

The importance of the outbreak and the patient in the narrative of global health security is expressed in an example by Kyrie when speaking about the Zika epidemic.

> *I think you know the Zika epidemic…could have been framed much more in terms of…this is a vector born disease and which is affecting…children and, and will have a huge cost for generations in, in settings which have been highly affected, in terms of sort of disability and long-term illness and it, and …the arguments instead were this could spread all over the world and then you're not going to be safe and look at what's… you know, look at the, the sort of likelihood that, that Texas is…going to be dealing with a burden of, of Zika in the future and, and, and so it's the sort of rather than a narrative of justice, it's about safety and, and safety being something which some people in the world can access and others, others don't have the same recourse to*. [Kyrie][137]

This argument is that the Zika outbreak should be important because of the effect on children, rather than the dominant narrative about the risk that it might spread to the US.

[135] Robin (Interviewee 1, Europe, international law)
[136] Jordan (Interviewee 22, North America, humanitarian aid)
[137] Kyrie (Interviewee 31, North Europe, public health policy)

A final related concern about health being a means to an end was that interviewees had a problem with *"taking arguments from each field and trying to tailor them to different audiences when you're trying to make money"*[138]. However, this was not just a principled argument about insincerity, but a practical argument that the aims of security and health could conflict. Kyrie argued that medical countermeasures such as vaccines and antivirals developed for military use were not necessarily suitable for civilian use in areas where the disease is endemic, leading to a misalignment between goals. Bo[139] found it morally problematic that in the surveillance of naturally occurring infectious diseases, an activity with a *"morally benign and encouraging reason*" for the work was being co-opted for national security reasons, and their experience was "*creat[ing] distrust about the ultimate aims of global health surveillance"*. Whilst these interviewees did not give specific examples, their concerns about the boundaries between global health and security work may perhaps have been responding to examples such as the use of the smallpox vaccine hoarded by rich countries in case of a bioterrorism attack, being used in 2022 for a new outbreak of mpox in the Global North, but not being used for mpox in endemic areas in the Global South (Gruber, 2022).

6.3.3 The language of global health security

A key question when looking at the question of moral concerns in global health security, is whether it is the activities in global health security or the framing and the language, or both, that interviewees were objecting to. Some interviewees did find it to be the terminology,

[138] Kyrie (Interviewee 31, North Europe, public health policy)
[139] Bo (Interviewee 13, North Europe, infectious disease)

rather than the connection between security and health that they found troubling. One interviewee put this very strongly:

> *I mean I, I think the, the, the words are flawed and I, I would not use them...And you can't ignore what words, might mean to us, what they may mean to somebody else either in the emotion of it or even the translation of it, and words really do matter…It's why I don't like the phrase, I wouldn't use it myself, I think it has negative connotations and it's very diversive. [Bo]*[140]

Thus, for a sub-set of interviewees – including Bo -, even though they acknowledged the link between security and health, the use of the terminology of global health security had such negative connotations as to require that it be rejected.

However, in contrast, other interviewees found global health security to be a *"useful"*[141] term. The reasons they gave for this usefulness were both practical and political. For some interviewees it was about acknowledging the link between global health and security, and focusing the conversation on this, whilst for others it was about selling the importance of the work of global health security to those outside health: In the following quote Kim explains that the term can bring a wider audience into global health.

> *The advantage that those who promote is see, is that it, kind of, brings into the debate about global health those people who would otherwise not consider health to be something that they should be concerned about* [Kim][142]

[140] Bo (Interviewee 13, North Europe, infectious disease)
[141] Said by Robin, Berhane, Makena, Finley, Dayo, Cruz
[142] Kim (Interviewee 12, North Europe, military health)

This interviewee goes on to elaborate examples of *"those people"* as being Foreign Ministers and some Head of States at the Munich Security Conferences[143]. Whilst the COVID-19 pandemic made the argument that epidemics affect more than just health easier, the use of the terminology of global health security to elevate epidemics beyond health was seen as a key benefit for interviewees. A similar view of this benefit was also seen in the global health security literature (see for example Heymann in Horton, 2017). The effectiveness of this framing strategy is an empirical question that this study cannot answer, but there was a general belief that this was important to interviewees. The global health security framing was even seen as useful to Robin[144] even though Robin did not *"want it to be"* because of the negative connotations they associate with this phrase as being for the benefit of the Global North.

Overall, it can be seen that global health security elicited some strong moral concerns from interviewees. Interestingly, the moral concerns analysed in this section were expressed predominantly by European interviewees, rather than those from North America or the Global South. I might have expected to see more concerns from interviewees from North America, given the dominance of the global health security terminology there, or from interviewees in the Global South, given the Global South was portrayed as subject to injustice in global health security. The qualitative approach adopted in my research means that it is not possible to draw quantitative conclusions about whether the appearance of geographical difference was significant, and such difference might also perhaps reflect features of the

[143] See https://securityconference.org/en/ for information on the Munich Security Conference
[144] Robin (Interviewee 1, Europe, international law)

interviewer-interviewee interaction. Whilst in some ways the moral concerns in this section are similar to those made in the literature, (See for example Rushton, 2011, Calain and Abu Sa'Da, 2015, Karan, 2020), the new finding in these results is that interviewees working within global health security or in adjacent areas engage with discussion about and are angry at the current structure of global health security: This is not just an academic debate.

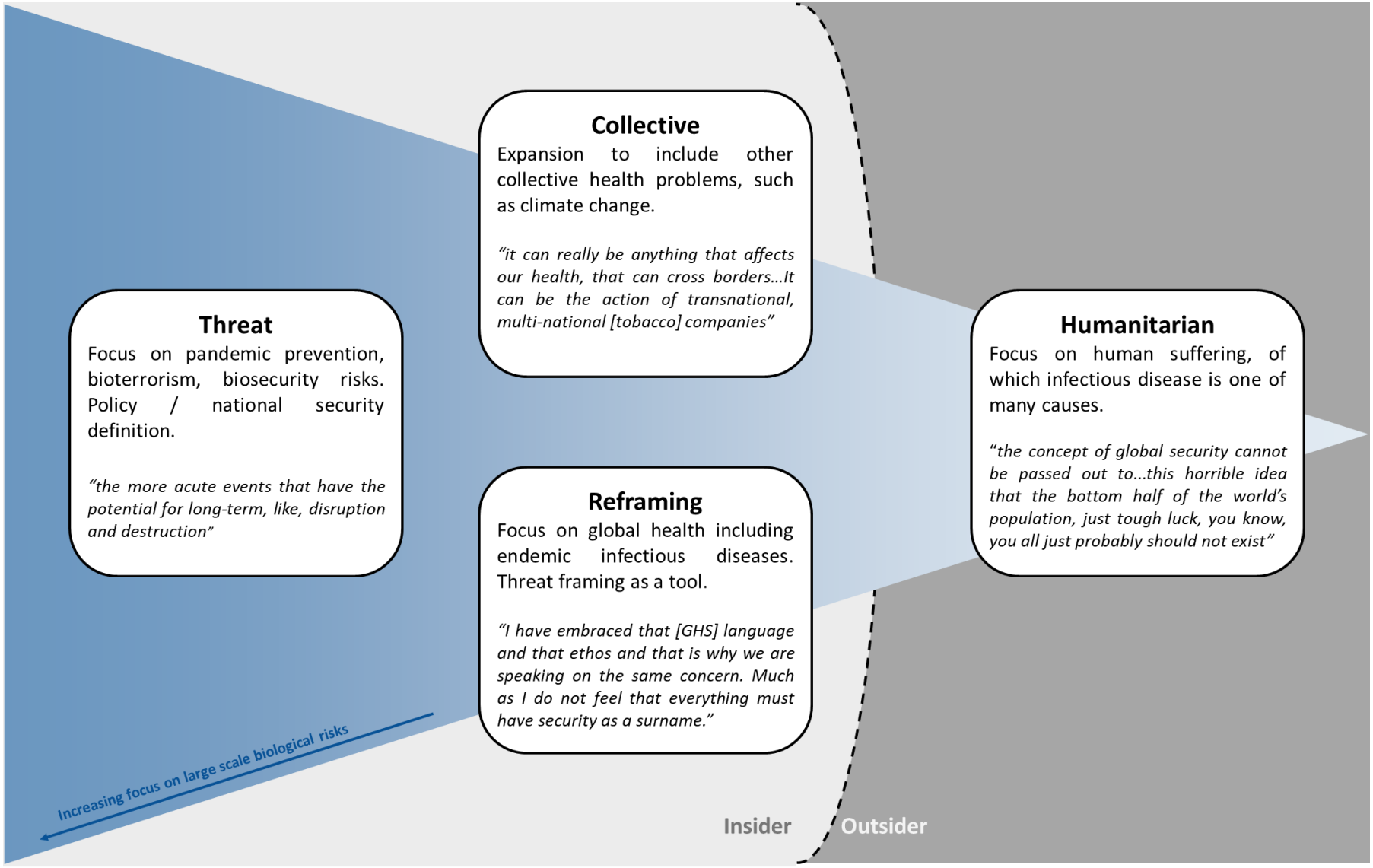
6.4 Four moral models of global health security

In the first half of this chapter, I have illustrated ways in which global health security was revealed as a contested area in my analysis. Definitions and boundaries of global health security differ between interviewees whilst multiple interviewees express moral concerns about the Global North beneficiaries, the need for security justification, and the language of global health security. My analysis in this section demonstrates that views on global health security can be divided into four different moral models, with different conceptual and moral priorities (Figure 7).

In this section, I focus on each model in turn to describe its features, moral frameworks, and consider what arguments interviewees called upon to make the case for and against this being the dominant global health security framework. As I described in the methods chapter, the process of developing these models was grounded in my inductive coding of the interview data. For the first interviews coded, the differences in definition, in framing, and in moral concerns seemed broad and uncategorisable. Then as I coded more interviews, I noticed patterns which connected different areas, which formed these models. For example, interviewee perspectives on advocating for wider definitions of global health security were

associated with perspectives that understood global health security as addressing collective problems. However, it is important to note that these models should not be taken to imply that the view of individual interviewees sit neatly within a single way of thinking about global health security – interviewees often expressed views that fitted into more than one model. These models should be seen, rather, as a typology of perspectives on global health security.

Figure 7: Four moral models of global health security



[GHS] = global health security

6.4.1 Threat

The threat model is the original model, grounded in the policy-orientated definition of global health security (Section 6.2.1.1). In this model, the importance of the really large-scale biological events is key, whether these are caused by natural outbreaks, accidental release of agents from laboratories or bioterrorism.

Within this model, noncommunicable diseases would not be part of the definition because they are not the events with potential for acute *"disruption and destruction".* [145] The work to, for example, run an obesity programme is seen as *"so distinct"*[146] to the work around acute outbreaks. Here, one of the only areas of non-infectious diseases that is relevant would come under the *"chemical, biological, radiological or nuclear"*[147] classification of threats.[148]

There was also a sense of a transition from global health to the different work of global health security. This involved "*a total paradigm shift for practitioners"*[149] in moving from areas traditionally seen as global health concerns to new areas including accidental and deliberate outbreaks. The result of this shift can be summarised as *"growing a certain cadre of professionals whose expertise will be on seeing health as a security concern"*[150]. This finding is important as it confirms that, in this model, global health security is not just a card for health professionals to play to persuade those outside health to provide resources to health, (as seen

[145] Harley (Interviewee 8, North America, global health security policy)
[146] Blair (Interviewee 38, North America, health security)
[147] Ade (Interviewee 10, West Africa, public health)
[148] This language is used widely in defence, see for example: https://www.nato.int/cps/en/natohq/topics_49156.htm
[149] Berhane (Interviewee 2, East Africa, emergency preparedness)
[150] Lerato (Interviewee 14, South Africa, global health)

in the literature from perspectives including from Elbe (2011b)), but is seen by some practitioners as a distinct field with a workforce that is different to global health.

The connection to security in global health security is because of the focus on defence threats such as from accidental and deliberate events, as well as large natural pandemics that disrupt society. Because of the scale of the threats involved, this perspective tended in my analysis to be more often associated with a government perspective, as illustrated by Cody.

> *I guess I come to it from a government perspective. So, I think of the government acting on behalf of the people in keeping them secure* [Cody][151]

In this quote the security link is about the government duty to keep populations secure.

This is the model that has been subject to the majority of the moral criticisms of global health security (Section 6.3). However, this does not imply it has no moral grounding: The moral basis of this model is consequentialist. As Blair states, it is about preventing the large number of deaths and suffering caused by large infectious disease outbreaks.

> *the elimination of, or diminishment of illness and death, the equity around how those benefits are distributed. I would say kind of beyond illness and death kind of diminished suffering in the face of large-scale crises. [Blair][152]*

Infectious diseases are one of the preventable causes of these major crises and can be so severe that this is action is needed for "*preserving the stability of society*".[153]

[151] Cody (Interviewee 28, North America, health consulting)
[152] Blair (Interviewee 38, North America, Health Security)
[153] Blair (Interviewee 38, North America, Health Security)

6.4.2 Collective

The collective model is a response to the moral problems of the threat model.[154]

The collective model is all about expanding global health security to include other collective health problems that affect populations living across borders. Louison, in answering the question about whether the framing of health security makes sense, discloses an emphasis on working collectively to be the concept underlying global health security for them.

> *I think the question is, does the, do the underlying concepts around health security stand up and make sense? Does it make sense that we work collectively in order to ensure that we have healthy populations? That we concentrate on ensuring that health systems are strong enough to ensure that. That we make sure that we can deal with the worst incidents or sudden outbreak of infectious disease… I think the concepts stand up and make sense. [Louison]*[155]

[154] For this to be a response, it means that interviewees putting forward these perspectives are, to some extent, aware of the threat model (although they will not call it that). I make this assumption based on evidence from the dataset of a degree of shared thinking and within-community debate. This is the idea that there were a relatively small number of individuals operating in this global health security space, who often knew each other, attended the same meetings (e.g. the Global Health Security Agenda meetings), and in some cases are also engaging with and writing in the academic literature of the field. This has led to these different ideas about global health security and responses to alternate ideas being developed and shared within sub groups. An example of this included when I asked a interviewee to explain their views on why noncommunicable diseases were global health security problems, and they responded *"so you obviously haven't interviewed [name of other interviewee] yet then?"*, suggesting that certain voices are known and influential. Of course, the number of those working in public health, in policies, in programmes related to infectious disease is enormous, but those working within the global health security paradigm, advocating for global health security, or implementing programmes in the name of global health security seems much smaller.

This idea of a small group of those working in this area with shared debates was corroborated by my experiences at the Global Health Security Conference in Singapore in 2022. In this conference, which had a wide variety of attendees from public health, defence, NGOs and academia, I observed different groups and ways of thinking, all at the conference but with limited interactions. Those focusing on bioterrorism, disinformation and safety in the life sciences tended to be more government and defence based and attended panels on these talks, seeming to have a low level of overlap with an alternative group based around a group of international relations and legal scholars debating the degree and problems with the global health security model, or the public health practitioners evaluating COVID-19 vaccine rollout. So these groups sit adjacent, aware of each other, but remain distinct groups.

[155] Louison (Interviewee 18, North Europe, health operations)

This quote emphasizes both the need to work collectively as well as building health systems. Thus, the collective model would include the importance of paying attention to health systems as per Section 6.2.2.5 and noncommunicable diseases where these require a collective response. This would be the case, as Eike describes in Section 6.2.2.4, when there is a global need to combat the actions of transnational companies in promoting obesogenic foods and tobacco.

Although this is seen as a collective model, its moral basis is grounded in the concept of individual or human security. It is about instances when collective action is required across borders to enable an individual's right to access and be in control of their own health. Vanja thinks about security on this individual level:

> *I think, you know, health security is about, as I've said, it's about the ability of a population to be healthy, to choose to be healthy, to make those choices. Many people don't have the opportunity to make those choices in the world, and, and then when, when they become unwell…to access healthcare….Which, which sits with a view of wider security, which is that, you know, people should be able to, you know, go to the shops and they should be able to go to school. It's not just about not getting shot and blown up [Vanja]*[156]

This is a very different understanding of security as seen in the moral concerns about global health security in Section 6.3.1. In those, a moral concern was that global health security was about protecting the Global North from the threats in the Global South. By taking an

[156] Vanja (Interviewee 25, North Europe, military health)

individual understanding of health security, this counters this moral concern, altering security to be about collective actions to maximize an individuals' health.

6.4.3 Reframing

The reframing model is also a response to what are seen as the moral failures of the threat model. Rather than proposing a new understanding of global health security focused on individual security as the collective model does, the argument here is that interviewees were working within the system to reframe it to have a focus that also includes diseases of the Global South.

This is an insider model (as per Figure 7) in which those advocating for this kind of model are working within the threat model of global health security or in areas that engage with it, but nevertheless express a deep sense of moral unease with this scenario, as seen through Kyrie.

> *I would say it involves global health security, I don't… I, I… you know, maybe I'm delusional but I don't think I work in, in global health security because I think I work in health and I, I'm uncomfortable with the securitisation of health* [Kyrie][157]

Kyrie, who considers that they are outside the global health security paradigm, but works with those inside it, when, for example, they talk about going to "*kind of global health meetings and there are all these four star Generals running around".* Kyrie repeatedly expressed concerns with a more threat-based model through talking about being *"uncomfortable"* with this throughout the interview, but finding it helpful to get their perspective out there as a kind

[157] Kyrie (Interviewee 31, Europe, public health policy)

of therapy, suggesting *"No, I feel bad 'cause I feel like you're getting more therapy than useful academic [research]"*.

For this perspective, security is not something to aim for, but the way in which they should frame their aims to achieve their ends of more stable systematic change to health structures.

> *For those of us working in the space I see the political interest in health security as an opportunity to actually make systemic changes that have a broader health impact. So your interest might be health security in the terms of we do not want their stuff to affect us and I am being, you know, very, you know, true, reductionist although I have heard exactly those terms used in various spaces. And then my approach is that is fine, that is your motivation, in order to stop their stuff affecting us we need to, you know, we need to look at the root causes of their stuff and address those. So although I work in global health security a vast majority of my time is spent, is focused on [global] health systems for everything and taking actually a broader system wide approach to health systems rather than a disease specific response [Alvi]*[158]

In this quote, Alvi differentiates between the political view of global health security as protectionist of population as per the threat model and their reframing of this to a much wider focus on health systems. Whilst this has a lot in common with the collective model in outcomes – aiming for a more sustainable healthcare system – the difference is that the collective model is all about the larger collective health problems globally, whilst this is focusing on reducing the nationalistic set up that favours the Global North and focusing on aid and sustainability to the Global South. This interviewee gives a practical example of this in their work when they interpret a request to set up an Ebola testing laboratory in Sierra

[158] Alvi (Interviewee 15, Europe, public health)

Leon, as one that should also meet the local need of Hepatitis viral tests (Chapter 5, Section 5.6.2).

The moral basis of this model is a pragmatic social justice approach. Pragmatic, because the aims are achieved from working within the system, because that is where the resources are. Social justice because this is not about the problem requiring a collective solution but about helping those who are worse off globally. This is summed up eloquently by Teagan in a similar way, when they suggest:

> *So, I think you just have to be able to titrate your values against how much difference you think you can make [Teagan]*[159]

This model is therefore about working within the global health security system, to make it better reflect Global South priorities.

6.4.4 Humanitarian

The humanitarian model is the outsider of the four models: It is not a version of the original threat model, nor is it collective, nor is it trying to reframe it. Those with this kind of perspective actively reject global health security (or have not yet come across it). However, I have included this as a model of global health security rather than an alternative perspective, even though it is likely that some of those that identify with this model would reject the terminology of global health security. It is not that I advocate for categorising those perspectives as global health security perspectives, despite their author's objections, but,

[159] Teagan (Interviewee 6, North Europe, public health)

because the work is overlapping and relevant to global health security, it is useful to consider them all together.

The key factor in this model is of relieving acute suffering of the most vulnerable people in the world.

> *we are interested in ensuring that we save lives and alleviate suffering for the most vulnerable. So, we would tend to, to see how we can get involved in events that are of significance of one kind or another. So, for example, we would be looking at Yemen. We would be looking at Afghanistan. We would be looking at Syria. We would be looking at Ethiopia. [Louison]*[160]

In some ways, this model has more in common with the threat model than the other two models. This is because it is focused on relieving immediate suffering and thus has a similar urgency and focus on acute events, compared to the sustainability of the collective and reframing models. One interviewee openly admitted that they *"do sticky plasters"*[161] with the reasoning that they engage in the disasters that include, but are not limited to, infectious disease outbreaks, in which there is a need for immediate preservation of human life. However, the threat model has a greater emphasis on preventing these disasters occurring in the first place, as per the 'protect, detect and respond' aims of the policy-orientated definition (Section 6.2.1.1).

The moral framework for the humanitarian model is all about using resources to maximise the number of lives saved and prevent suffering. It is consequentialist in a different way to the threat model as it is focused on current suffering, rather than also preventing suffering

[160] Louison (Interviewee 18, Europe, health operations)
[161] Venni (Interviewee 17, North Europe, humanitarian)

from future pandemics as the threat model includes. Those who propose these ideas seem to engage more explicitly with the ethical concerns about not meeting this need, as Venni does:

> *I think one of the consequences of a long career in humanitarianism is that you do end up with this very heavy soul because you are, sort of, you are confronted with this sort of, with this kind of notion all the time, you know, and you happen to make horrendous choices about which places you try and put scarce resources in to try and prevent loss of human life, you know. [Venni]*[162]

Security, from the humanitarian perspective, is not part of the core health work but is a more traditional conception based around violence towards persons. For interviewees this related to two main areas:

1. **Security concerns as a consequence of public health measures:** ***"****I must admit that in every outbreak, major outbreak there is a security concern in there. But for example in an Ebola outbreak you have populations who after some time get tired of the lockdowns and then would want to break out of those who would be in treatment centers"* [Lerato][163]

2. **Concerns about security services objectives and humanitarian neutrality**: *"I mean Médecins Sans Frontières refused to have security because they thought it would make them unable to work with the local population."* [Cruz][164]

These areas give us different understandings of how health and security interact when health is not necessarily the security issue in itself. This has more similarities with the typology of how health and security interact developed in the critical interpretive review (Chapter 2, Section 2.6.4). A risk for this outsider model is that ongoing discussions on security risks in health get lost in the stronger narrative of global health security. This concern over losing

[162] Venni (Interviewee 17, North Europe, humanitarian)
[163] Lerato (Interviewee 14, South Africa, global health)
[164] Cruz (Interviewee 32, Europe, strategy generalist)

useful terminology, without adequate replacement, was articulated by Vanja who took a perspective on global health security being about access to healthcare:

> *If that definition is about genotyping swabs from individuals coming into the country so that you can identify the viruses that they're carrying, then that's fine, but then I want a definition for what I'm talking about or I want a title for what I'm talking about. [Vanja]*[165]

Thus, within this model, alleviating human suffering is valued above all, but the understanding of security is a more traditional conception that risks getting lost if the other conceptions of global health security become dominant.

6.5 Conclusions

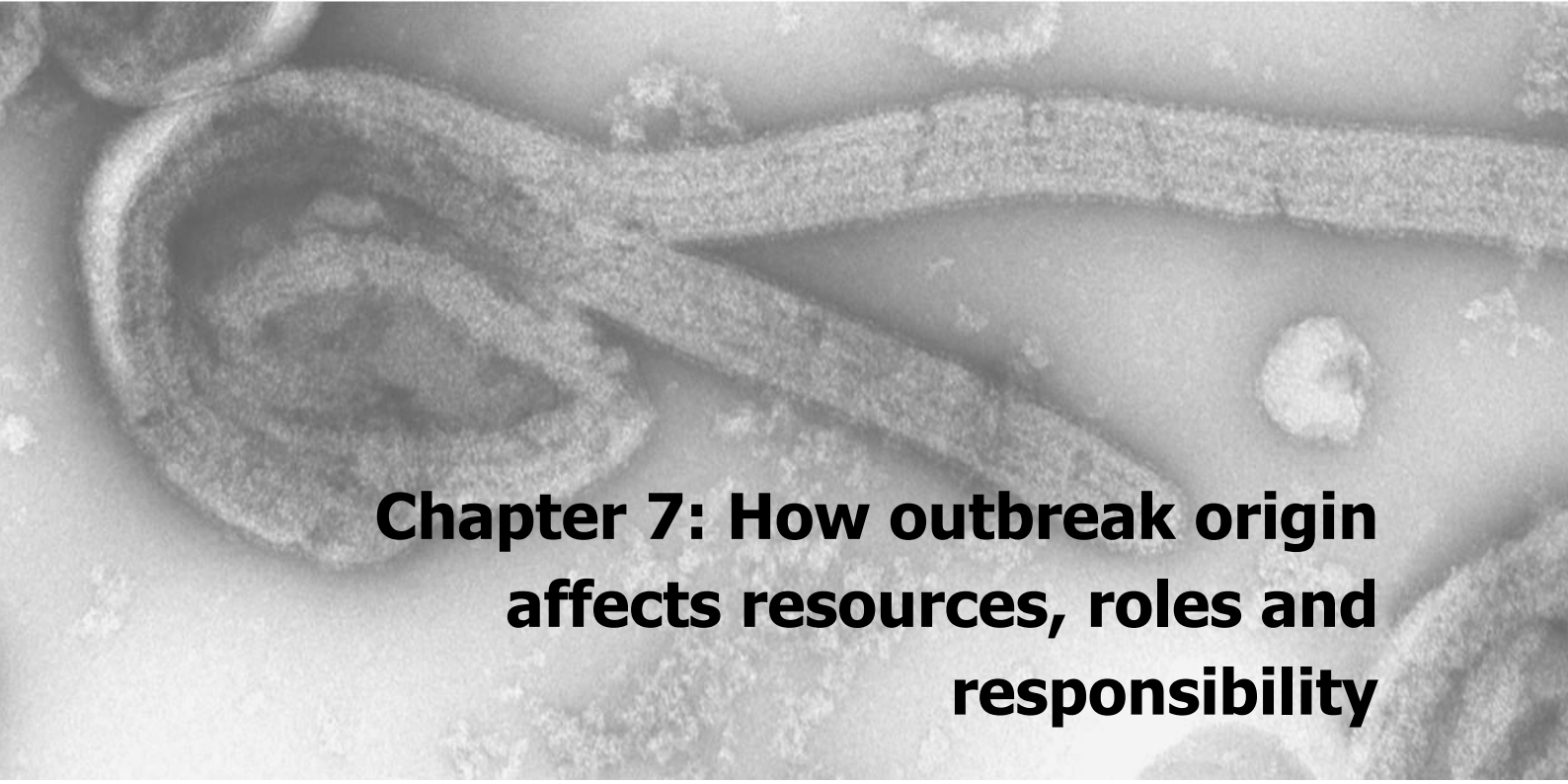
In this chapter I have presented an analysis of interviewee perspectives on the meaning of global health security, finding that not only are the definitions and boundaries of global health security a key factor shaping their roles, but that interviewees' roles and understandings of them are also shaped by their moral concerns about global health security. The way in which this contestation occurs in the analysis suggests four moral models of global health security and that these models and interviewees relationships with them offer important insights into the practice of those working in the field.

A criticism of these models might be that they primarily reflect perspectives of those who work in different employment sectors – with, for example, the threat and reframing model being associated with government work, and the humanitarian model with humanitarian work. The collective model is harder to categorize but could reflect other sectors such as those

[165] Vanja (Interviewee 25, North Europe, military health)

working in international organisations, think tanks or academia. This is likely to be somewhat true and reflect the norms of interviewee's workplaces. However, some interviewees expressed perspectives that went beyond these divides, with, for example, not all those expressing views that resonate with the humanitarian model working in the humanitarian sector. And even if it was this clearly divided, these models would still reflect important different perspectives on the meaning of global health security.

In the next chapter, I move from looking at boundaries of what global health security should be, to discussions about ethical principles within global health security, including resource prioritisation, role allocation and responsibility.



Chapter 7: How outbreak origin affects resources, roles and responsibility

7.1 Introduction

In my previous chapter, I presented an analysis of how my interviewees negotiated the meaning and boundaries of global health security. In this chapter, I complement this with an analysis of how interviewees understand global health security by ethical considerations related to resources, roles, and responsibilities. This takes the form of questions over what should receive more funding, who has a duty to respond to what outbreak, and when it is appropriate to attribute responsibility for an outbreak.

The way in which these ethical issues emerged was often in terms of morally significant differences between outbreaks originating in nature on one hand, and outbreaks that were accidentally released from a laboratory or are deliberate bioweapon attacks, on the other hand.

In the first section of the chapter, I explore how interviewees divide outbreaks by their origin, before analysing interviewee perspective on the challenges of dividing resources, roles and responsibilities by how outbreaks are categorised.

7.2 Ethical concepts and outbreak origins

In this first section, I present a matrix that summarises the analysis that will be presented in the chapter (Table 8). This shows how the ethical concepts of resources, roles and responsibilities lead to different arguments when thinking about natural outbreaks compared to accidental and deliberate outbreaks.

Table 8: Resources, roles and responsibilities by outbreak origin

	Natural outbreaks	**Accidental or deliberate outbreaks**
Characteristics	Common and often preventable cause of human suffering and death in the world now	Associated with advances in technology leading to more virulent and transmissible pathogens
Resources	More resources should be allocated to natural outbreaks as these are much more common	This is not a 'zero sum game'. Ethical to ensure preparedness for deliberate outbreaks
Roles	Public health responders	Questionable role for public health and military
Responsibilities	Responsibility for stopping outbreaks spreading	Responsibility for preventing outbreaks occurring

Table 8 shows that interviewees present different arguments about resources, roles and responsibilities for natural outbreaks as opposed to accidental or deliberate outbreaks.

Before looking at these arguments in more detail, it is important to understand how interviewees understood the terminology and categorisation of natural, accidental and deliberate outbreaks. In the following paragraphs, my analysis will show the tripartite division of natural, accidental, and deliberate outbreaks is used to ensure all these outbreaks are included within the definition of global health security, and reflect the terminology used in policy. However, the interviewees also use a bipartite division of outbreaks that sees natural outbreaks as opposed to accidental and deliberate outbreaks, when discussing ethical considerations relating to resources, roles and responsibility.

The tripartite categorisation of outbreaks into natural, accidental, and deliberate outbreaks is illustrated by the following quote:

> *"whether it's [the outbreak's] intentional like a biowarfare incident or accidental like a laboratory release or something natural, right? [Drew]*[166]

The terminology used here is consistent with the terminology of various national or international bodies and policies, such as the Global Health Security Index Report that suggests that *"Naturally emerging or re-emerging biological agents, deliberately created and released agents, and laboratory- engineered pathogens all pose risks"* (Bell and Nuzzo, 2021, 56) or the US Centers for Disease Control and Prevention's rejoinder to *"Prevent avoidable epidemics, including naturally occurring, accidental, or intentional outbreaks"* (2017).

[166] Drew (Interviewee 26, North America, Scientific Business Development)

This tripartite division of outbreaks was used by some interviewees to include natural, accidental and deliberate outbreaks as all within the definition of global health security (see Chapter 6, Section 6.2.2.6 on the boundaries of global health security).

However, my analysis demonstrated that when they referred to the ethical challenges around resources, roles and responsibilities, they split these three categories into a binary opposition of natural versus accidental and deliberate outbreaks. This meant that despite using tripartite language, the division became binary with interviewees drawing the division between *"naturally occurring or deliberate events"* [167], *"manmade threats as well naturally occurring threats"* [168] and *"pathogens whether natural or not"* [169].

In the next sections I will analyse the data of how these categories are mapped onto ethical considerations around resources, roles and responsibilities.

7.3 Resources

This section looks at how the categories of natural outbreaks, and accidental or deliberate outbreaks generate ethical considerations in the allocation of resources within global health security, as summarised in the second row of Table 8.

Two interviewees set out opposing views that emphasised a strong separation between funding or investing in preparedness and research that will affect natural outbreaks versus accidental or deliberate outbreaks. These interviewees were unique in discussing

[167] Ash (Interviewee 3 North America, epidemiologist)
[168] Ade (Interviewee 10, West Africa, public health)
[169] Lerato (Interviewee 14, South Africa, global health)

prioritisation between different areas so openly, perhaps because they were some of the most senior interviewees, whose role might include high level resources considerations, or because they were interviewed last, when I felt I could ask more confrontational questions and reflect views of other interviewees back to them, rather than primarily following my topic guide.

Jo, who came from an NGO and academic background, was adamant in the following quote that the risks of natural outbreaks were more important than accidental and deliberate outbreaks.

> *And when I think about risks on those two, there are risks in both the natural and the deliberate or accidental release of things, but they're not equal, we're not in equipoise. There isn't a 50-50 chance of something happening in either sphere, the massive risk is on the natural side and then there is a, a risk on the laboratory side. And I think the danger is to think that we need to invest time, money, people, energy, audit, police etcetera to have equal weight to these two things when I think there's a massive risk on one side and a risk but relatively small and contained on the other, other side.* [Jo][170]

Here Jo assesses the risk of natural outbreaks to be bigger than accidental or deliberate outbreaks. Jo was the same interviewee who rejected the terminology of global health security altogether as discussed in Chapter 6 (Section 6.3.3), but also outlined that they did a significant volume of work in accidental or deliberate outbreak prevention. When I questioned Jo about balancing these risks between commonly occurring natural events and rare but if materialising, catastrophic risks on the deliberate side Jo continued:

[170] Jo (Interviewee 37, North Europe, NGO leadership)

> *I think a laboratory accident or indeed a biological warfare would be catastrophic, and I totally agree. I just, it's not that I don't see the risk of that, it's just that what I don't want is if we had a 100 dollars, pounds, euros that we allocated 50 euros to, to, to reducing the risks in nature whether money or energy or emotion or, or processes that we put 50 euros to nature and 50 to the lab because we would be massively underfunding and underinvesting in the, in the reduction of risk from the natural side. [Jo]*[171]

The argument here seems to be that Jo perceives that there is a limited pool of funding that covers natural, accidental, and deliberate outbreaks, and thinks that, of this pool, more resources should be spent on natural outbreaks because of their commonality with the risk of future natural epidemics currently almost certain.

This was in opposition to Blair, to whom I put Jo's argument. Blair argued that this was not a *"zero sum"* funding situation.

> *I think it doesn't need to be zero sum. There is no reason why health issues on one side of the ledger should be zero sum with health issues on the other…And I don't, I, I don't feel like it is political leaders are so constrained that they can only hear for X number of minutes about X number of dollars for this particular problem and that that screens out others...I have not seen good examples of people, I'm sure that they probably exist, but people saying, "Look, I had these hepatitis dollars and then they were moved at the last second to Ebola and so clearly Ebola is the problem," or anthrax or, you know, COVID-19 is the problem that's hampering hepatitis [Blair]*[172]

The difference between these accounts is of how risk is perceived and how this should affect funding. For Jo it is about ensuring the funding of ways of identifying and addressing the common risks from natural outbreaks, whilst for Blair risk is a lesser issue with no need to see

[171] Jo (Interviewee 37, North Europe, NGO leadership)
[172] Blair (Interviewee 38, North America, health security)

take a side. Their experiences show that there are varying accounts to whether prioritisation between outbreak origins is a concern or not.

Although Blair argued that funding was not a zero sum game in the above quote, at another point in the interview a greater insight is provided into why accidental or deliberate outbreaks are an important area too, if not a zero sum resource allocation problem. Here Blair suggests:

> *there is now an area of science which is really pushing the envelope and is now capable of making pathogens that have never been created before on earth, more virulent, more transmissible. [Blair]*[173]

This gives us an understanding of accidental and deliberate outbreaks as a technological field leading to risks of more severe outbreaks. This is not surprising and is consistent with thinking in the field that the most severe outbreaks – termed global catastrophic biological risks – are more likely to be from an engineered pathogen that is accidentally or deliberately released than a natural pathogen (see for example Schoch-Spana et al., 2017).

Another interviewee, Cody, gave a practical example of this tension between prioritising risks from potential outbreaks of different origins. This relates to anthrax, which, although rarely transmissible from person to person, can cause outbreaks via natural or deliberate exposure to spores. Cody was frustrated that those from a health background did not seem to understand the need for preventative measures against bioterrorism.

> *the committee composed of largely public health people and academic paediatricians and folks who are going about their daily life without, you know, where pickpocketing or, you know, being*

[173] Blair (Interviewee 38, North America, health security)

> *mugged on the subway might be the major risk were having a difficult time thinking about intentional bad actors, people acting maliciously with infectious diseases.* [Cody][174]

The context of this is Cody discussing whether anthrax vaccines should be tested on children in order to be able to vaccinate them should a bioterrorism attack occur, when children are very unlikely to encounter anthrax naturally in North America. By contrast with many of their colleagues, Cody argues that it is ethical to test such vaccines on children:

> *I kept pointing out to my [health department] colleagues we don't know the [anthrax vaccine] dose for children and they kept saying, "…It would be…unethical to expose the children to the vaccine, because the natural exposure to the spores is not natural, is unpredictable…they'd be having an enormous amount of risk and extraordinarily low benefit." To which I said, "Okay. Ask the children of police officers and fire department officers, first responders in Washington DC and New York City if they would like to know the answer of what the, of what the dose of anthrax vaccine would be for their children if, you know, there were 9/11 style anthrax attacks again in those cities." And,…my assertion was it is unethical to not act. [Cody][175]*

The question here is whether it is ethical to test a vaccine dose on children – a contentious issue in itself – for a disease that children would not encounter unless there was a bioweapons attack. However, this interviewee was arguing that the risk from a well-designed vaccine study of this kind is less than the risk for children that could be exposed to anthrax, through for example, having first responder parents. They go on to phrase this very strongly, in contrast to the health department perspective that it would be unethical to act with their perspective that the lack of action would also be unethical, saying it is *"unethical not to act"*.

[174] Cody (Interviewee 28, North America, health consulting)
[175] Cody (Interviewee 28, North America, health consulting)

Whilst this account relates to Cody's personal experience of this incident, their account should be taken in its historical context in the US. This was a public policy debate which culminated in a report from the Presidential Commission for the Study of Bioethical Issues in 2013 that recommended that only minimal risk research[176] could be conducted on children in the case of medical countermeasures except under extraordinary circumstances. This was because of lack of direct benefit because no children are being affected by the condition (Presidential Commission for the Study of Bioethical Issues, P.4, 2013). Whilst, at the time, testing the anthrax vaccine was not seen as minimal risk, it was suggested that a possible route to it becoming minimal risk would be to first test the vaccine on younger adults, alongside modeling and animal studies. However, even though there was some re-analysis of data to check safety in adults aged 18-20 years (King et al., 2015), there appears to have been no studies of anthrax vaccine in children since (Bower et al., 2019). Whilst multiple events could have derailed any plans for paediatric testing including lack of further anthrax attacks, changes in government, and COVID-19, the unresolved nature of this case continues to raise issues about how much emphasis should be put on diseases that are not a natural risk, but which, if an incident did occur, would potentially cause very serious harm.[177] The issue is

[176] With the term minimal risk research also being part of a much wider debate in research ethics, see Kopelman (2004) for a comprehensive overview of the meaning of this term as an international research standard.

[177] Even though there is very little evidence on mortality rates for children, or indeed adults infected naturally or deliberately by anthrax, available evidence suggests a high mortality rate. The anthrax attacks in the US in 2001 resulted in the deaths of 5 out of 11 (45%) persons infected (Jernigan et al., 2001, Barakat et al., 2002) and the accidental release of anthrax spores from a bioweapons facility in the former Soviet Republic killed 68 out of 79 (86%) patients with inhalational anthrax (Meselson et al., 1994). There are also high mortality rates with paediatric anthrax. Depending on route of infection, mortality rates of 60% for inhalational anthrax, 65% for gastrointestinal anthrax, 100% for primary meningoencephalitis, and 15% for cutaneous anthrax have been seen, although these rates are mitigated by prompt treatment (Bravata et al., 2007). These paediatric figures that predominantly come from natural outbreaks or exposures, also illustrates that although there may be minimal chance of anthrax exposure in American children, this is not the case worldwide.

complicated by the difficulty in calculating the risk of a bioterrorism attack and who might be affected.

This example related to testing vaccines on children for the purposes of protection against a deliberate event relates to ethical concerns about resources because it shows that justifying attention to, and resources invested in, protecting against deliberate threats can be a difficult ethical balance, with questions about how much emphasis should be put on a deliberate event that may occur in the future. Alongside the arguments from Blair and Jo about allocating resources to different areas, this analysis shows that ethical concerns relating to the allocation and prioritization of resources emerged in terms of morally significant differences viewed between natural outbreaks, on the one hand, and accidental and deliberate outbreaks on the other.

7.4 Roles

In this next section, my analysis demonstrates that not only is the allocation and prioritisation of resources an area in which morally significant differences emerged on the basis of different outbreak origins, but that this differentiation by outbreak origin also applies to different roles. In this section, I analyse ethical concerns raised about duties to respond to natural outbreaks versus accidental and deliberate outbreaks, as summarised in the third row of Table 8.

Ash, who previously worked for WHO, raises a practical point about their concern that there might not be the insurance or the trained or willing staff to respond to a deliberate outbreak.

> *"So, a lot of insurances that World Health Organization hold for, for their responders for example wouldn't be covered if it was a deliberate event, and so there's questions thereof could they even*

> *send people out to the field? Obviously the, the security of it might need to be heightened, and then there's also the, the question or component, there's been a few surveys that have been conducted and asking those people that normally go in the field and, and do the response, "Would they be willing to go if they knew it was a deliberate event?" A lot more had said no than I think was originally expected" [Ash][178]*

This was both a practical point and a second-hand recounting of concern or refusal from public health responders. Whilst we do not know, first-hand, why these responders thought this, or whether they still do think this, it does imply that my interviewees thought public health responders saw their duty as responding to natural outbreaks, or that outbreaks in a conflict situation (whether the use of a bioweapon in a war by a state or in a terrorist situation) is outside their role.

By contrast Blair, who stated earlier about funding by outbreak origin was not a zero sum game, also made the assumption that the same workforce would be there irrespective of outbreak origin.

> *Those people are the same whether it's a, a biosecurity event, a deliberate event or an accidental event or a natural event. [Blair][179]*

Whilst the workforce is unspecified, this is a second area in which some interviewees express concerns, whilst Blair does not see it as a concern. From this quote, it is also unclear who those people include, whether government, NGO, military or other responders.

[178] Ash (Interviewee 3, North America, epidemiologist)
[179] Blair (Interviewee 38, North America, health security)

This is relevant because there was also data considering the use of a military workforce in global health security. Here, there was a clear sense that this was more a role for deliberate outbreaks, with Drew providing an example of the link between these fields.

> *So I was more or less trained if not indoctrinated by the [Northern American country] Military Defence on Biodefense, okay. And generally, I just define that as so these are protective measures, so detection of a biowarfare agent, diagnostics and sort of related counter measures and treatments [Drew]*[180]

This is logical, with the aspect of global health security that is about defence from biological attacks belonging to a defence organisation. However, there was also a sense that there was an increasing military role in natural outbreaks (see also Chapter 6, Section 6.2.2.7).

Berhane thought that this role may be due to a higher risk tolerance for the military responding to high-risk outbreaks.

> *"You know, civilians…if they told you, "Oh you'll be working in a red zone," you can say, "Oh, you know, it's not, I have my rights and everything." Soldiers, not even an idea, they will go and work because it's work, it, it's, they're serving their country." [Berhane]*[181]

It is unclear in this example what cause there might be for the high risk *"red zone"*, which could range from the effects of the infectious disease itself, to new or exacerbated civil unrest due to the outbreaks, to humanitarian concerns in the region, but they imply that soldiers have a role in responding to high risk outbreaks, that civilians may refuse.

[180] Drew (Interviewee 26, North America, scientific business development)
[181] Berhane (Interviewee 2, East Africa, emergency preparedness)

This widening role was questioned by another interviewee, who discussed both the role and funding of the military in global health security. Kim, who thought the benefit of military involvement to the health sector was easy to show, whereas for the military being involved in global health security there could be both a threat and a benefit.

> *if them involving themselves in global health security was to lead to disinvestment in areas that the military saw as more important than, there would be greater difficulties. If it was to be seen to detract significantly from other areas of preparation for their main role it would be seen as, you know, a threat to the military…but there clearly is going to be a moral benefit and possibly a PR benefit of militaries actually being seen to be involved within the society [Kim]*[182]

Here, involvement in global health security is portrayed as a side role to the *"main role"*, so could be a threat if this led to disinvestment in the main role. This threat is balanced against the moral and personal relations benefit of the military helping out society in a crisis. Further on, Kim goes on to think about the future, of where funding would come from if the military gained this wider role.

> *Now, if you actually look into the future…and I think we are so far off that it is very hypothetical at the moment, there may come a point when the civilians say, 'Hey if you were to invest just 20% more in that, that really would be perfect for responding to the next emergency.' And then you would be into the issue of, 'Okay, so you want to invest 20% here, is it defence money? Or health money? Or new money?' [Kim]*[183]

This scenario raises interesting questions about both roles and prioritisation of funding in global health security. It implies that not only should the military have a role in natural

[182] Kim (Interviewee 12, North Europe, military health)
[183] Kim (Interviewee 12, North Europe, military health)

outbreaks or emergencies, but that an option for this could be funded by the health budget. If so, this would give the military a much more formalised health role in global health security.

In this section I have shown that there are different ethical concerns associated with responding to natural as opposed to accidental and deliberate outbreaks by those working in public health and the military.

7.5 Responsibility

In the previous two sections, my analysis demonstrated that ethical concerns about resources and roles emerged in terms of morally significant differences viewed between natural outbreaks, on the one hand, and accidental and deliberate outbreaks on the other. In this section, my analysis will demonstrate there were different ethical concerns about responsibility associated with different outbreak origins, as summarised in the final row of Table 8.

With unnatural outbreaks there was the clear implication that an organisation, state, or agent is responsible for causing, or failing to prevent an outbreak occurring. This is seen through Blair's example about if COVID-19 had been proved to have been caused by a laboratory accident.

> *if it had been the case that the events in Wuhan had been generated by a laboratory accident from, from good scientists working for reasons that they thought were important and beneficent but nonetheless had generated a large-scale event outside the laboratory, what kinds of ethical debates would that have promoted in the science community? What would that have led to that would have been kind of a new rebalancing around governance of science, the, the role of*

> *governments or international institutions around certain kinds of work that could have global consequence [Blair]*[184]

Here, the idea that an accidental outbreak might have led to legal changes which raises important questions about responsibility and governance of risks. This is a vital, and according to this interviewee, a neglected field. In a deliberate outbreak, there was a need to counter the *"malicious actors in the world"*[185]. What is clear about these elements of unnatural outbreaks is there is a sense that these are events caused and preventable by human agency.

Compared to accidental and deliberate outbreaks, there were very few interviewees thinking about responsibility to prevent natural outbreaks. Jo was the exception to this. Jo initially discusses COVID-19 variants detected in China, the UK, and South Africa, and asks *"what is the ongoing responsibility of a country for instance to try if it can and control that epidemic?"*. I asked them what their response would be to their own question and, they started with the premise that surveillance for new outbreaks is a responsibility for a country, before questioning how far that responsibility extends to further actions.

> *does surveillance stop at the original identification or [lead to] ongoing responsibilities?... Should a country or an institution or an organization, whatever, be, be blamed if it was possible to prevent something happening but they did nothing? Well, in the same way that, that, you know, there are responsibilities in the building you're sitting in or the building I'm sitting in that there are fire regulations and, and you have to follow them and if you don't follow them and something happens…there is a responsibility and accountability that goes with that. I think that is reasonable…. [Jo]*[186]

[184] Blair (Interviewee 38, North America, health security)
[185] Cody (Interviewee 28, North America, health consulting)
[186] Jo (Interviewee 37, North Europe, NGO leadership)

When discussing what these ongoing responsibilities are, beyond identification of an outbreak via surveillance, Jo suggests there might be analogies with building fire regulations. I think what Jo is suggesting here is that surveillance to detect an outbreak is equivalent to the identification of a fire via a fire alarm, but this is insufficient in itself without the follow-on responsibilities. Initially, it seemed like these ongoing responsibilities are linked to the question Jo originally posed, about responsibilities to control the epidemic. In the case of a fire this might include alerting the fire brigade and following the fire evacuation plan, whilst in an outbreak this could include early contact tracing and isolation of infectious cases.

However, Jo goes on to suggest that whilst controlling an outbreak from becoming an epidemic is the first thing to do (via the analogy of "*putting the fire out"*), there is also responsibility to prevent outbreaks occurring as well.

> *I think the first thing is to put the fire out…and then say, 'Well, hold on, what went wrong?' Wet markets, the illegal wildlife trade, laboratory accidents, whatever the issue is…unless we address those root causes then we will continue to experience these sorts of issues. [Jo]*[187]

So, what Jo is suggesting here is that as well as stopping the outbreak becoming an epidemic, there is a later responsibility to address the root causes of outbreaks, from wildlife trade and wet markets (considered natural outbreaks by this interviewee) and laboratory accidents (considered accidental outbreaks). In this analysis, they do not refer to the costs associated with identifying an outbreak (such as the economic cost for South Africa in identifying the

[187] Jo (Interviewee 37, North Europe, NGO leadership)

COVID-19 omicron variant) or costs of addressing the root causes of outbreaks (which might be a massive cost for some countries in the Global South).

It was notable that this was the only interviewee who discussed responsibility to prevent natural outbreaks, given that all interviewees included at least some natural epidemics as part of global health security (See Chapter 6, Section 6.2.2.1 and 6.2.2.2). By comparison, responsibility for preventing unnatural outbreaks was a more commonly discussed theme in the smaller number of interviewees who had a role working with accidental or deliberate outbreaks.

From an ethical perspective, this section provides an interesting analysis of the relationships between reviews on responsibility and categories of outbreak origin. Actors can be responsible in a range of different ways and degrees during different stages of an outbreak or types of outbreak. However, it appears that interviewees think more about responsibility in the context of accidental and deliberate outbreaks.

7.6 Conclusions

The analyses in this chapter demonstrate that an important part of the way in which interviewees understand global health security is best understood as a matrix of roles, resources and responsibility against two disease origin types - natural and accidental and deliberate, as summarised in Table 8 at the start of the chapters. Whilst there is no evidence that interviewees interpret outbreak origins as having a moral connotation (for example, in the way that naturalness has sometimes been seen to have implicit moral values in bioethics (Siipi, 2008, Nuffield Council on Bioethics, 2015)), it seems that outbreak origin was important

as a dividing lens through which judgements and challenges on resources, roles, and responsibility are seen.

Within this debate, there appears to be some significance as to which interviewees contributed more to this theme. The interviewees who contributed most appear to be the more senior interviewees, primarily from the Global North. This could indicate several things:

1. Not all interviewees made the distinction between outbreak origins, so the quotes in this section predominantly reflect that sub-group who did. However, there is still a significance gained from the accounts of those not directly included, such as that there appears to be very little discussion of responsibility in natural outbreaks.

2. The challenges of resources, roles and responsibility occur at a more strategic level in the ethical organisation of global health security, compared to the everyday work of global health security (Chapter 5). Therefore it makes sense that more senior interviewees were thinking about these challenges.

3. The fact that there was less talk of these challenges by senior interviewees in the Global South could indicate that I did not interview enough of this demographic (see Chapter 4, Section 4.5.2.6. e), but could also indicate varying views about the risk and priority accorded to accidental and deliberate outbreaks compared to natural outbreaks in some areas of the Global South.

Compared to the previous chapters, it can be seen that the themes here share more of a similarity with Chapter 6 because they are both concerned with future thinking. Chapter 5 was about the everyday ethical challenges in the work of global health security, Chapter 6 was about the aspirations of interviewees in setting wider boundaries of global health security to reflect what values mattered to them, and this chapter looks to the scientific future of global health security as technological advances are perceived to be increasing the risk of accidental and deliberate outbreaks (which have thankfully so far rarely occurred). Resource and role decisions need to be made in light of this uncertain risk, compared to the commonality of natural outbreaks, whilst responsibility is attributed differently depending on outbreak origin. However, whereas in Chapter 6 interviewees aspire to push or change existing boundaries, in this chapter interviewees worry about future uncertain divisions of who should be funding, taking a role in, and taking responsibility for evolving areas.

In the next chapter, I move on to analysing interviewee concerns about geopolitical borders in global health security.



Chapter 8: The nature and moral limits of nationalism

8.1 Introduction

This chapter is about how interviewees navigate global health security as a field that is characterised by a debate about how to prioritise national interests in relation to global goods. It continues the theme of divisions and boundaries as a key component in understandings of global health security in the previous chapters. In Chapter 5, these were the boundaries of the concept of global health security itself, in Chapter 6 these were the realtionships between categorisations of outbreak origins and moral judgements about resources, roles, and responisbilities, and in this chapter the boundary of interests is about how international borders are perceived to affect the functioning and moral norms of global health security.

In the first half of the chapter, I analyse interviewees perspectives on nationalism. Exploring the theme of vaccine nationalism, I show how interviewees see themselves as facing moral conflict in navigating their own beliefs that prioritise those that need help over benefiting their nation. I then look at the mechanisms interviewees use to justify and circumnavigate this percieved neglect.

8.2 The problem of nationalism

The balance between national benefit and global action was a conflict that many interviewees reported as an important moral feature of working in global health security. Many interviewees discuss this conflict. It is perhaps most clearly described by Carey.

> *I think the ethics are really national responsibilities of governments versus global responsibilities and that's an ethical issue that hasn't really been worked upon, it's been 'You need to give, and you need to sacrifice and give,' and that's not the answer. The answer is you need to take care of your populations and at the same time make sure that you don't, that somehow you're compensating for those countries that don't have the same goods or the same benefits as you do. So the ethical dilemma is how do I take care of my populations and also at the same time use my humanitarian and security [resources] to, to, to contribute globally? [Carey]*[188]

In this quote, Carey outlines the *"ethical dilemma"* of how should countries take care of their own populations whilst still contributing to the global good. Inherent in this problem are ethical challenges about balancing use of resources domestically against global justice considerations. Carey, who has vast experience in the field, including in both practical settings and academia, sees this as a neglected area and this echoes a common sentiment among those interviewed. Whilst this challenge is considered in political philosophy, in global and/or health justice theories, Carey's perspective may indicate that the interviewees are either not aware of this literature or have not found it useful in relation to their own global health security practice. This gap between the theoretical literature and interviewee experiences is explored in Chapter 9.

[188] Carey (Interviewee 11, North Europe, public health)

Within their exploration, interviewees used a cluster of related and to some extent overlapping terms and concept to describe challenges in this area. Some interviewees discuss nationalism, others discuss sovereignty or self-interest. All these phrases are included within the chapter as they are relevant to the tension between prioritising global and national interests.

8.2.1.1 A global egalitarian tendency amongst interviewees

The first step in understanding interviewee perspectives on the ethical challenge of how should countries take care of their own populations whilst still contributing to the global good, is understanding the dissonance between individual views of interviewees and the seemingly nationalistic priorities in their work.

For the most part, interviewees saw the values that guided their work as more related to improving global inequities than representing the national interests of their country, even if they worked in a government role. Nearly all interviewees who developed their career in the area of global health self-defined the reason they work in this area as about global wellbeing with ideas about *"saving lives and reducing human suffering"*[189], *"global health inequalities"*[190] and "*contributing to making the world a better place"*[191]. Whilst interviewees caveated that *"no one's purely altruistic"*[192] and were also motivated by factors such as *"fun"*[193] or *"curiosity"* there was an almost universal consensus among interviewees that their

[189] Ade (Interviewee 10, West Africa, public health)
[190] Marron (Interviewee 4, North Europe, public health)
[191] Jordan (Interviewee 22, North America, humanitarian aid)
[192] Luca (Interviewee 19, North Europe, humanitarian public health)
[193] Ade (Interviewee 10, West Africa, public health)

choice to work in this area was motivated by doing good for the gobal population.[194] I term this as a global egalitarian tendency, although this is a term used by myself rather than interviewees.

While this might not seem a particularly novel finding for those with backgrounds in health, development, and humanitarian work, in the following sections my analyis will illustrate the fact that, for many of them, the reality is that global health security is currently an overly nationalistic endeavour and thus an area of personal-professional value discrepancy. As Alvi expresses in the following quote the values interviewees have can be different to the values that global health security has:

> *It is difficult to answer what values guide global health security as opposed to what values guide the people who work in this business because I think that is slightly different. [Alvi][195]*

This value-incongruency might be a reason why some interviewees expressed a degree of suspicion about ethics. I noted in my field notes that a few interviewees approached the interview in a defensive way, and this seemed to be because they were aware of the criticisms of global health security in the literature (see Chapters 2 and 3), and thought that my perspective was likely to be critical about their work, even though they did not agree with all the values currently in global health security. This value-incongruency is an important finding to keep in mind as interviewees' perspectives on, and justifications for, nationalism are considered.

[194] A notable exception to this was Berhane (Interviewee 2, East African, emergency preparedness) as explored in the next section (Section 8.4.1.1)

[195] Alvi (Interviewee 15 , North Europe, public health)

8.3 Vaccine nationalism

From this insight into interviewees' moral preference for global egalitarianism, it is unsurprising that they expressed concerns about vaccine nationalism. By far the strongest theme emerging from my analysis regarding nationalism was the ways in which these concerns and tensions arose in relation to vaccines, with many interviewees choosing to talk about this, unprompted, in interviews. This is likely attributable to the timing of the interviews, which were conducted between June 2021 and May 2022[196], when media interest was making the term 'vaccine nationalism' an everyday phrase. This was also a time when vaccine distribution and logistics was a significant part of some interviewees' jobs.

Of all the areas in the data, vaccine nationalism revealed some of the most cohesive views amongst interviewees in that there was broad agreement that vaccine distribution was important but unfair in relation to COVID-19 vaccines. It is presented in this chapter as an example of how interviewees navigate global health security as a field that seems to prioritise national interests over global good. In the following quote, Chari, whose work was divided between a central African country and their home east African country, gives a personal account of feeling left out of the global distribution of vaccines:

> *And we are, everyone is looking for or ordering for the COVID vaccine, but we in the Third World countries have not been prioritised in this distribution…So I personally think we have been left out, because a personal experience in my country, [East African country], when we were undergoing the third African wave…where we saw numerous people succumb to COVID, we didn't have any vaccine in the country. And all the Minister would explain is, "There is a vaccine*

[196] By reference, the UK first started vaccinating its population from January 2021 but COVID-19 vaccine rollout, booster doses and global vaccine equity were major public health areas of interest throughout this time, and continue to be as of writing this thesis – see https://covid19.who.int/table

> *shortage, and we are hoping to get the vaccines in maybe three weeks' time," but remember all the three weeks we were losing lives. [Chari][197]*

Accounts like Chari's were particularly resonant in demonstrating how it felt to be missing out on a share of vaccines when compared with accounts from the majority of those interviewed from the Global North who took the view that their government's stance on this issue was unethical. Their accounts were also aligned with many expressed in the literature, reviewed in Chapter 3 (Section 3.5.3). Eike worked for a different European government than their home European country and commented about COVID-19:

> *I mean it's distressed me a lot, obviously for lots of different reasons. It's made it clear to me, it's brought the self-interest really sharply into focus, I mean that's, that's very distressing. It's, yes, so it's made me question a lot of values of my home government, also with my, my host government as well. [Eike][198]*

These feelings of distress, which many interviewees expressed about the COVID-19 vaccination distribution, reflected views that the necessary balance between nationalism, commercialisation, and global benefit had swung too far away from global benefit. This can be seen in the accounts of Robin[199] and Ash[200] who both discussed the inevitability of vaccine nationalism in the context of witnessing what happened in the swine influenza pandemic in 2009. For example:

> *while countries did say that they were going to provide vaccines to low and, and middle income countries the, the number of, that they initially said they'd provide versus the number that they*

[197] Chari (Interviewee 9, Central Africa, public health)
[198] Eike (Interviewee 5, Europe, health policy)
[199] Robin (Interviewee 1, North European, international law)
[200] Ash (Interviewee 3, North America, epidemiologist)

> *actually provided was quite low until there was, kind of, an acknowledgement that there wasn't gonna be a big issue in their own countries. [Ash]*[201]

Avery also makes the case that nationalism was inevitable and acceptable, but suggests that arguments to vaccinate the world should not be based on nationalistic arguments that the benefits come back to the donor state, but because it is the right thing to do.

> *So, you know, no one in West Africa votes for a congressman from Missouri. So, a congressman from Missouri's first thought is not going to be, "Gee, the, the dose that could go to someone's grandmother in Missouri, should actually go to a healthcare worker in Liberia". It's not going to happen…Now, there's a component of what they do that incorporates that. It's aid, it's sometimes it's in our best interests that people overseas are immunised. There's this big argument about, you know, it's in our, you know, the silly argument about it's in our personal best interest to immunise everybody in the world. That's not why you immunise everybody in the world. You immunise everybody in the world because they need to be immunised. [Avery]*[202]

As such, Avery separates health security as a national issue versus distribution of global vaccines, globally, as an aid issue. What is less clear is whether Avery thinks that this separation can be sustained in a world with limited vaccine manufacturing capacities.

The concern about lack of timely vaccines being provided to the Global South were also complicated by considerations relating to intellectual property rights, particularly among the North American respondents in this study.

Interviewees understood that there needed to be some reward for the risk of investments, but they reported that, in their opinion and experience, it went too far. Ash went as far as

[201] Ash (Interviewee 3, North America, epidemiologist)
[202] Avery (Interviewee 33, North America, health security policy)

saying that the US *"really screwed up"* by not forcing Moderna to make its intellectual property available despite government funding. In this they were referring to the fact that, despite the US government funding the development of the Moderna COVID-19 vaccine, they did not have, or at least did not use, any leverage from this to make Moderna allow its intellectual property to be used by other companies to supply its vaccine to areas in the Global South, in which there was a shortage. Cody, who had worked in the pharmaceutical industry, also believed this balance was wrong as illustrated in the following quote:

> *it does not bother me that the US have got some of the first doses. It does, because the US took the risk. The US invested, you know, incredible numbers of dollars to, on vaccines that could have failed. So, when they succeeded having some of the first does come here first I, I … would be equitable for the investment. But, but it has taken too long in a, in a, you know, it, it shouldn't have taken so long to get more doses into Africa and that, that bothers me [Cody]*[203]

For Cody, these pragmatic concerns over the commercial vaccine system also included dispelling the myth that that manufacturing vaccines was as simple as there being manufacturing capabilities in the Global South, in this case in India. Cody recounts discussing with the chief executive officer of a large pharmaceutical company about what they would do if given intellectual property rights to some drugs, including vaccines, with poor supplies in the Global South.

> *I said, "If we give you the intellectual property to create", whatever drugs these were, "Can you do it?" "You bet". And I said, "So, then you'll, you'll be able to sell at a reasonable price to Africa". And he said, "Well, why would we do that? When we can sell to a much, at a much higher price in Europe. I don't want to sell to Africa, I'll only sell in Africa if I, if I can't sell in Europe". [Cody]*[204]

[203] Cody (Interviewee 28, North America, health consulting)
[204] Cody (Interviewee 28, North America, health consulting)

For Cody, this illustrated that there was a fallacy in some thinking around vaccine nationalism, that pits the Global North as those that perpetuate inequity, when this is just how the market works globally, with Global South countries just as likely to be *"unethical"* as Global North countries. This is an idea further discussed in Section 8.4.1.2 on 'Self-interest applies to all'.

These concerns about intellectual property demonstrate that interviewees see vaccine nationalism as not only about the tension between national good and global good, but about the relationship between governments and pharmaceutical companies. On one hand some governments, including the UK and US, funded pharmaceutical companies to develop COVID-19 vaccines and could thus exert influence over the distribution of those vaccines, through contractual arrangements, export controls[205], or soft power considerations. On the other hand, pharmaceutical companies are commercial entities operating in an international market, who had to balance their obligations to government or non-governmental funders, their shareholders, and the political and legal context of the countries in which they developed, manufactured, and sold vaccines.

The final element to perspectives on vaccine nationalism was a weary acceptance, that this was always going to be what happened – and that it was not a surprise that vaccines were not distributed in a fairer way. Drawing on their experience in export controls and pandemic influenza, Robin, a legal expert comments as follows:

[205] Depending on where the vaccine was manufactured.

> *Because one thing which COVID has demonstrated is that actually these activities [export controls] do happen and will happen, and there is a sense that this was wholly predictable that this would happen. [Robin]*[206]

This sense of predictability of not getting the right balance echoed through the interviewees. Overall, we can see interviewees understand that it can be right for countries to focus on their own citizens but that there needs to be limits to this. What is notable about this section is that whilst interviewees expressed their views in different ways, from the unfairness in their country to comments on the wrong balance with intellectual property considerations, their perspectives were cohesive in considering vaccine nationalism to have gone too far: Here it is about how relationships between a state and vaccine developer and/or manufacturer (who may be internal to that state or located internationally) can impede the global good, in this case by outcompeting other countries to take more than their fair share of vaccines.

8.4 Interviewee justifications of nationalism

In this chapter so far, I have analysed that 1) interviewees are concerned about the ethical challenge of how countries take care of their own populations whilst still contributing to the global good, and 2) that a recent concern in this area is about how this balance is not right in the distribution of vaccines in the COVID-19 pandemic. In this section, I move from an analysis of how interviewees understand the ethical concern, to how they mitigate this ethical concern: I will illuminate how interviewees make arguments that reconcile their own views on global egalitarianism (Section 8.2.1.1) with the, sometimes negative, concepts of how they understand the nationalistic nature of the work they do. They use mechanisms in their

[206] Robin (Interviewee 1, North Europe, international law)

everyday relationships to circumvent their concerns about nationalism. Because these relationships are conducted in programmes they are involved in, these justifications often make sense in the context of bilateral or multi-lateral relationships between a Global North country or international organisation, and a Global South country – a different context to most of their thinking about vaccine nationalism.

I will explore the five ways from the analysis in which interviewees reported they try to reconcile their personal views on wanting a global egalitarian approach to global health security with the nationalistic aspect of their professional roles. These ways include how interviewees perceive:

- **Win-win relationship**: Negotiating programmes to produce mutually beneficial 'win-wins' in bilateral relationships
- **Self-interest applies to all:** Suggesting that national self-interest applies to all countries and not just the Global North
- **The qualified acceptance:** Arguing that nationalism would be acceptable in a specified circumstance and making comparisons to other areas*)*.
- **Relating it to an interpersonal scale**: Relating self-interest of countries to self-interest on a much more local level
- **The global good:** Suggesting that the dominance of some Global North countries in global health security is for the global good.

These five ways are analysed in turn in the sections below.

8.4.1.1 Win-win relationship

The first way in which interviewees justified nationalistic aspects of their work is that bilateral global health security programmes could be win-wins for both countries involved.

Several interviewees from the Global South appealed to the nature of global health security as a mutual benefit or win-win relationship.[207] This was most strongly articulated by Berhane who went as far as saying that they would mistrust any suggestion of altruistic donations without this clear mutual benefit relationship:

> *So, I think I mean for me the first value of health security is benefit. If you cannot have a very clear benefit based relationship, you can't have a good security collaboration. If you're going to take 30 people and train them to PhD, and in exchange you're going to open up labs that collect data, and we all know the benefits, and we understand them transparently, then we can set up a collaboration. But if you say you want to help me and train 30 PhDs for free, I want to say no because I'm very suspicious of, why did you out of the goodness of your heart wake up to open up this collaboration? [Berhane]*[208]

Berhane, who had a healthcare background, but was firmly embedded within the terminology and structure of the global health security enterprise, was consistent in their beliefs throughout the interview about global health security and their work as non-altruistic, repeatedly saying phrases such as *"I'm not altruistic"* and *"at the end of the day no one is a philanthropist"*. This presented a marked contrast to the majority altruistic motivations

[207] This included Berhane (Interviewee 2, East African, emergency preparedness), Dayo (Interviewee 24, West African, public health), Azul (Interviewee 27, Latin American and the Caribbean, public health) and Evan (Interviewee 30, North American, global health security).

[208] Berhane (Interviewee 2, East Africa, emergency preparedness)

outlined by interviewees in the section in Section 8.2.1.1 'A global egalitarian tendency amongst interviewees'.

A mechanism for how this mutual benefit relationship worked was seen by Dayo's description of a National Action Plan for Health Security. Developed from a Joint External Evaluation, this WHO supported mechanism structures how a country sets its own priorities for improving health security. Dayo, who worked in a West African country with such an action plan, discussed how this allows the win-win relationship to work, as all donors must choose areas that align with the plan.

> *"any funds coming, whether partner or NGO or any other [body] must align with our own National Action Plan…You are trying to understand or bring in money and we are trying to say "Okay, this is what we have outlined for [West African country] in the next five years. Look at all these activities, pick any one that you think aligns with that," so for us is a win-win, but we will never allow for anything outside our subjective plan" [Dayo]*[209]

This very positive account appears to show a global mechanism that works, that is a win-win with benefits accrued to donor and recipient, and a WHO framework that brings power back to the recipient country. Benefits accrue to the donor because they choose what element of the recipient's National Action Plan is beneficial to their objectives (for example, working on antimicrobial resistance because their government has a concern about migrants bringing drug-resistant tuberculosis to their country), and to the recipient as one of their national health security priorities will be met (for example, a national problem with successful treatment of tuberculosis). However, when a partner or NGO picks one of these activities on

[209] Dayo (Interviewee 24, West Africa, public health)

the National Action Plan, it is unclear what happens with the activities that are not picked: Are they picked by another donor, or do some remain uncompleted?

The emphasis on the mechanism here contrasted with the perspective from Azul, who focused on the win-win working because of rules, but also the skill of the negotiators.

> *However, there are rules in the game of negotiation and there's something called win-win. So, you can have self-interest. You can have selfish gain and you can find a path that helps everybody to the degree that they deserve it. So, even within, within a system that is flawed and imperfect you can still find something that really works and I'm hoping that this is what's happening. It demands very skilful people to guide the negotiation process. But it happens. [Azul][210]*

Azul, who led a large public health organisation, gave me the impression of being a charismatic leader in their interview. This perspective around the negotiation is consistent with their perspective seen in Chapter 5 (Section 5.6.2) on the importance of *"maverick"* leaders who go out and get things done. The qualification that they give that *"you can find a path that helps everybody* ***to the degree that they deserve it****"* (with my emphasis in bold), is interesting as it suggests that this win-win situation is within the reach of everyone if effort is put in. My interpretation of this is supported by what the interviewee says earlier in the same interview, where they give an analogy between myself, as the researcher, working hard to secure them as an interviewee, despite others saying I would not be good enough.

It should be noted that most of those that expressed the idea of the win-win relationship were from the Global South. The type of relationship involved in these interactions seems to be bilateral relationships between a Global North and a Global South country, or an NGO and

[210] Azul (Interviewee 27, Latin America and the Caribbean, public health)

a Global South country – a common model for international aid. For these interviewees, success in these negotiations seems to be where a benefit is negotiated for both the donor country or organisation and the receiving one.

8.4.1.2 Self-interest applies to all

A related, but subtly different, argument from the one that nationalism in global health security can be a win-win situation, was an argument presented by interviewees that the system works because all states are self-interested and in it for themselves, and that is not just a feature of the Global North. Kim discusses that "*the selfish element"* of global health security, in states furthering their own national interests to be protected from infectious diseases, importantly, applies to everyone.

> *I think that it is, if you actually look at where the money goes, it does go to security, it does go to protecting your country first and then it goes to reinforcing other countries whose protection will help you. And so yes there is a selfish element about it. But it is false in the sense that it is meant to apply to all countries and not just too Western ones, you know. [Kim]*[211]

This echoes the perspective seen in the Section 8.3 on 'Vaccine nationalism' that all manufacturers of vaccines will prioritise profit.

Two interesting comparisons were made by interviewees about the nationalistic nature of global health security being one of self- interest on the donor and recipient side. In the first Kim, who has a military health background makes the comparison between global health security and arms sales,

[211] Kim (Interviewee 12, North Europe, military health)

> *It is no different from arms sales, you know, arms sales, one has to say, tend to be, I think I have seen low- and middle-income countries as they are receiving the arms sales of the interest of the country that is selling it to them. And sometimes that is a strategic interest and sometimes it is an economic interest, you know. But generally speaking, outside what one might call superpower competition, but even there, you know, the arm sales or the arms gifts sometimes are there for the interests of the gifter not of the recipient. [Kim]*[212]

In this, they suggest that the similarity with arms sales and global health security is that for both, the gifts can be for the benefit of the giftee. By contrast Rowan compares global health security with capitalism, suggesting that global health security should be more a capitalist system from which there is a benefit to your market/country as well as a global market/community.

> *I'm not sure also if the, if the, a comparison for example with capitalism would work out, but you can't just, you can't just force other countries, capitalism so it would benefit your market, it should benefit everybody. And that's, maybe that's the thing, global health security should benefit the global community and shouldn't be something that is done to, to other countries. [Rowan]*[213]

The difference between these comparisons is on the beneficiaries. In the arms sale example, the gifts are sometimes there just as much for the benefit of the giftee, even if the recipient is buying them to further their own ends. Whereas in the quote above, global health security is like capitalism because it cannot be forced, and instead benefits the overall 'market' of global health security. Both these comparisons are striking in contrast to the idea of global health security as a malleable definition expanded to benefit global health as a humanitarian

[212] Kim (Interviewee 12, North Europe, military health)
[213] Rowan (Interviewee 20, North Europe, policy advisor)

endeavour (as per Chapter 6, Section 6.4) or the global good rationale of the interviewees' choice of job (as per this chapter, Section 8.2.1.1).

In contrast to the previous section on win-win situations, the perspectives about this position of mutual self-interest came from interviewees in the Global North. Whilst in some ways these perspectives are very similar, I have classified them separately as the win-win situation indicates a benefit accrued to both parties. On the other hand, seeing all countries as self-interested on the global health security stage does not mean that all countries win, but just that the starting position for all states in negotiating health security programmes should be what benefits their own interests. As such, this does not need to occur primarily within bilateral relationships like win-win rationales but could be a rationale within any type of global health security relationship. What it notable is that this is not a solution to overly nationalistic policies but just implies that all are behaving badly.

8.4.1.3 The qualified acceptance

The third approach in the analysis to the problem of nationalism was a qualified acceptance of nationalism as a problem, but one that could be solved if a particular factor was true. This perspective was only made by a couple of interviewees, with Kyrie in particular contributing an interesting perspective. In the context of mentioning that they saw a misalignment between national interest and global solidarity, they surmised that they would not be in conflict if all states had the same amount of power.

> *I think if, if kind of all parties had the same amount of power, you would hopefully get to equilibrium sooner and that would be the right… I mean, it's sort of a… it's you know, you have negotiations, so would people would say, "No that's not fair, you can't do that," and then, and then there would be… there would probably be middle ground reached sooner and instead*

> *because of the power imbalances, it's… I don't… I think kind of people have just… wealthy countries have just grabbed for more and more and more [Kyrie]*[214]

In the context of their interview, the problem here is the negotiating power of wealthy countries, in areas like buying vaccines, and the lack of negotiating power of the Global South despite their valuable resources such as pathogen samples. This fits with the idea of the capitalist market that global health security would work itself out naturally if the right conditions were met, but it seems a utopic solution for global health security.

A related, perspective comes from Eike who wonders if it matters if global health security is unethical.

> *And so it would be great if somehow through your, through your work you can somehow get underneath the extent to which it matters whether global health security is ethical or not. Does global health security have to be ethical to be effective? And there would be people that would say yes because for as long as it's entirely self-interested then you're always going to get this unbelievable dominance of certain players, and that you're never actually going to get into the, the nuts and bolts of what matters to the poorest people. And there would be some who would say, well the end justifies the means, and that if you are doing, you know which is more the less argument that I'm using to justify my job right, which is that if you get to a position where you're helping to protect people who would otherwise be affected, then if you have to work in this very sort of northern framework, then it's not actually all bad…. [Eike]*[215]

Here we can see some assumptions are made by this interviewee who has worked in the global health security area for more than one state. They make an assumption that the

[214] Kyrie (Interviewee 31, North Europe, public health policy)
[215] Eike (Interviewee 5, North Europe, health policy)

"entirely self-interested" approach is unethical reflecting their more egalitarian bias (as discussed in Section 8.2.1.1).

8.4.1.4 Relating it to an interpersonal scale

A more unusual way of dealing with nationalism came from two interviewees who chose to relate these massive global issues about how countries interact back down to a smaller interpersonal level.

For Berhane, this was about homesteads:

> *I think of countries like homesteads. Like if your neighbour decides to be poor and go hungry that's his business, but if your neighbour doesn't want to have a water and sanitation system and he causes a Cholera outbreak in the neighbourhood, then it's everyone's problem [Berhane]*[216]

By relating it back to this scale, they draw the differences between private (domestic) matters and neighbourhood (global) matters. This picks up on the idea in Chapter 5 (Section 5.8) about scale being important in global health security. A similar issue of scale was picked up by Eike, who relates this to a much more personal incident.

> *So you were talking about the difference that COVID-19 made and I think it has made to, what the difference it's made to an awful lot of people is it has really crystallised this self-interest thing. So I would under normal circumstances not classify myself as somebody who invested a lot of self-interest into their work, right. I didn't see that as a defining feature. I had to be evacuated from [Southern African country] with my family because of COVID-19, and you could say well that was a, me agreeing to be evacuated, rather than staying unless my family go home on their own was self-interested…Now do I think it was an unethical decision? No. It was a self-interested decision but morally probably exactly the right thing to do. [Eike]*[217]

[216] Berhane (Interviewee 2, East Africa, emergency preparedness)
[217] Eike (Interviewee 5, North Europe, health policy)

In this quote, Eike is discussing self-interest and uses a personal example to answer my question on whether self-interest, as they had characterised before as something immoral, was always immoral. Here, they caveat this to suggest that self-interest can be morally right, through their choice to be evacuated with their family during the first COVID-19 wave rather than remaining to help, whilst their family left. As well as leaving questions about when self-interest can be justified, it always raises questions about the language used, as I discussed that this can be variable in Section 8.2. Here, the use of self-interest rather than nationalism appears to push a similar concept about 'us first' to a more relatable scale.

The interviewees' analogies of relating nationalism or self-interest to an interpersonal scale is different to some of the other justifications for nationalism presented so far. The other justifications, such as the 'win-win' justification, provide examples in which they perceive a degree of nationalism as justified or take a view about the when nationalistic policies are wrong or right. Relating it to an interpersonal level seems to be a mechanism for allowing clarity as to how one should think about prioritising national interests versus wider considerations. However, it is included as a justification for nationalism because, particularly, Eike's example is used to reason why there might be reasons that self-interest is justified.

8.4.1.5 The global good

The final way in which interviewees managed their concerns about nationalism was about the global good. Blair[218], who was highly connected in health security in Northern America, made

[218] Blair (Interviewee 38, North America, health security)

the argument below. This perspective was unique to Blair, and I think this was because it was my final interview – and due to the knowledge and seniority of the interviewee, I spent some of the time challenging Blair's perspective as an advocate for global health security against the criticisms of it already levelled at me by previous interviewees. In the context of this quote, I had asked for Blair's response to the critique that global health security is a product of the Global North focused upon keeping diseases from our borders. The answer to this argument from Blair is multi-faceted, and so I have broken it down into the premises that are themselves quotes (Figure 8).

Figure 8: Blair's argument for the global good

1. *the Global North I think does kind of lead and manage a lot of these discussions about global health security, including international organisations but they're much more represented*

2. *But in my mind, the consequences of really serious events are just as likely or more likely to hurt the Global South…*

3. *I do think [the Global South] have many, there are many more problems daily, pressing urgent problems*

4. *But it's still the case that as other countries in the world look at their overall risks they will make judgements about what could be hugely disruptive to their own societies. We've seen that pandemics can be hugely disruptive.*

5. *And so I think it is appropriate risk assessment on the judgement of countries…but certainly any country should have I think the, as a basis to decide that there are particular threats that could really send them in different directions and be highly consequential.*

6. *And so rather than every country doing that on their own without discussion and collaboration, I do think it is still a good thing that some subset of countries is tending to this or trying to, working with World Health Organization, working with the UN, working on, on other international collaborations. But they should absolutely be inclusive of…the Global South.*

The nuanced argument that Blair seems to be making is that all countries have the right to decide which risks will be disruptive to them, of which pandemics is one. Although the Global South might rightfully have other priorities, the leadership and focus in the work of global health security by the Global North benefits everyone, although this would be improved by more Global South participation.

This argument frames global health security in a new way. Whilst the arguments for nationalism in global health security are inevitably set up for conflict between bilateral project

relationships or the Global North versus the Global South, this argument puts us back in the arena of multinational interactions facilitated by WHO. However, within this arena, this argument seems to emphasise the self-determination of Global North countries to choose to work in this global arena. It is a justification that appears to circumnavigate the nationalism concerns of other interviewees, but it is dependent on the Global North acting for the global good.

8.5 Conclusions

The analysis in this chapter shows that the interviewees concern with and views about the tensions between nationalism and global goods is an important lens into their understanding of global health security.

Interviewees understand the ethical challenge of nationalism as concern with the balance between legitimate concerns for one's own citizens' wellbeing and a legitimate interest in the wellbeing of the global population more broadly. Interviewees' individual views tended towards global egalitarian perspectives, creating a value incongruence in the more nationalistic work they do. Given the context of the interviews, there was a lot of concern about vaccine nationalism in the COVID-19 pandemic, in which interviewees expressed concerns that, although a degree of nationalism with vaccine supplies was justified, this went too far in terms of the Global North taking more than their fair share of vaccines. Complicating this relationship between national and global good is the interactions between governments and pharmaceutical companies who received public funding for developing COVID-19 vaccines. Because of their concern about the degree of nationalism that is justified, interviewees sought justifications in their everyday relationships to circumvent their concerns

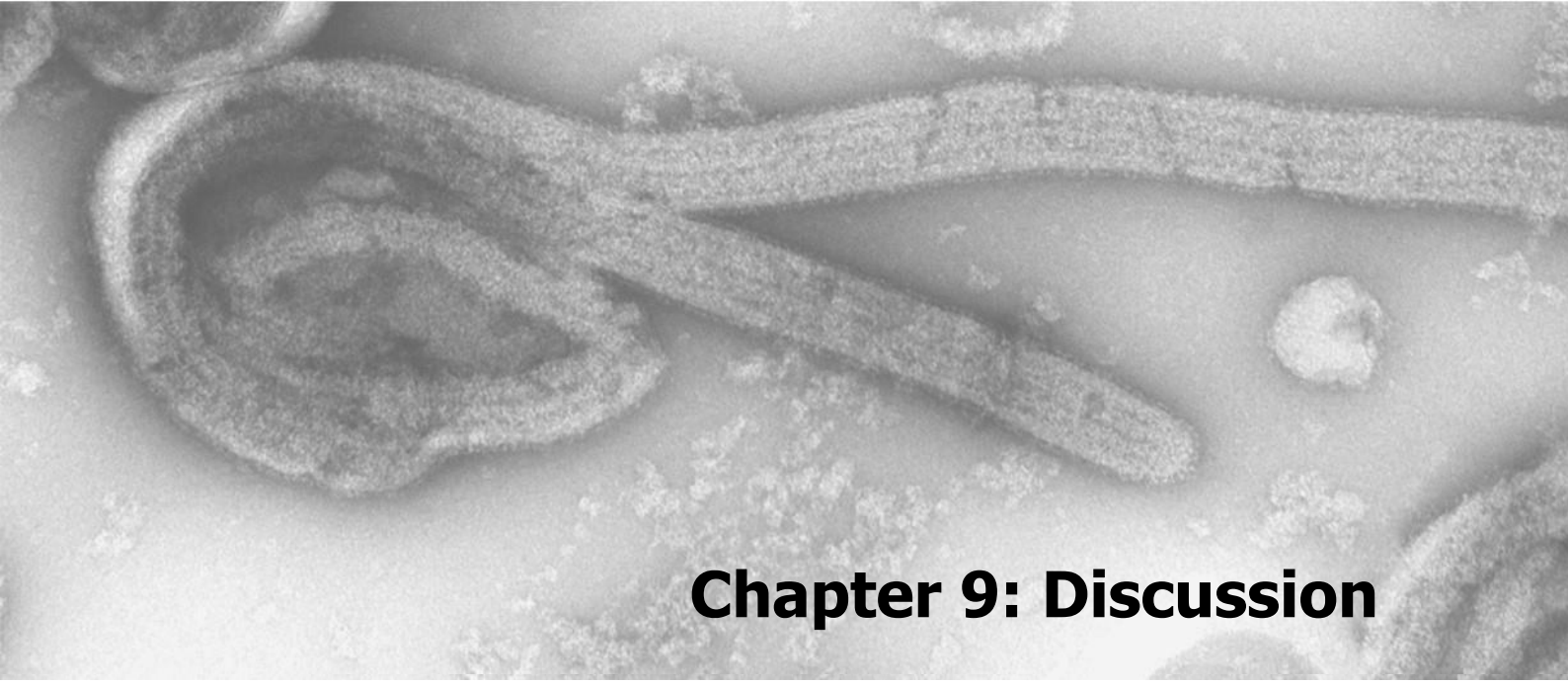
about nationalism. These justifications included ensuring 'win-win' situations in global health security programmes, suggesting that self-interest applies to all actors involved in the enterprise, proposing the conditions by which nationalism would be acceptable, relating nationalism to an interpersonal scale, and arguing that the dominance of the Global North in global health security can contribute to the global good.

What these accounts show is, despite the expressed views on global egalitarianism and the value incongruence this created, interviewees' views were tempered with pragmatism that meant they did not reject nationalism in entirety and sought ways of making national interest relationships fairer. Looking at these justifications in more detail, we can see they serve to mitigate nationalism in different relationships, but, with the exception of focusing on win-win relationships (which seem unlikely to be possible all the time), they do not solve the ethical problem of how to balance national and global interests.

The concept of nationalism is also interwoven through the other chapters in this thesis, so is a both a theme in its own right and a cross cutting theme. In Chapter 5, concerns about nationalism were underlying some of the ethical concerns that participants faced. For example, where an interviewee solved concerns about only setting up a laboratory to test for Ebola, as this was the interest of the funder, by including a local priority for testing for hepatitis viruses (Chapter 5, Section 5.6.2). In Chapter 6, interviewees expressed concerns about global health security being morally problematic. This was because they saw global health security activities funded by the Global North as protecting the security of their own populations from outbreaks abroad, rather than primarily helping those suffering from infectious diseases in the Global South, where programmes are often located (Chapter 6,

Section 6.3). This is a concept relevant to nationalism, in which participants were concerned that the balance between nationalism through each country protecting its own citizens and global wellbeing, had swung too far towards nationalism. In Chapter 7, concerns about responsibility for outbreaks relate to nationalism as they are questions such as how far a state has to prevent outbreaks that may go on to affect other states.

These perspectives and strategies are an important finding as it shows that broader issues of health justice relating to nationalist and more egalitarian considerations are troubling to interviewees in their work and not just the preserve of theoretical arguments. The relation of interviewee accounts to the theoretical literature is discussed in Chapter 9.



Chapter 9: Discussion

9.1 Introduction

This chapter is the discussion for the thesis. It reflects the empirical bioethics methodology of the thesis and is divided into four parts.

The first part is a discussion on the meaning and implications that can be taken from the four qualitative analysis chapters when considered as a whole. I suggest these show that global health security is a complex moral landscape which interviewees understand partially through the idea of moral boundaries and divisions, of where they should be set, expanded, broken or disregarded. These boundaries include the definitional boundaries of what global health security should be, the internal boundaries of how to prioritise roles, resources and responsibilities by outbreak origin, and the geopolitical boundaries of how important nationalism is.

The second, third and fourth parts of the discussion explores these three moral boundaries in turn by comparing the findings of empirical analyses to the bioethics literature. This process includes considering how the bioethics literature can illuminate gaps or considerations not

seen in the qualitative analyses, and the qualitative analyses might contribute to and refine the bioethics literature. The result of this process is used to make some tentative normative judgements.

The four parts of the thesis reflect the latter stages of symbiotic empirical ethics, which is the empirical bioethics method described in Chapter 4 and followed throughout the thesis. How this symbiotic empirical ethics method has informed the structure of this thesis and underpins the discussion is recapped below. I then move on to present the four part discussion.

9.1.1 Symbiotic empirical bioethics

This discussion is structured by the symbiotic empirical bioethics method outlined in Chapter 4 (Sections 4.3.1 and 4.7), and adopted for this study. The reason why symbiotic empirical ethics was the method chosen for this thesis was to enable the research to have close connection to practice through empirical data collection and analysis, yet also aim to have impact through the production of justifiable normative outputs, through combining this empirical analysis with normative analysis (Frith, 2012).

The first stage of symbiotic empirical ethics method, which Frith labels as 'setting out the circumstances', relates to the collection and analysis of empirical data. This is about collating views and opinions on the topic of concern. In my research, this stage is achieved through the semi-structured interviews analysed through thematic analysis and presented in Chapters 5 to 8, and in the next section (Section 9.2) of this discussion.

The second stage, labelled as 'specifying theories and principles', is about understanding what ethical theories and principles are found to be important in the empirical data and how they are understood by interviewees. This stage is also partly achieved Chapters 5 to 8 as above, but is clarified and summarised in Sections 9.3 to Section 9.5 of the discussion.

The latter three stages of symbiotic empirical ethics – stages 3, 4 and 5 - are about the integration of the empirical results with normative analysis. The third stage, labelled as using 'theory as a tool of ethical analysis', and the fourth stage, of 'theory building' are closely interrelated. They are about using bioethics literature to critically analyse the empirical analysis, and to see if the empirical analysis can be used to develop or refine theory that might arise from the literature or the empirical data. It is here that I have supplemented Frith's model with an aspect of Jonathan Wolff's engaged philosophy through identifying the range of arguments (Wolff, 2019). The fifth and final stage is making a normative judgement, and ensuring that this judgement is relevant to policy. These normative judgements are developed by the interaction of reason and theory to achieve a better account, which is defensible by reason.

The results of applying these latter stages of Frith's methods - stages 2, 3, 4 and 5 - are presented in Sections 9.3 to Section 9.5 of the discussion. Each section of the discussion from Section 9.3 to Section 9.5 focuses on one boundary of global health security and the analysis process includes all four of these symbiotic empirical ethics stages. For example, Section 9.3 is about the definitional boundaries of global health security. In this section first the relevant

principles are specified, then theory and argument is used to critically analyse the empirical analysis, then theory is developed, then a normative judgement is made.

9.2 The moral landscape and boundaries of global health security *(symbiotic ethics stage 1)*

In this section, I consider the chapters as a whole to answer the question of what do these tell us about the ethics of global health security. As discussed in the previous section, this section summarises and expands on the first stage of Frith's symbiotic ethics of 'setting out the circumstances', which is about describing views and opinions on the topic of concern.

The overriding picture derived from the four chapters is that global health security can be usefully understood as a complex, multifaceted and morally laden enterprise which professionals are required to negotiate in their day-to-day work. Each results chapter shows how these interviewees think about, identify, express concerns about, and in some cases try and manage the ethical challenges of global health security.

Although the literature in Chapters 2 and 3 showed that this space has previously been described predominantly in terms of political institutions and international relations, my analysis suggests one way it might also be described is as a moral landscape. This is an important dimension missing from the current literature. Rather than faceless bureaucrats hidden within public health, non-governmental, private or international organisations, this analysis shows that these are professionals who are reflective and highly engaged with the ethics of a practice in which moral decisions are made.

My analysis suggests that one of the primary ways in which the interviewees understand this complex moral landscape is through the idea of moral boundaries, borders and divisions, of how they should be set, expanded, broken or disregarded. This is apparent in different ways in the analysis and is presented in each of the four results chapters.

Chapter 5 presented the theme of everyday ethical challenges in the work of global health security. Here, the analysis shows that ethical challenges interviewees face fall into four main areas: those related to operational work; technical work; strategy and advocacy; and partnership and community work. These practical challenges are situated within this wider landscape of concerns about the boundaries and divisions within the enterprise that chapters 6 to 8 explore.

Chapter 6 presented an analysis of interviewee perspectives on the meaning of global health security. The analysis found that not only are the definitions and boundaries of global health security a key factor shaping their roles, but that interviewees' roles and understandings of them are also shaped by their moral concerns about global health security. The way in which these concerns occur in the analysis suggests four moral models of global health security which offer different ways of expanding what is included in global health security and what values should be prioritised. In this chapter the boundaries in question are the definitional boundaries of what should be included, or excluded in global health security, and the moral reasons for setting these boundaries.

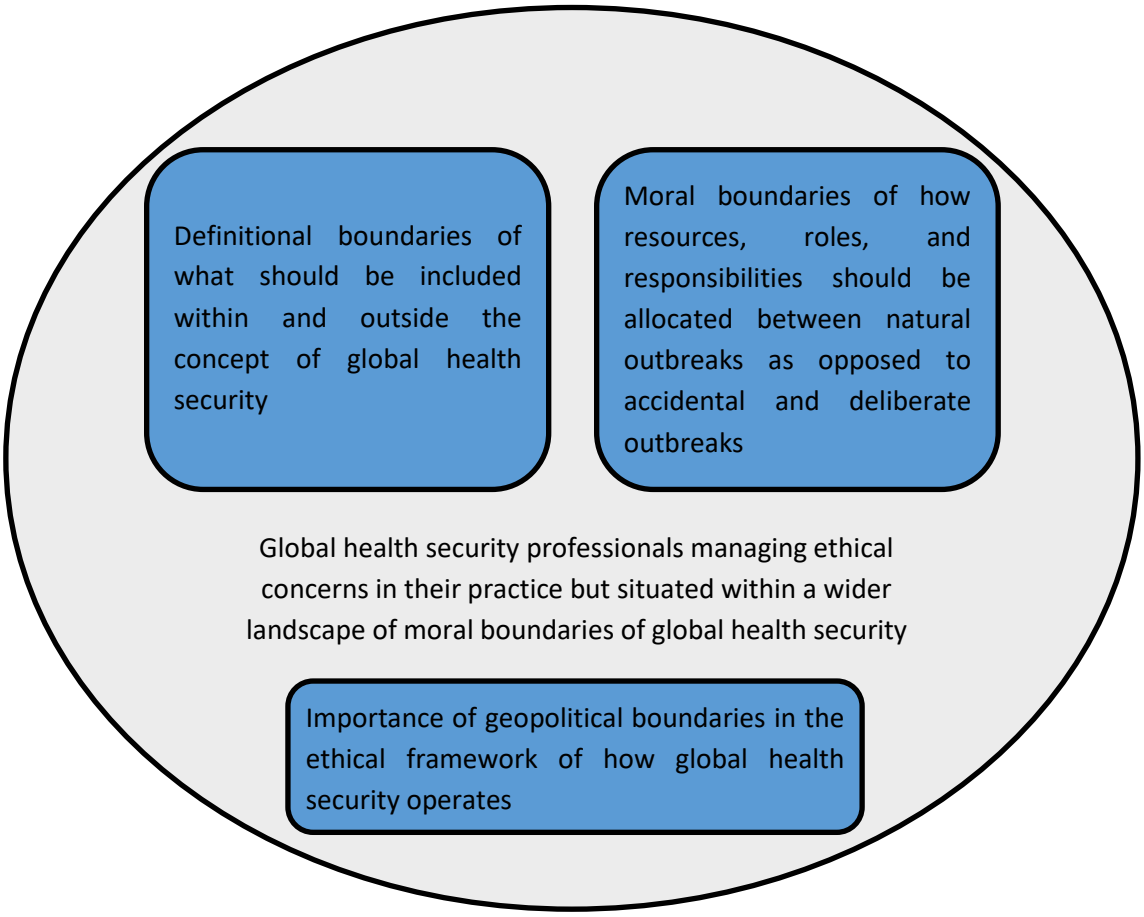
In Chapter 7 the analysis suggests an important part of the way in which interviewees understand global health security is as space best understood as a matrix of roles, resources,

and responsibilities against two disease origin types – natural, as opposed to accidental or deliberate. In this chapter, it is not about what is included and excluded from global health security, but when thinking about newer challenges in global health security, how roles, resources and responsibilities should be divided. As such, this chapter is about how moral boundaries within global health security are organised by outbreak origins.

Chapter 8 shows that interviewees' concern with, and views about, the tension between national and global goods is an important lens into their understanding of global health security. The analysis demonstrates that interviewees sometimes faced a value discrepancy between their own views on global egalitarianism, and the more nationalistic work of their organisations. These views were reflected in the recent concern about the distribution of vaccines in the COVID-19 pandemic. Interviewees use different mechanisms to justify and circumnavigate their concerns. These perspectives and strategies are an important finding as it shows that broader issues of health justice, relating to how far national borders are morally significant, are troubling to interviewees in their work and not just the preserve of theoretical arguments. This is, thus, about the importance of geopolitical borders in the ethical framework of how global health security operates.

These moral boundaries are summarised in Figure 9.

Figure 9: Moral boundaries of global health security



What Figure 9 illustrates are the ways in which the moral world of global health security requires professionals to consider and respond to all these different moral boundaries that shape the enterprise of global health security. This is in addition to managing ethical issues in their practice that sometimes relate to these boundaries.

These boundaries do not exist in isolation, but are interrelated. The analysis in Chapter 5 on everyday ethical challenges of global health security is useful for thinking about the definitional boundaries of global health security. This is because nearly all the work described

in Chapter 5 related to infectious disease outbreaks, with a strong focus on epidemic diseases. This implies that the current model of global health security is the 'threat' model which is focused on large scale outbreaks. Thus the other models of global health security, particularly the collective and reframing models may be somewhat aspirational in advocating to expand the boundaries of how global health security is defined: they may be what interviewees want global health security to include, rather than reflect the current boundaries.

What is included within the boundaries of global health security affects decisions as to what areas roles, resources and responsibilities need to be allocated. For example, if a threat model of global health is used, more emphasis might be given to allocating resources for potential future accidental or deliberate outbreaks as the priority here is about large scale epidemics, pandemics and biological threats. However, if a humanitarian model is used, allocating resources for accidental and deliberate outbreaks might not be as important since it is predominantly natural outbreaks which are currently causing human suffering and death in the world.

How far, and in which way, geopolitical borders are important in thinking about the ethics of global health security affects whether models of global health security that expand the definition to, for example, diseases that predominantly affect the Global South, can be justified.

In the rest of the discussion, I examine each of these three boundaries in turn, comparing this understanding of global health security as moral boundaries, borders and divisions with bioethics literature and considering how it can lead to further insights about the empirical

results, help develop theoretical understandings, and enable recommendations – that are to an extent normative – to be made. In Section 9.3, I consider the definitional boundary of global health security, in Section 9.4 I consider the boundary between natural and non-natural outbreaks, and in Section 9.5 I consider the boundary between the national and the global good.

9.3 The definitional boundaries of global health security

This section is the first of three sections looking at the three boundaries of global health security identified. What these examinations add to the understanding of moral boundaries in global health security is exploring how and where these boundaries should be set.

This section explores the definitional boundaries of global health security using symbiotic ethics methods. In particular, the following subsections incorporate Stages 2 to 5 of symbiotic ethics as sequential stages in order to come to a tentative normative judgement. The focus is on how combining the empirical analysis with normative analysis can allow progress on the question of whether the current definitional boundaries of global health security should be extended.

9.3.1 Specifying ethical principles and theories *(symbiotic empirical ethics, stage 2)*

This section presents the analysis of definitional boundaries relating to the second stage of symbiotic empirical ethics of 'specifying ethical principles and theories'. As discussed, part of the work of specifying ethical principles and theories is presented through the qualitative analysis chapters. However, this section reviews and further clarifies what these ethical

principles and theories are in the context of the four moral models of global health security presented in Chapter 6, and how each model can be understood as presenting a different definitional boundary of what global health security should be. Importantly, these are ethical principles and theories as they emerged in the analysis of what interviewees say, rather than abstract ethical concepts at this stage of symbiotic empirical ethics.

In the 'threat' model of global health security large-scale biological events are prioritised, with interviewees adopting consequentialist reasoning about preventing current and future large scale suffering and deaths. Whilst the 'threat model' is my term for the way in which interviewees describe one model of global health security, the ethical argument for this could be summarised as *'the threat model of global health security is correct because it prevents and reduces the suffering and deaths of current and future persons'*. So a consequentialist perspective specified to this context is including those who are currently and in the future vulnerable to large scale infectious disease outbreaks. Because the focus is on large scale outbreaks, whether natural, accidental, or deliberate, the moral unit of focus is incredibly broad, comprising of potentially all current and future persons who could be at risk, but the risk related to each person at any one time may be very small.

This is in contrast to the other consequentialist model in the four models, the humanitarian model. The 'humanitarian' model presents perspectives that may reject global health security and focus on the consequentialist good of helping those that are the worst off in the world currently. In this the ethical principle can perhaps be summarised as '*the duty to prevent suffering and deaths (of which infectious disease is a large cause) in the world today'.* In this

model, the moral concern is also consequentialist but the focus is the currently suffering individual, with less focus on preventing future outbreaks.

In the collective model, the focus is about expanding global health security to include other collective health problems that affect populations living across borders. Its moral basis is grounded in the concept of individual security. It is about instances when collective action is required across borders to enable an individual's right to access and be in control of their own health. In this model, the ethical principle can be summarised as '*global health security should address collective health problems in multiple countries that affect the ability of an individual to obtain their own security'.* Although the unit of moral concern is focused on the individual and their health security, this is more problem orientated to the collective problem requiring collective solutions.

In the 'reframing' model, the priority is working within the global health security system to reframe it to include diseases of the Global South, with a pragmatic social justice approach taken to this. The ethical principle here can be summed up as '*global health security should include infectious diseases of the Global South in order to be just*'. Here, the abstract principle of justice is specified to a context in which a just enterprise must include concerns and diseases relevant to the Global South.

From this summary, it can be seen that the opposing models of what global health security is take four different ethical starting points: Two appear to be based on consequentialist reasoning, but have different loci of moral concern (one focuses on the total amount of suffering including future people, the other places most emphasis on current suffering), the

third is based on a principle of individual health security, and the fourth relies on pragmatic work from the inside of the enterprise to promote social justice. Of these, the threat model, with its consequentialist reasoning seems to reflect the reality of work for interviewees (as discussed in Section 9.2), with the collective and reframing models seeming more aspirational, and the humanitarian model as outside the main global health security paradigm.

9.3.2 Using theory as a tool of ethical analysis and identifying the range of arguments *(symbiotic empirical ethics, stage 3)*

Now that the principles and theories relevant to the definitional boundaries of global health security have been specified, the next stage of symbiotic empirical bioethics is to as use 'theory as a tool of ethical analysis', to which I have added an additional element from engaged philosophy to 'identify the range of arguments'. This stage is understood as looking at and critically assessing the theories and principles described in the previous section that originate from the empirical analysis. In symbiotic ethics this is done primarily through using related bioethical theories as the analytical tool, whereas engaged philosophy uses conceptual analysis to identify and evaluate the different arguments.

A theory-based approach here might involve applying theoretical versions of the principle specified (for example, a consequentialist theory) to each of the models. This would allow a further in depth understanding of how the models differ from theoretical approaches. However, from the interviewee accounts in Chapter 6, it seems like these are already thoughtful perspectives, and the process might only lead to clarifying that all four perspectives have a strong moral foundation. Instead, when looking at the principles and

theories specified in the previous section, it is clear that each of them leads to a number of arguments about the strengths and weaknesses of different definitions of global health security. It is therefore more useful to achieve this stage by focusing on these arguments and their implications. Thus, in this section, I draw more strongly on the process of identifying the range of arguments, as, I suggest, this is more appropriate for the context of the principles specified here.

As I have established that the threat model is likely the current model of global health security for most interviewees, I will look at what the arguments are for expanding global health security beyond this to the collective or reframing models, and the benefits, risks, and implications from this. As well as the interviewee perspectives, there were also perspectives advocating for the expansion of global health security in the literature review (See Chapters 2 and 3, Sections 2.9 and 3.3). Given the confluence of related (but differing) perspectives in the empirical results and the international relations literature this suggests it is an important moral problem for global health security.

The key ethical argument that seems to be implied by both interviewees (Chapter 6, Sections 6.4.2 and 6.4.3) and in the literature (Chapters 2 and 3, Sections 2.9 and 3.3) is that expanding global health security would solve some of the moral problems inherent in it. The argument here would go that, because moral concerns with the current form of global health security include that it benefits the Global North at the expense of the Global South, expanding it to include diseases of the Global South, as per the reframing model, would make it morally better.

A similar, but this time conceptual rather than ethical, argument can be made for expanding global health security to noncommunicable diseases as found in the collective model. If global health security is problematic since infectious diseases cannot be addressed in isolation from the health systems these are managed in, or from the noncommunicable diseases that affect a population's resilience to infectious disease outbreaks, global health security should be expanded to include noncommunicable diseases and health system strengthening. Although this argument is primarily a conceptual argument, this may also have ethical connotations that it is *not fair* to try and manage or fund infectious diseases outbreaks in isolation to other components of health. This is as it may prioritise the security aims of stopping diseases spreading at the expense of persons with ill health, who do not divide ill health by different aetiology of disease, but by those diseases that affect them whether this is COVID-19 or diabetes.

Whilst these are compelling arguments, there are benefits, risks and implications of each of these positions. In the following paragraphs, I will consider some of these in turn. Whilst some of these arguments apply to only the argument for expanding global health security from the threat model to the reframing model, or the argument expanding it to the collective model, others apply to both, and so will be considered together[219].

[219] This is also because whilst separating these models provides clarity on the differences between the models, in practice the distinction will not always be as clear, and interviewee perspectives as well as arguments can be relevant to more than one model.

The first risk is with the argument of making the enterprise morally better by including the concerns of the Global South. The problem with this is that it assumes that the most important moral problem is that global health security does not include the concerns of the Global South. If there were other moral concerns, expanding global health security from a threat model to a wider reframing model would not solve these concerns, but simply mean the concerns were applicable to a wider range of areas. For example, if it was agreed that malaria was a global health security threat, an implication might be to focus on stopping the spread of mosquitoes rather than protecting people in existing areas with bed nets. Here, the moral problem would be about whether it is more important to focus on present persons suffering or future persons that might be affected (as is important in the threat model). This example shows that expanding global health security to further areas does not necessary mean that all moral tensions between the different models are solved.

It can also be asked whether it is necessary to expand the field to address the 'benefit to the Global North' critique. By this I mean, irrespective of whether expanding the definition would solve the Global North critique, it should be investigated whether there may be other ways in which to solve the moral problem that would not involve the expansion of global health security. This is an area in which more research is needed. However, some evidence from the empirical analysis shows that there may be other promising frameworks already in place that could be further developed to meet the moral problem. For example, processes like 'National Action Plans for Health Security' discussed by interviewees in Chapter 8 (Section 8.4.1.1) allow countries to define their own priorities, which donors can pick from. These already appear to

reduce the Global North – Global South power differential, and may be a mechanism through which further ethical progress could be made.

As well as the risks of what expanding global health security might entail, there also needs to be thought given to the conceptual and political implications. An implication to expanding the threat model to encompass a wider range of concerns is that it identifies global health security with the whole of global health. What I understand this as meaning is that, if global health security encompasses all of the areas argued for in the reframing and/or collective models (for example, endemic infectious diseases and noncommunicable diseases) it does not have any specific meaning separate from global health. Changes to the field of health on a global scale have already been frequent, including the phasing out of tropical medicine with its colonial connotations, followed by the change from international health with the nation state at the centre of the definition, to global health with ideas about global solidarity taking the forefront (Brown et al., 2006, Gibson, 2009). In this landscape of rapidly changing terminology, global health security could be the next iteration. This can be seen as both presenting benefits and risks.

Despite some considering the language of global health security to be morally problematic, interviewees found, that a benefit for understanding it as the new global health, was that it provided a useful framing to bring global health to the attention of persons that otherwise would not be involved in it, including foreign ministers in states, as seen in Chapter 6 (Section 6.3.3). Whilst epidemics and pandemics have demonstrated the financial, educational, and

other costs to economies, a similar argument can be made for other causes of ill health to be seen as significant beyond the health sector.

The risks with this approach is that just because the global health security framing is useful to attract attention and funding to areas such as pandemic prevention, does not mean that decision makers will be convinced that something like malaria or cigarettes are a global health security threat as these do not have the elements linked to urgency and transmissibility seen as important in global health security by interviewees (Chapter 6, Section 6.2.2.3). Questions about how ethically special an emergency is, and how this affects motivation to act are seen in the wider bioethics literature (Nuffield Council on Bioethics, 2020) as well as in the global health security literature review. These included concerns that securitising wider areas may not be convincing to policymakers, risking leading to 'global health security fatigue' (Wenham, 2019). This could just mean the framing is ineffective in some areas, but could also risk reducing the effectiveness of global health security overall, or weakening the credibility of advocates working on combatting epidemics and pandemics.

Despite these risks, the expansion of global health could still be the better choice because the division between global health and global health security can be seen as artificial and problematic. This argument has two forms. The first is that global health security cannot be improved separately to health systems strengthening or universal health coverage. This would apply to both the collective and reframing models of expansion. The second is that the boundaries of what diseases are included in global health security are unclear and risk

deprioritising diseases that later become global health security threats. This second argument would apply primarily to expanding the threat model to the reframing model.

For interviewees, health system strengthening and universal health coverage were more commonly seen as related functions to global health security rather than integrated into global health security (Chapter 6, Section 6.2.2.4). This is a similar view to that found in the literature (Chapter 2, Section 2.9), with the most comprehensive article looking at these links coming from Wenham et al. (2019b). Whilst acknowledging the links between the areas, Wenham et al. also note that there are risks. Global health security takes a top-down mitigation approach to reducing risk to global populations whereas universal health coverage is about a bottom-up approach to mitigate the risk of ill health to individuals. Because of these fundamentally different approaches, they suggest health system strengthening is the common ground that both leads towards global health security (otherwise countries cannot detect and respond to outbreaks) and leads towards universal health coverage (which cannot be aimed for unless a reasonable health system is in place).

This approach acknowledges both the synergies and differences between global health security and universal health coverage, and the limitations of the threat model to include them. Whilst the literature explores it in more depth than the interviewee perspectives I presented, there are no contentious differences: Without a degree of health system strengthening, and preferably work towards universal health coverage, global health security is unlikely to succeed. However, in both accounts health systems strengthening and universal

health coverage do not need necessarily to be considered as part of global health security but a related area that must be developed in parallel.

This same synergy was not apparent when considering what diseases are included in global health security. It was not just the interrelation between these areas, but that some interviewees argued that endemic infectious diseases and noncommunicable diseases were part of global health security. A global health security that ignored these interactions could not function effectively, leading to inefficiencies, as per the example in Chapter 5 of an interviewee being requested to set up a laboratory that only tests for Ebola and not Hepatitis B despite the local health needs (Chapter 5, Section 5.6.2).

This is a harder problem. Whilst it seems as if a 'two aligned systems' approach works with universal health coverage, it does not have the same impact to say there is a clear demarcation between diseases of global health and global health security. The 2022 outbreak of mpox as well as the 2015 Zika outbreak shows that those diseases, which were not considered global health security threats, became so for interviewees and in the literature even when they were not expected to. Even Ebola, which now has consensus by interviewees as being a topic of global health security, was not necessarily seen as such prior to the 2014 West African Ebola outbreak (Chapter 6, Section 6.2.2.2). Whilst there is an inevitability about all disciplines being divided by artificial lines, it seems that these lines may be particularly difficult and fluid for global health security.

So far in this section, I have started with outlining the ethical and conceptual arguments for expanding global health security from a threat model to a reframing or collective model, then

considered some of the risks, benefits, and implications from this approach. For this final argument, I take a step back and think about who gets to decide this, particular in reference to the reframing model. In Chapter 2, I found that authorship of the literature was predominantly from the Global North, although this was slightly less so in the during-COVID-19 literature presented in Chapter 3. I found in my recruitment of interviewees that it was harder to recruit interviewees from the Global South. There was also in Chapter 6 (Section 6.3) some differences in who spoke about the moral problems of the Global North – with some initial suggestions that it was the Global North speaking about moral concerns on behalf of the Global South. All this speaks to an understanding of a Global North bias in global health security. This, in some ways, means that the research amplifies this Global North bias – by the predominance of Global North interviewees. However, it also provides supporting evidence of this bias and that this is understood as a concern for those working in the area – including and, almost especially, those from the Global North.

The problem with this Global North bias is that attempts to reduce this bias through including diseases from the Global South in global health security, also seems to be an approach coming predominantly from the Global North. In some ways this may not matter, as some of the interviewees advocating for this are doing so because of deep experience working and living in the Global South, or having international careers but are actually from the Global South – and these people are speaking out thoughtfully. Others working in global health security in the Global South may not be advocating for this because of perceived risk of repercussions for funding if they do so. However, there is a sense that for some of those that did speak from the Global South, that global health security reframing was just another Global North

idea that was indulged when it was beneficial to the Global North. This was seen through an interviewee's astute quote (used in Chapter 5, Figure 7) that *"I do not think that everything must have security as a surname"*. This suggests that to provide convincing evidence that global health security should be expanded to make it morally better, further input from professionals in the Global South should be sought.

This section looks at the one of the key arguments implied in the empirical analysis and the literature that global health security needs to be expanded from a threat model to a reframing or collective model, and then at possible risks, benefits and implications from these. In the next section, I will consider what this analysis adds to the theory that global health security should be expanded.

9.3.3 Theory building *(symbiotic empirical ethics, stage 4)*

This stage is about considering how close attention to the practice of what one is researching can be useful in refining and developing theory, as well as finding whether bioethical distinctions have meaning in practice. In Frith's theory, this stage is closely interrelated to the previous stage, so theory can both arise out of empirical analysis or empirical analysis can be used to develop existing theory. In this context, it is pertinent to consider how the analysis undertaken in the previous section aids in developing or opposing the theory that global health security should be expanded, as seen in both the empirical analysis and the literature review.

Although I have analysed the arguments for expanding global health security in the context of interviewees' moral models of global health security, it is useful to summarise what was

already advocated for in the literature in Chapters 2 and 3 about expanding global health security, before considering what my analysis adds to this. Authors advocated for expanding what is included in global health security in multiple ways, including improving the global health security contribution to the One Health, adding a conception of individual health or human security, implementing global health security in partnership with universal health coverage, and including noncommunicable diseases in global health security. Morally relevant reasons given for these expansions included bringing wider humanitarian concerns focused on the unwell individual and their wider ecosystem back into global health security, delivering a position that is less politically controversial among health professionals, and countering the narrative that global health security is about the Global North protecting its interests.

Compared to this existing literature, one of the most important contributions that my analysis of arguments, along with the empirical analysis presented in Chapter 6, gives to expanding the theory is that it provides a richer and more nuanced set of arguments and considerations. In particular there are two important additions.

The first is that my analysis in Chapter 6 suggests a much stronger account that the expansion of the boundaries of global health security is being called for moral reasons, and there is more than one moral principle specified to advocate for different boundaries of global health security as per the four moral models (see Section 9.4.1).

The second addition is that this analysis of the arguments shows that although there is a strong moral reason to expand the boundaries of global health security to address the moral

concerns that it benefits the Global North at the expense of the Global South, it is not clear that expansion is the best or the only way in which to solve this moral concern. It also shows that that part of the argument to expand the threat model to the collective model may be an argument that is more conceptual than ethical. It reveals that there are significant practical, conceptual, and political – and some ethical - arguments against expanding global health security that must also be considered.

9.3.4 Making a normative judgement *(symbiotic empirical ethics, stage 5)*

From these arguments that help advance the literature on expanding global health security, it can still be asked what this contributes towards progress to making a normative judgement. In symbiotic ethics, the normative judgements are developed by the interaction of reason and theory to achieve a better account, which is defensible by reason and argument (Frith, 2012). However, from the analysis undertaken so far, it is difficult to see what normative judgement would be justified here. It does not seem justified to conclude that the threat model of global health security should be kept, as this does not necessarily address the moral concerns of the enterprise. Yet, the arguments for the expansion of global health security seem to lead to some concerning implications. Therefore, the judgement that I think is justifiable here is as follows:

> *At present, expanding the scope of global health security is not justified as the solution to moral concerns in the boundaries of the enterprise*

This is not a normative judgement, but takes an incremental step towards being able to make a normative judgement in the future.

The reasons why this is justified are seen though this interaction of the literature, empirical analysis, and examination of arguments. The idea over a contested definition and advocating to expand this was seen in the literature, and then the moral reasons behind this were explored in depth in the empirical analysis. Using the evidence from both of these sources to look at possible arguments for expanding global health security, my examination showed that the balance of risks to benefits in expanding the definition of global health security have not been sufficiently considered.

Important to this judgement is that this applies at present. It is not that a moral case cannot be made for expanding the definitional boundaries of global health security but my analysis suggests that the case for this being the only or best solution for solving these moral concerns has not been demonstrated. It also does not exclude that there may be empirical reasons to expand, the strongest of which might be to do with the artificial divide between global health and global health security. However, this expansion would then need to be established using research methods beyond this section which focuses on argument analysis.

9.4 The boundary between natural, as opposed to accidental and deliberate outbreaks

Moving from the previous section that focuses on my analysis of the definitional boundaries of global health security as experienced by interviewees, this section explores the second moral boundary identified in global health security at the start of this discussion: how interviewees set boundaries between how roles, resources and responsibilities within global health security should be divided in natural outbreaks, as opposed to accidental or deliberate

outbreaks. Like with the previous section of the discussion, the structure of this will be divided as per the latter steps of symbiotic empirical ethics.

9.4.1 Specifying ethical principles and theories *(symbiotic empirical ethics, stage 2)*

The way in which the ethical principles of resource prioritisation, role allocation and responsibilities are specified from general principles to being applicable to global health security in the empirical analysis in Chapter 7 is through whether an outbreak has natural, as opposed to accidental or deliberate origins.

In Chapter 7 (Section 7.3), there were competing concerns expressed by different interviewees about whether more resources should be allocated to natural outbreaks compared to deliberate or accidental outbreaks, with views on both sides. The principle that can summarise these perspectives is '*resources should be appropriately prioritised for preventing and responding to outbreaks depending on whether an outbreak is natural as opposed to accidental or deliberate.'*

A similarly phrased principle can be made for role allocation, based on the empirical analysis in Chapter 7 (Section 7.4) that interviewees thought there may be different professions with varying degrees of duty for acting on natural outbreaks, as opposed to accidental or deliberate outbreaks. The principle can be articulated as *'there should be appropriate roles attributed for preventing and responding to outbreaks depending on whether an outbreak is natural or whether accidental or deliberate.'*

How differences in responsibility apply to different outbreak origins is seen in Chapter 7 (Section 7.5) through interviewees having a greater focus on responsibility to prevent accidental and deliberate outbreaks from occurring, with little attention given to preventing natural outbreaks from occurring. So, the principle of responsibility in the analysis can be summarised as, *'there should be appropriate responsibility attributed for preventing and responding to outbreaks depending on whether an outbreak is natural or whether accidental or deliberate. '*

What is key is that the division of natural outbreaks as opposed to accidental and deliberate outbreaks is important for how these ethical principles are understood by interviewees.

9.4.2 Using theory as a tool of ethical analysis and identifying the range of arguments *(symbiotic empirical ethics, stage 3)*

The previous section and my analysis in Chapter 7 together suggest that the division between natural outbreaks and accidental and deliberate outbreaks is important for thinking about allocating roles, resource and responsibility for interviewees. This section uses theory as a tool of analysis to critically consider the analysis presented in Chapter 7 and look in depth at the concept of a natural outbreak.

The reason that natural outbreaks are focused on, rather than accidental or deliberate outbreaks, is that interviewees specified what an accidental or deliberate outbreak was by referring to laboratory accidents or bioweapons incidents respectively (Chapter 7, Section 7.2) but for natural outbreaks there seemed to be a shared assumption amongst interviewees that this was well understood. However, what that shared assumption was, was unclear from

the empirical analysis, yet it is important to understanding how the ethical principles specified apply.

The theory used as a tool of analysis in this section is Helena Siipi's influential[220] taxonomy of naturalness (2008). The reason why this is the best theory to use in this process is that Siipi includes a particularly wide range of literature in her analysis of reasons of why an entity can be considered natural. Whilst a lot of literature in bioethics considers naturalness, this focuses on situations where it is claimed that naturalness is itself a normative concept, for example, on the validity of claims that something is good because it is natural. [221] As I noted in Chapter 7, it is not that the naturalness of an outbreak is a term that seems to be used with moral connotations, but that this is a dividing factor for thinking about these areas. Therefore a wider lens on what naturalness means was necessary, which is what Siipi's analysis offers.

Siipi divides reasons for (un)naturalness into three categories. Figure 10 outlines what these categories are.

[220] Cited by 145 other papers in diverse disciplines as well as policy reports at time of writing

[221] The Nuffield Council on Bioethics report has a clear overview on the different implications of naturalness (2015)

Figure 10: Siipi's reasons for (un)naturalness (2008)

- **Relation-based (un)naturalness** considers when relations between entities might be seen as unnatural by being odd or unfamiliar, such as certain sexual preferences being seen as unnatural. This definition is unlikely to be relevant to natural outbreaks: Whilst engineered pathogens could be seen as objects of fear, there is also fear and disgust about natural pathogens, for example, the lesions of bubonic plague.

- **History based (un)naturalness** considers how an entity came into being and/or any modifications to change its form (for example, a cloned sheep might be considered unnatural even if it has no characteristics different to a sheep bred through traditional methods). In bioethics, naturalness is often seen as a state of affairs not subject to interference by humans. Unlike relation-based unnaturalness, this is relevant since accidental outbreaks can be distinguished from natural outbreaks according to whether they have a history of being contained in a laboratory or not.

- **Property based (un)naturalness** considers current properties and features of an entity, with an example being those that consider organic farming more natural than traditional farming. This has more relevance to outbreaks with the understanding of accidental or deliberate outbreaks as having properties more severe than natural outbreaks, through elements such as the deliberately increased pathogenicity of a pathogen. However, properties like increased pathogenicity are unable to be separated from the history of the work of cultivating, editing or synthesising that pathogen.

Of these three reasons for unnaturalness, I think my interviewees understanding of outbreak origins seems to have its reasoning in history-based (un)naturalness. This is because if history-based unnaturalness is defined by something in the history of the entity been interfered with by humans, this would separate outbreaks, as interviewees did in Chapter 7 (Section 7.2), as caused by pathogens existing in nature, from those that are unnatural because they have a

history of being engineered by scientists, or accidentally or deliberately released from a laboratory. This is considered in more depth in the following paragraphs.

Looking at this in more detail, history-based naturalness is understood in three ways (Siipi, 2008). In the first, the concept of historical naturalness is completely distinct from human intervention, an account seen through Mill (1904) amongst others. In a bioethics context, this has more similarity with Harris and Holm's dismissal of moral arguments from naturalness in medicine when they suggest that the *"argument from what is or is not natural need not detain us long"* because *"the whole practice of medicine is unnatural (people naturally fall ill and die prematurely)"* (Harris and Holm, 2000, p.19). Although this dismissal is about the moral argument in medicine that natural 'healthcare' cannot be morally superior because all of medicine is unnatural, it is possible to dismiss this understanding of naturalness in outbreaks in much the same way. By the standard required of 'no human intervention', no outbreaks would be natural. All outbreaks in some way involve human interaction with the environment around them, whether this is though humans living close to animals, working with pathogens in the laboratory, or human behaviours contributing to the spread of outbreaks (Vora et al., 2023).

The second way of understanding history-based unnaturalness is that the reason for an entity being considered natural is that it has properties independent of a certain type of defined human activity or production (Siipi, 2003). In the case of outbreaks, the activity could be to intentionally bring into existence a pathogen which has been developed to have certain properties, such as either a fully newly synthesised pathogen (an example would be the *de*

novo synthesis of horsepox (Noyce et al., 2018)) or a natural pathogen that has been altered in the laboratory[222], for example, through gain of function research.

However, this would draw a different division between natural, accidental and deliberate outbreaks than interviewees used in Chapter 7. For example, in Section 7.2 of my analysis when I quoted one of my interviewees as explaining what a natural, accidental or deliberate outbreak is as *"whether it's [the outbreak's] intentional like a biowarfare incident or accidental like a laboratory release or something natural, right?"*. This is because accidental outbreaks seem to include the accidental release of natural samples (that is, those collected from the environment) from a laboratory. Thus, if a scientist had collected a sample from an outbreak in the US and shipped it to Germany, and somewhere along the way that virus infected the carrier, this would be an accidental outbreak, but the sample in question would not have been altered by human intervention. This seems to imply that the terms of natural, accidental, and deliberate do not simply correspond to human interference into the type of pathogen but another quality.

The third type of historical (un)naturalness is naturalness as a continuous gradient. Here, rather than having a sharp demarcation between naturalness and unnaturalness there is a continuous gradient with some entities seen as more natural than others depending on the history of human interference with it. An outbreak could be more or less natural, with the gradient running from a more natural outbreak *(for example, caused by inadvertent zoonotic*

[222] I use laboratory as a catch all term to include everything from academic research laboratories, to industry to military facilities, to at home garage experimentation.

transfer from a wild bat), to a degree of unnaturalness *(for example, collecting a sample from the bat to study and take back to the laboratory)*, and a high degree of unnaturalness *(for example, in altering that sample from the bat in the laboratory to have increased human transmissibility)*. Understanding natural and unnatural outbreaks as on a gradient would account for some of the complexity within this area.

If categorising outbreaks as natural, accidental, and deliberate is useful for those working in global health security, as Chapter 8 indicates, there would still need to be divisions set on this gradient to form these categories. However, if outbreaks that belong to natural, accidental and deliberate categories by interviewees' definitions, are ranked from natural to unnatural, this still seems to leave some 'natural' outbreaks as having more human interference involved than accidental outbreaks. For example, the Variant Creutzfeldt–Jakob disease outbreak[223] in the UK in the 1990s was attributed to industrial farming practices (humans eating beef from cattle fed meat-and-bone meal from other cattle or sheep). This would still be a natural outbreak according to how interviewees, literature and policy documents appear to draw the division. [224] However, if a sample from a 'natural' outbreak was collected and somewhere

[223] This a prion disease leading to progressive neurological degeneration and death

[224] To give some corroborating evidence to my assertion that natural outbreaks are also seen this way in policy and the literature comes from the following two examples:

A 2020 guide to investigating outbreak origins which suggests *"the risk of natural outbreaks is increasing as unchecked population growth, industrial expansion, and corresponding ecological disruption increases the likelihood that novel disease agents will come into contact with naïve human populations"* (Pilch et al., 2020) This thus includes clearly anthropogenic elements such as industrial expansion as leading to natural outbreaks.

along the way that virus infected the carrier, this would be an unnatural – accidental - outbreak, despite there being arguably less human interference than for the Variant Creutzfeldt–Jakob disease outbreak.

Thus, although at first sight the concept of a 'natural outbreak' seems to be consistent with Siipi's concept of history-based naturalness, when examined more closely there are problems with understanding naturalness as distinct from human intervention, as caused by a pathogen that has not been intentionally altered, or on a gradient from natural to unnatural. The message that can be taken from this is that what interviewees refer to as a 'natural outbreak' does not seem to have a firm conceptual foundation when Siipi's taxonomy of naturalness is used as a tool to examine the empirical concept.

The strengths of Siipi's categorisation as the theoretical tool in this context is that it includes philosophical understandings of naturalness from a range of literature in both bioethics and environmental ethics. This broad taxonomy gives greater confidence in the judgement I am making, which is that the natural outbreak categorisation - as per my analysis of interviewee perspectives in Chapter 7, and corroborated by some evidence from policy and other

A 2017 paper by Novossiolova (2017) that outlines examples of accidental and deliberate outbreaks, but limits discussion of natural outbreaks to confirm the commonality of natural outbreaks such as SARS, H1N1, MERS and Zika. Despite mentioning vCJD as an example of a costly outbreak earlier in the article, no mention of industrial farming as a factor for accidental outbreaks is made, with instead examples including situations where a pathogen is released from a research, industrial or military laboratory through an human error leak or damage to the laboratory due to conflict or natural disaster, human error accidents during the transportation of biological agents for industrial, research or military purposes, or contamination from previous accidents or facilities previously used for the production, storage or testing of biological weapons.

literature in this chapter - is not a robust conceptual category, rather than that I have not yet understood what the conceptual basis for the category is.

9.4.3 Theory building *(symbiotic empirical ethics, stage 4)*

In the last section, I have suggested that interviewee accounts of naturalness do not seem to be a robust conceptual category. In this section, it is about moving forward to think about how the empirical analysis might provide an alternative theory of natural outbreaks in global health security, and whether the analysis that naturalness is not a clear conceptual category makes an ethical difference.

In this section, I theorise that the category of a 'natural outbreak' is not a conceptually robust category (as demonstrated in the above section), but has arisen because it is a category of exclusion, to distinguish outbreaks that are neither accidental laboratory leaks nor deliberate biological weapons attacks. Although there was no definitive evidence in the analysis presented about when the terminology of 'natural outbreaks' originated, it is possible that this only developed out of the interest in accidental or deliberate outbreaks. The evidence that suggests this is in Chapter 6 (Section 6.2.2.6), in which my analysis showed that whilst all interviewees discussed outbreaks that would be included in the natural category (for example Ebola), the use of the 'natural, accidental, and deliberate' terminology was primarily by those who had a role in accidental or deliberate outbreaks. Here, the categories of accidental and deliberate outbreaks are being increasingly needed because of the growing risks of accidental or deliberate outbreaks as the technology to alter pathogens becomes more common and the number of laboratories that undertake pathogen research is increasing (Musunuri et al.,

2021). As such, it is possible to support the perspective seen in interviewees that the terminology of accidental and deliberate outbreaks is useful and important in distinguishing this newer area of work, but still be concerned that the category of natural outbreaks is not conceptually robust.

This again, leads to the question of why the lack of a robust category of natural outbreaks is important. The importance is because in Chapter 7, the analysis demonstrated that a significant part of the way in which interviewees understand global health security is as space best understood as a matrix of roles, resources, and responsibility against whether an outbreak is natural, as opposed to accidental or deliberate. This means that if the disease origin categorises are not robust, it may become problematic to base differences of approach on the category of an outbreak being natural.

For example, in considering the analysis of responsibility in Chapter 7, interviewees understood actors could be responsible in a range of different ways and degrees during different stages of an outbreak or different types of outbreak, but thought more about responsibility for causing an outbreak to occur in the context of accidental and deliberate outbreaks than natural outbreaks (Chapter 7, Section 7.5). When considering the responsibility for causing an outbreak to occur, the terminology of accidental or deliberate outbreaks imply a responsible agent who made a mistake leading to an outbreak occurring or

set out with the intention to cause harm (Nuffield Council on Bioethics, 2020).[225] With natural outbreaks, the implication of the terminology seems to be that no one is responsible for causing them to occur, as an agent might be for an accidental or deliberate outbreak. This is clearly not always the case. For example, risk factors of wet markets and the illegal wildlife trade, which were included by an interviewee in Chapter 7 (Section 7.5) seem to be anthropogenic risk factors that might lead an individual, organisation, or state to have responsibility to prevent an outbreak from occurring.

There may also be political risks in terming something a 'natural outbreak'. Parallels between the 'natural outbreak' terminology in this section could be seen with the theory in disaster studies that there is no such thing as a natural disaster. The central concept in this idea is that whilst some natural hazards (for example, earthquakes) may not be preventable, the disaster that can result from that earthquake is to an extent caused by human action through actionable vulnerabilities that can be prevented, such as through planning and regulation of

[225] It is out of the scope of this thesis to delve into this further but another factor that could be explored here is how causal responsibility or responsibility to prevent or detect might lead to moral blameworthiness (Shaver, 2012). When considering responsibility to prevent or respond, an agent might be morally blameworthy if actions were insufficient or not up to a standard, or one could have a responsibility but not be blameworthy if despite best efforts an outbreak happened – this would vary by case. It would seem like all actors with malicious intent that were causally responsible for a deliberate outbreak would be morally blameworthy. However, with accidental, or sometimes 'natural' outbreaks, it could be seen that an individual, an organisation, or a state could be morally blameworthy on some occasions. For an accidental outbreak this might include an individual not following biosecurity protocols, an organisation not providing sufficient training and procedures to enable safe handling of pathogens, or a state for insufficiently regulating the balance of risks to benefits of high risk research. In this area there is a whole body of research looking at responsible conduct in the life sciences, although progress on implementing this is more limited (This literature review provides a comprehensive overview of this field: Perkins et al., 2019). For a 'natural' outbreak, this might include, if a farmer engages in high risk practices such as meat-and-bone meal for profit despite this being banned and alternate options available.

housebuilding in high risk areas for earthquakes[226] (Ball, 1975, O'Keefe et al., 1976, Gaillard et al., 2007, Gould et al., 2016, Chmutina and von Meding, 2019, Kelman, 2020). The problem with these being termed natural disasters is that this leaves less conceptual or political room for an agent, often the state, to be causally responsible for the consequences from the natural hazard: When applied to 'natural outbreaks' it is possible that a similar political risk may arise, and this could have unwelcome ethical consequences in not attributing justifiable responsibility.

9.4.4 Making a normative judgement *(symbiotic empirical ethics, stage 5)*

In this analysis, I have used Siipi's taxonomy of naturalness as a tool to reflect on the analysis presented in Chapter 7. This has enabled me to identify a number of limitations to the clarity and utility of the concept of a 'natural outbreak'. I have suggested instead that natural outbreaks in the interviewee accounts is better understood as a category of exclusion, that is, a category whose utility lies in its opposition to categories of accidental and deliberate outbreaks. I have then looked at the risks if this is the case, particularly the implications for responsibility in natural outbreaks. The normative judgement that may be drawn from this interaction of the empirical data and theory is:

[226] It can be debated empirically how far these consequences can be mitigated, with examples that might range from a meteor being very hard to mitigate, and, for instance earthquakes in certain areas of the world being much more predictable and thus able to mitigate for. However, this is a complex picture – earthquakes in a common area have a reduced impact through building regulations but there is still likely to be some poor consequences. Some meteors might not be stoppable but evacuation plans could still be in place.

> *As the categorisation of natural outbreaks is not clear conceptually, there needs to be care that accepted thinking or policy in the field of global health security does not start with the assumption that responsibility should be seen as necessarily and in all cases different or less important in natural outbreaks, as opposed to an accidental or deliberate outbreak, without further work to establish the basis of this claim.*

In this I am suggesting that further conceptual or policy work may be needed to justify why something is a natural outbreak if this is the distinction that is useful in global health security, as it appears to be from the analysis in Chapter 7. Simply categorising an outbreak as 'natural' does not mean that it is an event free from all human action and responsibility. Often natural outbreaks will be the result of chains of causation that have in them actions of humans with regard to which attribution of responsibility may be appropriate. It could be that the category of natural outbreaks should be changed, but such a claim cannot be justified from this analysis alone. However, possible options are discussed later in the implications for policy (Section 10.3).

Whilst a critical approach is taken in this section, I am importantly not suggesting that outbreak origins is not a useful boundary in global health security when thinking about ethical principles, as the analysis in Chapter 7 shows that this differentiation is useful and important for interviewees. It is also likely that for some of the time, the differentiation between natural outbreaks and accidental or deliberate outbreaks does work and is useful. However, since thinking in the field may sometimes, as seen in Chapter 7, be considered in terms of categories, not having a clear category of what it means to have a natural outbreak is problematic for ethical judgements based on this.

9.5 Nationalism and the importance of geopolitical borders

In this section, the same symbiotic ethics method used in the previous two sections is used to reflect on nationalism as a theme analysed in Chapter 8, a cross cutting theme in the thesis, and the third moral boundary identified in Section 9.2 of this discussion. As the idea of nationalism and how important geopolitical borders are is so intertwined through the empirical analysis and yet was an ethical challenge to interviewees, it was important to consider what combining the empirical analysis with normative analysis might be able to contribute to thinking about this boundary.

9.5.1 Specifying ethical principles and theories *(symbiotic empirical ethics, stage 2)*

In this the second stage of symbiotic empirical ethics analysis, ethical principles and theories that originate from the empirical analysis are reviewed and further clarified. In the case of considering nationalism, the principle that was common to interviewees perspectives was that there was a *'balance between legitimate concerns for one's own citizens' wellbeing and a legitimate interest in the wellbeing of the global population more broadly'*. This was illustrated in Chapter 8 through interviewees concerns with vaccine nationalism and ways by which interviewees justified or sought mechanisms to mitigate nationalism in their work.

9.5.2 Use theory as a tool of ethical analysis and identify the range of arguments *(symbiotic empirical ethics, stage 3)*

When it came to the third stage of symbiotic empirical ethics, choosing a relevant theory as a tool for analysis in this section was straightforward: The ethical principle that emerged from

my analysis, and the terminology used by interviewees, both suggested that the concept of nationalism in political philosophy would be appropriate here. Nationalism is the idea that greater duties are owed to the fellow nationals of your country than to global non-citizens. For this to be a coherent moral perspective, the argument must be made that there is a moral basis for this partiality. When this is applied to issues of global justice, the crucial question is, given the moral grounds for partiality within nations, what, if anything, is owed to those disadvantaged outside the nation? (Miller, 2007, Dahbour, 2011, Wolff, 2012). This perspective contrasts with cosmopolitan perspectives, which at their most extreme see no moral significance to borders, and all persons with equal claim to aid (Singer, 1972).

In this section, I am using one nationalistic theory, Miller's National Responsibility and Global Justice (2007), as a tool to consider how my analysis of interviewees' perspectives on nationalism differs from this theory. I chose this theory specifically because it shows how a nationalist theory can have significant implications for global justice, and is seen as one of the most influential alternatives to global cosmopolitanism that manages to be *"philosophically innovative and empirically realistic"* (De Schutter and Hazenberg, 2011). This is a useful and important comparison to the empirical analysis in this thesis, because Chapter 8 showed that interviewees understand that national interests should be considered in global health, but seem to consider nationalism as no more than the political perspective that we should only favour our own country. It is thus useful to see if the conflict interviewees find between nationalism and global egalitarian still applies to a form of nationalism that is also a theory of global justice. Before using Miller's nationalism as a tool to analyse the empirical data with, it is necessary to outline the key components of this, as follows in Figure 11.

Figure 11: Miller's nationalism (2007)

Miller's nationalist theory of global justice suggests that nationals within a country have special duties of relationships to each other. These relationships have to be more than contractual (for example, a social contract for taxes to fund healthcare) and are intrinsically valuable (as most people perceive value in a national identity that is more than the goods this entails). For this to be a special relationship, it should not intrinsically involve injustice to outsiders, such as a group based on a racist ideology.

This special relationship means that nations should be treated as collectives of individuals with shared responsibilities. The source of these collective responsibilities are group like-mindedness (sharing aims and values) and cooperative practices (receiving the benefits of national communities, such as social support). If this national collective responsibility is accepted, the nation is causally responsible for both the advantages that nation accrues but bears global liabilities for the harm it causes.[1] This includes responsibility for the national past, as present members of the nation are beneficiaries from past actions such as inherited territory and national language.

Global justice does not require equality between countries, as this would not be compatible with the successes nations deserve to accrue. However, there is a global minimum that everyone can lay claim too, seen here as respect and protection for basic human rights needed for a decent life including being able to have education, work, and leisure. Nations therefore have responsibility to ensure that minimum standard is met globally.

Where this standard is not met, for example in a famine, a nation might have outcome responsibility *(which can be summarised as the responsibility we have for gains and losses resulting from our actions)* and remedial responsibility *(which can be summarised as the responsibility we have to relieve harm and suffering when we are able to do so even if we do not have causal responsibility for that harm)* to mitigate it. To decide on what party, whether nation, international organisation, NGO, might have responsibility for a particular situation, Miller suggests a 'connection theory of remedial responsibility' in which factors including moral responsibility, causal responsibility, benefit, capacity or community may be appealed to when assigning remedial responsibility.

Also important is fair terms of cooperation between countries, meaning an international order that allows societies adequate opportunities to develop (e.g. through fair access to global markets). Countries that perpetuate an unfair global market (e.g. through imposing unfair tariffs) are responsible for another country's losses that result from that unfair market. One problem that Miller acknowledges with his theory is that this does risk a justice gap, which is the gap between what poorer countries can claim to meet basic human rights obligations and what rich countries are obligated to do as a matter of justice to meet these claims. However, whilst this may be so, an application of Miller's theory would still significantly reduce global injustice.

Now I have established what Miller's nationalism is, I will use this nationalism as a tool to analyse interviewee perspectives on nationalism to look for synergies and differences.

The first difference between interviewees use of nationalism presented in my analysis and Miller's nationalism, is that although interviewees see the balance between concerns for one's own citizens' wellbeing and the wellbeing of the global population more broadly, the term nationalism for them comprises only 'concerns for one's own citizens' wellbeing'. The evidence for this is seen in Chapter 8 through their perspectives on vaccine nationalism as having gone too far (Section 8.3), strategies to mitigate and justify nationalism (Section 8.4), and their use of the term self-interest as well as nationalism (Section 8.4.1.2). Thus, what interviewees refer to as nationalism is about concerns for one's own citizens' wellbeing and this is always contrasted with the wellbeing of the global population. Therefore, when comparing Miller's nationalism to what interviewees refer to as nationalism, self-interest might better describe the concern expressed by interviewees in the empirical analysis. The argument behind this is that infectious diseases travel over borders, and thus to avoid pandemics we need to combat them globally to stop them affecting our own countries. This is not a moral prioritisation of those within the same country as in Miller's nationalism, but a simple basis of acting abroad in order to help us back home.

An example of how this self-interest can work in a positive way is from Benatar et al. (2003). They give the example that the resources used to prevent one carrier of Hepatitis B infection in the UK could be used to prevent 4000 carriers in Bangladesh, of whom we might expect four to migrate to the UK. By this logic (and the evidential case may well have changed by

now), there is a self-interest in the UK promoting Hepatitis B vaccination in Bangladesh. The risks with this argument is, if the main rationale for global health security is in getting these benefits back, there might be multiple occasions when a better case could be made for an intervention nationally rather than internationally, for example, strengthening surveillance at borders rather than vaccinating those abroad (Wolff, 2012). This would risk moving interventions in global health security further from the global egalitarian idea interviewees' aim for, and so it is understandable why self-interested perspectives like these are seen negatively by interviewees when thinking about areas like vaccine nationalism.

However, this understanding of nationalism as self-interest is only part of the principle specified in Section 9.5.1, which was a balance between legitimate concerns for one's own citizens' wellbeing and a legitimate interest in the wellbeing of the global population more broadly. Although they do not see this balanced perspective as relating to nationalism, this is the area in which there is synergy between Miller's theory and interviewee perspectives: that there are both obligations within a nation (especially for interviewees working for government programmes), as well as global duties. In particular Miller's differentiation between remedial and outcome responsibilities help explain some of the distinctions in the empirical analysis and will be explored in the following paragraphs.

The idea of remedial responsibility *(the responsibility we have to relieve harm and suffering when we are able to do so, even if we do not have causal responsibility for that harm)* shares some similarities with interviewee perspectives on what I termed global egalitarianism in respect of the importance of saving lives and reducing human suffering. When applying the

concept of remedial responsibility to global health security, as defined by interviewees, this would lead to nations having a duty to engage in work beyond their borders to improve global health security. This duty would likely be for nations, predominantly Global North nations, to have remedial responsibilities to relieve harm and suffering caused by outbreaks[227] (or other events depending on which moral model of global health security is used), when the affected country does not have sufficient resources to adequately respond. The resources needed are likely to be both financial and human resources in specialised areas, including infection control, epidemiology, and developing, testing, and deploying vaccines and countermeasures. This provision of resources to nations in need is seen as a core part of the work of global health security in Chapter 5.

However, there may be differences between how interviewees perceive the duty to help others, and the limits of Miller's nationalism. Remedial responsibilities would not mean working towards global equality, as Miller suggests that nations need to take responsibility for the good or bad consequences of actions too – rather than for equality be strived for despite these actions. An example of this might be the UK population bearing the consequences of voting to leave the European Union on the ability to attract European healthcare workers to the UK.[228] Whilst it is unclear quite how far interviewees take their global egalitarian perspectives, it is questionable whether remedial responsibility is sufficient in global health security; interviewees may want to aim for equality rather than just remedial

[227] For outbreaks, this harm and suffering could be directly caused by an outbreak (for example through incapacitating illness and risk of death) or indirectly (for example through government restrictions on work leading to food poverty).

[228] By Miller's theory, all of those living in the UK have responsibility for the 'Brexit' consequences even if they did not vote for it because of all the other benefits the population shares by being part of the UK.

action. Despite this, the idea of global responsibility to act when extreme suffering is happening, with less emphasis on striving for sustainable equality between nations, does share commonality with the priorities in the humanitarian model of global health security in Chapter 6.

Remedial responsibility is also not the only duty a nation might have in promoting global health security in Miller's nationalism: it could have outcome responsibility, or the responsibility we have for gains and losses resulting from our actions. This is a concept relevant to interviewees understanding of ethical principles in global health security in several areas. Receiving benefits of your actions is seen in the justifications for nationalism, in which some interviewees emphasised negotiating skill in ensuring bilateral relationships in global health security as achieving 'win-wins' for both parties (Chapter 8, Section 8.4.1.1). It was also seen in Chapter 7 (Section 7.5), in looking at responsibility for negative consequences. In this, responsibility for causing an outbreak could occur due to an outbreak being due to careless practices in a laboratory, an agent deliberately causing it to happen, or through intensive farming practices. Where these outbreaks could have been preventable through better practices (for example, strong biosecurity practices in a laboratory), and go on to cause harms to other nations, Miller's theory might suggest that the nation where the outbreak originated might also have some causal responsibility to mitigate these harms, if it has the resources to do this. This is a similar idea to that of climate change reparations to nations that suffer the burdens of climate change, that have been caused by others nations' carbon dioxide emissions (Tol and Verheyen, 2004).

An interpretation of Miller's framework for global health security would make room for these complex relationships of desert and responsibility. Of course, this would need to be a limited responsibility for some nations in which the resources needed to prevent incidents happening are prohibitive for that nation, for example, in a low income country in which there is risk of zoonotic diseases from a village that eats 'bushmeat' due to food scarcity. It would not be just for this nation to have responsibility for compensating other nations for an outbreak that occurs. However, as Section 9.4 suggests, those other nations might have some causal responsibility here too through anthropogenic risk factors that they have contributed to (here, for example, through that same village being unable to have a sufficient crop harvest due to extreme weather events attributed to climate change). In reality, these ideas of responsibility are complex, and out of the scope to explore in depth in this thesis. However, importantly Miller's connection theory of remedial responsibility provides a structure for exploring some of this complexity through both remedial and causal responsibility, amongst other factors (see Figure 11).

Whilst I have considered how Miller's theory might lead to a stronger duty of global health security that is based on principles that seem, to an extent, in accordance with the expressed values of interviewees, there are also key areas in which Miller's nationalism does not provide advantages as a framework when applied to the empirical analysis. In the empirical analysis, particularly in Chapter 5, it was shown that that a large part of the work of global health security is in the prevention of infectious disease outbreaks, not just the response. Thus, when thinking about whether there is a global health security duty from Miller's theory, it is not clear how this applies for future outbreaks. For example, it is hard to see how a remedial

responsibility for alleviating human suffering could lead to sustainable improvement of a surveillance system in a country before they have suffered from the effects of such an outbreak. This is particularly so given the unpredictable nature of outbreaks.

There may be also elements that interviewees advocate for including in global health security that will not be seen as a remedial or causal responsibility, particularly in the reframing and collective models. For example, in Chapter 5 when interviewee chose to include of Hepatitis B as a local testing need when setting up a laboratory for Ebola testing (Chapter 5, Section 5.6.2). Although chronic Hepatitis B is disabling and stigmatising to sufferers, this is not likely to lead to international remedial responsibility: Whilst persons who develop sequelae of chronic Hepatitis B might not meet the minimum standards required for a decent life, if this affects only a minority of a population, it is unclear that this meets this high bar for external remedial intervention in the way an Ebola outbreak would, with risk of mass deaths. Nor is it likely to be attributed to a causal responsibility. Hepatitis B is unlikely to be caused by the preventable and/or unjust actions of another country. Whilst, one way to answer this might be to suggest that Hepatitis B is not therefore a global health security problem (as it would not be included in the threat model as outlined in Chapter 6), this would be in opposition to those with perspectives that align more to collective or re-framing models of global health security.

In this section, I have shown that whilst the nationalism that interviewees discuss seems to be a problematic concept of self-interest, their perspective on the importance of balancing national responsibilities and global responsibilities shares similarities with Miller's theory of

nationalism, particularly around concepts of global remedial and causal responsibilities. However, it is also difficult to see how interviewees' prioritisation of preventing infectious disease outbreaks or chronic diseases would be applicable to Miller's nationalism.

9.5.3 Theory building *(symbiotic empirical ethics, stage 4)*

In the last section, I have compared the empirical analysis on the balance between national good and global good with Miller's nationalism. In this section, I consider how this evidence might be used towards starting to a developing a theory of how nationalism is currently seen, and how it should be seen in global health security.

In this section I suggest that interviewees narrower conception of nationalism (that I posited was more akin to self-interest in the previous section), can be seen almost to become a 'bogeyman' that interferes with their work. It is not the strong political philosophy theory of Miller's nationalism, but something to be avoided, or mitigated. Within this, 'global' could be understood simply as any national public health or health security agency needing to pay attention to the situation globally because of the risk of outbreaks crossing their borders. This contrasts with the global effort to make health more secure, in which a much broader conception is used based on egalitarian principles that interviewees support. Interviewees seek the second meaning of global, but sometimes find themselves trying to avoid the nationalism/self-interest 'bogeyman' in their practice.

This 'bogeyman' of nationalism/self-interest may also be influenced by the recent literature, particularly around vaccine nationalism. From the critical interpretive review of the literature in Chapter 3 (Section 3.5.3) vaccine nationalism was seen as unjust, unfair and out of keeping

with global solidarity – these present a limited negative conception of nationalism. An example of this comes from the otherwise excellent paper by Emanuel et al (2021) when they say:

> *Radical nationalism rests on the view that a government's legitimating function is to protect and promote its own residents' well-being. Radical nationalists hold that, as a result, governments are permitted—even required—to strictly prioritize their own people's interests.*

At the end of the first sentence in this quote, they reference Miller as one of only two references for this *"radical nationalism"*. This is an unusual reading of Miller, which is primarily about what accepting a perspective that national borders are morally significant means for what we owe the world's poor. This particular example may be just a momentarily lapse in referencing, but is still a negative oversimplification of a complex field.

There also appears a risk that this bogeyman is self-perpetuating by interviewees because of their need to demonstrate benefit back to the donor country in global health security programmes. In the previous chapter on definitions, one of the factors in Chapter 6 was the usefulness of framing a global health problem as a wider international security problem to gain the interest of government outside the health sector (Section 6.3.3). This creates an incentive to justify programmes in light of self-interest benefits back, even if the person advocating that benefit back does not believe this is the right reason to undertake the programme.

However, my analysis has also shown that nationalism, by Miller's theory, does not need to be a bogeyman in global health security: the balance between the national good and global good is seen in both interviewee perspectives and Miller's nationalism – suggesting that these interviewee perspectives may have more in common with this nationalism than perhaps with many cosmopolitan theories that do not allow for any national partiality. Although there are elements in Miller's theory that raise problems when applied to global health security aims and values that interviewees prioritise (including justifications for preventative aspects of global health security), these problems are not necessarily insurmountable, but have not been considered before as Miller's nationalism has not been applied to global health security. This nationalism would, however, lead to remedial and causal responsibilities globally that are significantly cohesive with interviewees perspectives, as well as maintaining that nations have outcome responsibility for their own actions that protect or put at risk their citizens.

So where does this leave nationalism in global health security? Although most of the thinking about nationalism in the global health security literature is focused on structural distinctions between global health and global health security (see Chapter 2, Section 2.6.3) a new trend has emerged from the narrative of this problem in the global health security literature. This is the argument that calls for a solution between utopian cosmopolitan thinking in global health security and *"extreme"* nationalism, in articles like the before mentioned Emmanuel *et al*. (2021)[229]. The in-between solution also seems to be implicit in some of the data presented in Chapter 8 and discussed in this section: The recognition is that a solution has to

[229] Although I have argued that Miller's nationalism cited here is no such extreme nationalism.

be found that takes seriously both nationalism and global justice. To bridge this gap, there are calls for a "*wise"* or *"enlightened"* self-interest in global health security (Gostin, 2014b, Kamradt-Scott, 2008, Kickbusch et al., 2015). However, it is unclear what these vague calls would entail. This section can provide some evidence into what such a theory might consider, and thus help to develop a theory of wise nationalism.

A key consideration of any theory of nationalism is that it should not only be what is sometimes called a *"grand theory"*, relevant only to global justice when thinking about the structure of world governance (Wolff, 2012), but that it should also consider how relationships operate in the context of nationalism by those that work in the field. This includes looking at beneficiaries in different types of global health security programmes. To be useful on a practical level, any theory should start from evidence about the current state of nationalism within global health security, and the ways in which some practical features of how it operates are useful. For example, principles of what good practice means would be useful. These might include encouraging win-win programmes whilst acknowledging that not all progress can be made through them. Such inclusions would result in the development of a theory of globally just nationalism from both the top-down and the bottom-up.

The second key consideration is that, as interest in accidental and deliberate causes of outbreaks appears to be increasing in the current policy sphere, this allows an opportunity for changing nationalism as the moral grounding of global health security. Global health security should not be seen as the Global North benevolently helping those in the Global South suffering from infectious diseases (and stopping them getting to our borders), but as

an area in which there are obligations to citizens and to the global population in ensuring global health security. This is because there are a wide variety of risks that come from across the globe with the risk of accidents or deliberate events likely to be higher in the Global North, as well as the Global North contributing to anthropogenic risk factors for outbreaks. Important in this re-balancing of risk is that Miller's nationalism gives further space for thinking about responsibility, culpability and desert in this area, which are seen as important both in this section and Section 9.4.

Overall, this section, alongside the previous section, can add several elements to building a theory of 'wise nationalism'. It shows that nationalism can be a bogeyman for interviewees to manage and mitigate, and this limited idea of nationalism as self-interest is also seen to be supported by the global health security literature. However, interviewees' balanced perspectives share more similarities with Miller's nationalism than is initially apparent. Therefore, lessons for developing a global health specific understanding of 'wise nationalism' should include that it incorporates these lived experiences and thinking about responsibility in outbreak origins as an opportunity to change the framing towards a nationalism that is about responsibility as well as self-interest.

9.5.4 Making a normative judgement *(symbiotic empirical ethics, stage 5)*

From the examination of how nationalism in the empirical analysis differs from a philosophical theory of nationalism, and developing key considerations on what a theory of wise or enlightened self-interest in global health security might include, the semi-normative judgement that can be made from this section is as follows:

There is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate.

This is aiming to be a judgement that provides incremental process, rather than a complete solution. By this I mean that I am making the normative judgement that a globally just nationalism should be the moral framework for global health security. To do so would be unjustified given I have only considered one theory. Instead, all I have shown is that a nationalist theory should be considered an option, and is more than just the bogeyman of the enterprise.

I am partly supporting the calls for a 'wise' or 'enlightened' self-interest but also partly rejecting them. The aspect that I support is the general principle that we need a theory that takes into account that states do need to give some priority to their own citizens whilst having regard to global justice.

However, I have explored that Miller's nationalism is a theory grounded in justice whilst self-interest may be a more limited conception, and thus I have chosen to call this a globally just nationalism rather than wise or enlightened self-interest. I am ambivalent on the term used here rather than the concept.[230] What is important is the concept that the nationalism used (whether Miller's theory or another theory) is grounded in how obligations to citizens also

[230] It may be that nationalism is the wrong term here, as this rings uncomfortably for many of those (like me) who live and work in political systems where nationalism implies more authoritarian right-wing views with racist connotations.

necessarily result in global obligations, in this case through remedial or causative responsibility.

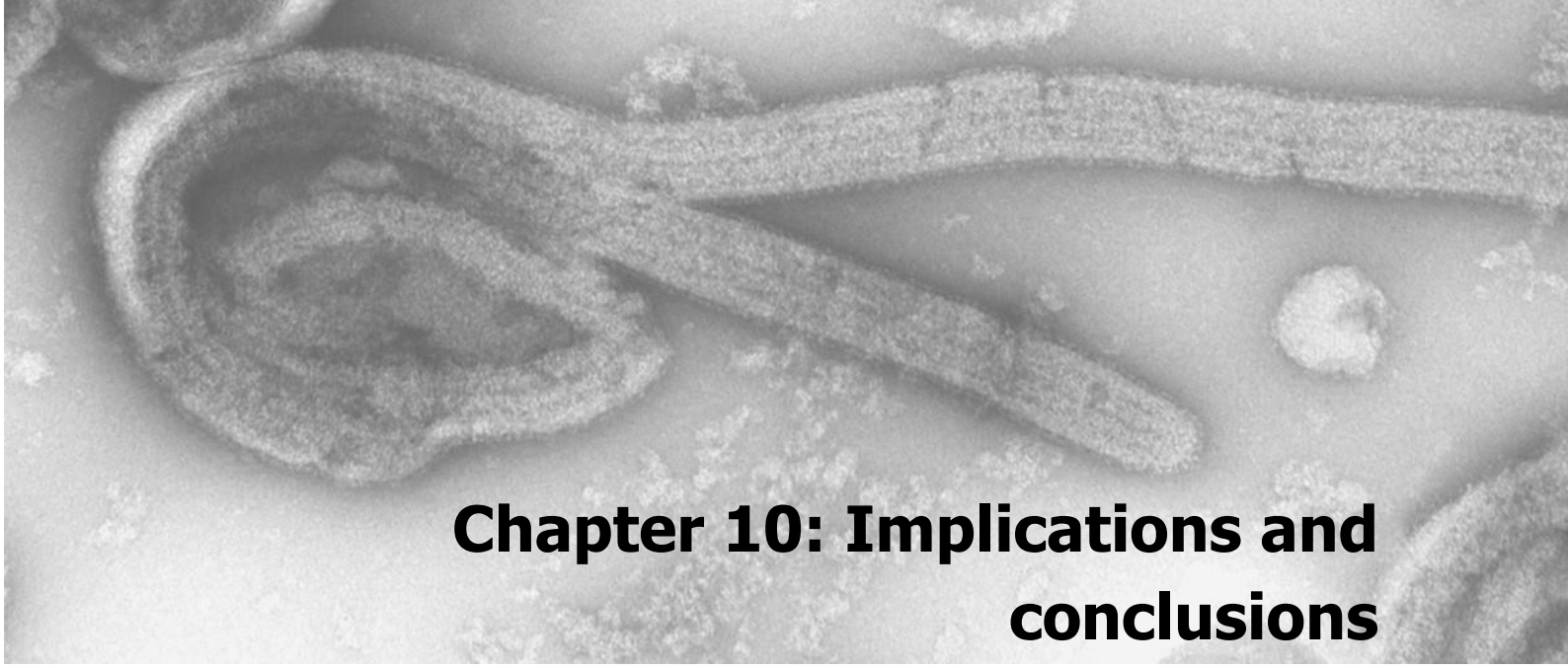
9.6 Conclusions

In this discussion chapter, I have brought together the findings of the empirical analysis chapters to suggest that global health security is a complex, multifaceted and morally laden landscape which professionals are required to negotiate in their day-to-day work, and one of the ways in which this complex moral landscape can be understood is through the idea of moral boundaries, borders and divisions, of how they should be set, expanded, broken or disregarded.

I have then explored the different types of moral boundaries in global health security identified in three sub-analyses. These were 1) the definitional boundaries of global health, 2) the boundary between the natural outbreaks as opposed to accidental or deliberately caused outbreaks, and 3) the boundary between national and global interests. I have used the later stages of the symbiotic ethics method to identify and assess the strength of arguments and moral claims made by my interviewees about these boundaries in order to come to a small number of justified judgements – of which some are normative. These include that: at present, expanding the scope of global health security is not justified as the solution to moral concerns in the boundaries of the enterprise; there needs to be care that accepted thinking or policy in the field of global health security does not start with the assumption that responsibility should be seen as different or less important in natural outbreaks, and that

there is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate.

In the next chapter, I will consider how these findings and normative judgements might be translated to the current policy context, and evaluate the methods and results of this thesis.



Chapter 10: Implications and conclusions

10.1 Introduction

In this final chapter, that brings the thesis to a close, I reflect on why the findings of the thesis are important for the future of global health security, consider how the (normative) judgements made in the discussion might be translated into the policy context, evaluate the strengths and limits of the thesis, and suggest what future research is indicated.

At this final juncture, it is pertinent to recap on the research question and approach to the thesis. This doctorate started from a concern about a lack of attention towards ethics in the area of global health security. The gaps were confirmed in the literature review to be empirical, normative and conceptual (Chapter 3, Section 3.6.4). From these gaps, the aims of the study were developed which were: 1) to map out and analyse the range of ways in which global health security is understood, 2) to explore ethical challenges and values for those working in global health security or related areas and 3) to consider what ethical principles, values or concepts should guide global health security and how this should be decided. As the best way to meet these aims that were both empirical and normative, I chose an empirical bioethics approach. Thus, the analysis of my qualitative interviews has included

both a thematic analysis, and then sub-analyses linking the empirical analysis with normative analysis. These analyses demonstrated that not only is global health security a moral landscape, but that this landscape can usefully be understood as revealing the moral boundaries of global health security. The next section considers the importance of these moral boundaries in policy and practice.

10.2 The importance of this thesis

This section aims to relevance of the findings outlined in this thesis beyond the research context for policy and practice in global health security.

The three key conclusions from the thesis so far can be summarised as:

1. Global health security is a complex moral landscape
2. One way in which this landscape can be understood is through moral boundaries, borders and divisions.
3. These moral boundaries have not been previously acknowledged or analysed as moral problems, and therefore when my research analysed these as such, the assumptions, problems, and unanswered questions in these areas became apparent.

These findings are important for the future of global health security, because they show that the kind of decisions that have been made, and will likely be made, in global health security are often ethical or value judgements. If global health security is not acknowledged as a moral enterprise, there is a risk that those working in it will not develop the skills required to ask the necessary moral questions or provide the moral justifications that ought to be provided about

their work. This in turn will compromise global health security's potential to protect persons globally.

The way in which I have suggested that this compromise may happen is through the tensions over the moral boundaries and borders of global health security, from the risk that some actions of global health security will be seen as immoral and alienate those with alternate aims, to in-fighting arguments over how far attention should be taken up by engineered pathogens compared to natural pathogens, to whether global health security can continue to attract the talent it needs and build the bilateral and multi-lateral partnerships required if perceived as a self-interested endeavour that does not promote the global good.

The current inadequate consideration of ethics in global health security may be a problem of training. The interviewees working in global health security were predominantly from healthcare backgrounds, with a minority having military or international development backgrounds. Many of these individuals will have had ethics training earlier in their career – in medical ethics, nursing ethics or military ethics – but whilst this training is important, this thesis has shown that global health security ethics is more than this. It is about ethics at the complex intersection between health, emergencies, security and politics, with ethical challenges in everyday work being related to, and intersecting with underlying issues of global justice. Importantly, it is not always about the individualism of what each person is entitled to, as is often prioritised in health ethics, but of public health and global justice accounts that take into consideration the benefits and burdens of actions across, and between, populations globally. Whilst the interviewees were thoughtful, reflective and engaged in ethics when

interviewed, the difficulty of, and the lack of solutions identified to solve ethical challenges in their work suggests that there is interest but lack of supported development of skills in ethical reasoning. The fact that there is a general lack of engagement risks isolating persons who are trying to engage in this moral work if they think they are alone in encountering these moral challenges, when actually there is a whole community facing interrelated challenges who could work together.

An argument against this perspective would be to suggest that there is no need for ethics because global health security is a highly political area and, even if those working in it are equipped to manage ethical challenges, their ability to do so will be thwarted by a need to implement high level policies from the top of government or international organisations, which have been made with little consideration of ethics. This may mean they do not have the autonomy to challenge the nature of their work. However, this is unlikely to be true for all work in global health security, nor does it suggest that the necessary moral questions or moral justifications should not be considered, but rather that including ethics as a necessary part of global health security in practice may be harder than, for example, including epidemiology as an integral part of it.

The inclusion of ethics in global health security is not just a task for those working in the field, but a call for ethicists to acknowledge that global health security should be a focus of attention. Ethicists should work with practitioners to think about how global health security can be established as an ethics enterprise, not just a scientific or political one. Ethics is not just about identifying moral concerns (although this is often an important starting point), but

is a well-established discipline with a structured approach and tools for engaging with these questions: My thesis takes the first step in identifying and engaging with global health security as a moral area but this should only be the start of the process.

Ultimately, this is important because global health security is such a crucial enterprise. Pandemics, epidemics, and other causes of ill health are some of the biggest threats to humanity today, capable of causing untold death and suffering, and, currently, disproportionally affecting those living in the Global South (Madhav et al., 2017). There is a lot at stake – the amount of money invested, the power of the decisions made now to set the future course of how infectious diseases are prevented and responded to, and ultimately how lives around the world are affected. This thesis shows a range of ways in which one important aspect of global health security is not recognised – the moral element – and makes them visible.

10.3 Implications for policy

This section looks at how the ethical work of global health security should be achieved. In my methods chapter, (Chapter 4, Section 4.4), I incorporated an addition from engaged philosophy of 'making a normative judgement *that is relevant to policy*' into the symbiotic empirical method step of 'making a normative judgement'. However, the judgements made in Chapter 9 are modest in aim, not all normative, and not clearly translatable to a policy recommendation (as summarised in Table 9).

Table 9: (Normative) judgements

Boundary	(Normative) judgement
Definitional	At present, expanding the scope of global health security is not justified as the solution to moral concerns in the boundaries of the enterprise
Natural outbreaks as opposed to accidental or deliberate outbreaks	As the categorisation of natural outbreaks is not clear conceptually, there needs to be care that accepted thinking or policy in the field of global health security does not start with the assumption that responsibility should be seen as necessarily and in all cases different or less important in natural outbreaks, as opposed to an accidental or deliberate outbreak, without further work to establish the basis of this claim.
National versus global	There is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate.

The limits of these judgements are in line with the limits of what is justifiable in empirical bioethics methods when moving from empirical analysis to normative judgements, (reflected on in Section 10.6). However, it is still important to relate these judgements to the wider policy context. In this section I will reflect on possible ways in which these normative judgements might be used to think about lessons learnt for policy. As such, these reflections are not justified from the analysis as per philosophical standards of argumentation, but are possible ways in which the thesis results could be used for influencing policy or areas in which further research is needed.

Regarding the definitional boundaries of global health security, my judgement was that at present, expanding the scope of global health security is not justified as the solution to moral

concerns in the boundaries of the enterprise. This is because it is not clear firstly, that expanding the boundaries of global health security solves the key moral concern that global health security benefits the Global North at the expense of the Global South, as there is a lack of perspectives from experts in the Global South that this is the case, or secondly, that the risks of expanding it (from weakening the framing to alienating some parts of the workforce) have been sufficiently considered.

I did not try to suggest that one moral model should be kept as there is not necessarily an easy solution, or one that should be decided by me. However, it could be implied that if expanding the scope of global health security is not the right moral solution, then keeping the *status quo* of the threat model of global health security is the right way forward. This would also be a conservative way forward: Wolff suggests that in policy, there may also be a bias towards conservatism, with proposals that are far from the status quo unlikely to succeed and incremental change often a more pragmatic way forward (Wolff, 2019). Of course, there are limits to this as changing a bad policy incrementally is unlikely to be sufficient, but, in this instance, I have also analysed that the threat model of global health security has important consequentialist aims that are different, and not necessarily worse, than other models. Therefore, a possible way forward may be to keep the threat model of global health security, whilst seeking incremental change towards implementing all of the co-existing factors that need to be considered to implement global health security justly in its complex moral landscape. However, although changing the definition is not necessary to make progress in addressing moral concerns, it is important that the attention paid to these moral concerns

does change. The first step in addressing these moral concerns is in identifying them, as I have done in this thesis.

In thinking about the internal boundaries of global health security, I concluded that, as the categorisation of natural outbreaks is not clear conceptually, there needs to be care that accepted thinking or policy in the field of global health security does not start with the assumption that responsibility should be seen as different or less important in natural outbreaks, as opposed to an accidental or deliberate outbreak, without further work to establish the basis of this claim. In this area, I think there is a stronger argument for changing the *status quo* and the change could be for global health security to avoid the terminology of a 'natural' outbreak. This is because the concept of natural outbreaks does not appear to be a thought-out definition in terms of its policy use, but rather one that has escaped attention, may not be useful, and could be obstructive for thinking about the ethical concept of responsibility. It is not that I have definitely made the case that no outbreaks are 'natural' empirically, but that if the outbreaks that are not accidentally released from a laboratory or deliberate events are to be distinguished, they should not be categorised as natural as this belies the range of ways in which there can be anthropogenic contributions towards them.

Therefore, it is important to think about the alternatives, as having categories of outbreaks with shared meanings between those working in and outside global health security was found to be useful for interviewees when discussing ethical principles. It could be that other criteria, such as epidemiological criteria for when to suspect a deliberate outbreak (see for example

Dembek et al., 2007) could be used in place of the natural, accidental, or deliberate terminology, or a new solution could be found.

I think this is mostly a question that should be decided by those who work in the field and use the terminology – my interviewees and those in similar roles. However, one possible proposal is to be clear about the different aspects that affect outbreak origins and to separate off the origin of the pathogen from the intent of the person or organisation. I have suggested a possible classification in Figure 12 (below), as a starting point.

Figure 12: Suggested outbreak origin categorisation

1. Pathogen aetiology	Environmental or engineered	By pathogen aetiology, I mean whether the pathogen is, in its identified form, found in the environment or has it been engineered to a new form in the laboratory.[231]
2. Intent	Accidental or deliberate	Instead of classifying some outbreaks as natural, to divide all outbreaks into accidental or deliberate, thus acknowledging the anthropogenic factors in all outbreaks.
3. Context	For example, laboratory research, intensive farming, deforestation, sample transport	By specification of the anthropogenic factors involved in the outbreak. This is a free text stage.

[231] This again could cause confusion over whether a pathogen synthesised de novo, that already exists in that form in the world (for example whether synthesised horsepox (Noyce et al., 2018)) is an environmental or engineered pathogen. Here I suggest classifying this as an engineered pathogen is preferable as this is consistent with history based unnaturalness that it is the synthesising of the virus that is important – as well as accounting for uncertainty whether the virus synthesised is the same as that in the environment. However, here the context would be important.

This possible classification was developed from the analyses in Chapters 8 and 9, particularly based on the concepts explored there that firstly, there is not a clear idea of what natural means for outbreaks, but secondly, there is ethical importance to whether an outbreak was intended to cause harm or not, and thirdly, interviewees see it as important that the context from which a pathogen originated is specified, for aspects such as forward planning to prevent outbreaks like this occurring again.

Using the example of the Variant Creutzfeldt–Jakob disease outbreak given as an example earlier, this might be categorised as follows:

> *This is an accidental outbreak of an environmental pathogen in the context of cattle farming practices that included using meat-and-bone meal feed.*

One argument against such a proposal would be that I have just replaced the term 'natural' with 'environmental', for which a critique might be that environmental could also be seen to have normative connotations. My response would be, that I am not wedded to the particular terminology here, and indeed it would be good to understand thinking in the field on this, but the important element for me is to separate out pathogen aetiology from human intent.

Regarding nationalism, my conclusion from this section is that there is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate. As such, I am suggesting that the boundary between what is good for the national and what is good for the global is less clear when a political philosophy theory of nationalism is applied. This is a more difficult recommendation to translate to a policy context as it is not a clear recommendation that nationalism should be the ethical framework by which global

health security operates, nor does it suggest if any work to progress a moderate nationalism in global health security would be useful or feasible on a practical level.

However, further research on what a theory of 'wise' nationalism in global health security would look like could provide a more realistic moral framework towards which global health security could work. This could be done through, for example, a working group developing an ethics framework of what 'good' nationalism might look like – which would also involve clarification on the related question of the definitional boundaries of global health security, as discussed above. This should be led by an international organization, likely the WHO, and, most importantly, involve both those that work in global health security, both at a policy and practice level, alongside political philosophers, ethicists, social scientists, and international relations experts. Pragmatically, there is also a political argument that those in global health security should accept nationalism as a factor in their work due to its political inevitability, but by advocating for the best possible philosophical nationalism, incremental moral progress could be made.

10.4 The current policy context

From these reflections on how my normative judgements might be translated to a policy, it is also important to consider current events in the policy environment of global health security. This is a fast moving landscape, with both evaluations of ethics and global health security performances in the COVID-19 pandemic ongoing (for example Malik et al., 2021, Moodie et al., 2021, WHO, 2022) as well as future-thinking developments, notably the proposed Pandemic Treaty (WHO, 2023b) and a review of the International Health Regulations (WHO,

2023a). Whilst the proposed policies with potential relevance to this thesis are too numerous to fully evaluate here, the proposed Pandemic Treaty is the most significant potential change to the global health security enterprise. How my thesis fits into this context is therefore worth considering.

As of writing this, the Pandemic Treaty is only at the stage of a 'Conceptual Zero Draft' which State Parties have started negotiating. The draft of the Pandemic Treaty covers expansive areas with a commendable focus on equity, resilient health systems, and determinants of pandemics (WHO, 2023b). Whilst it is unclear how much of this will survive subsequent drafts and negotiations, it must be noted that, despite its potential, there have already been concerns raised about the lack of binding and enforceable measures in it (Friedman et al., 2023).

When comparing the findings of my thesis, both the analysis and the normative conclusions, to the draft treaty articles, there are notable differences. The first is that, although the topics of global health security and pandemics are closely intertwined, the treaty makes no reference to global health security. It anchors the frame of reference firmly in outbreaks originating in the environment by focusing on the (re-)emergence of disease at the *"human-animal-environment interface, including but not limited to climate change, land use change, wildlife trade, desertification and antimicrobial resistance"* (WHO, 2023b, p.24). This is somewhat unsurprising as it mirrors the language of the International Health Regulations that also does not include global health security (WHO, 2004). However, it misses an opportunity for WHO to be more explicit about what its role is in accidental or deliberate outbreaks given

the increasing risks and uncertainty about roles, resources and responsibility I found in this area.

However, the text of the treaty supports my reflections on avoiding the terminology of 'natural outbreaks' as it grounds outbreaks originating in the environment as anthropogenically caused, stating that the State Parties *"commit to strengthen synergies with other existing relevant instruments that address the drivers of pandemics, such as climate change, biodiversity loss, ecosystem degradation and increased risks at the human-animal-environment interface due to human activities"*. These elements are useful because they allow my recommendation on avoiding the natural outbreak terminology to remain one that could be implemented in policy supported by the anthropogenic focus, whereas if natural outbreaks had been due to be written into a pandemic treaty, this would have reduced the feasibility of the recommendation.

Whilst the normative language of the treaty is strong, with a particular emphasis on equity and solidarity, this sits somewhat jarringly with a re-commitment to national sovereignty which is listed as the first principle of the treaty that the State Parties are:

> *"Reaffirming the principle of sovereignty of States Parties in addressing public health matters, notably pandemic prevention, preparedness, response and health systems recovery"*

This is inevitable, as WHO treaties have to be signed by states, but it demonstrates that the gap between nationalism and sovereignty on one hand, and equalitarianism and solidarity on the other hand, still requires bridging. Alongside this is expressed the need to establish a future pandemic prevention, preparedness and response mechanism that is not based on a

charity model. The lack of explanation of how national sovereignty and non-charity based models can be consistent with the other articles in the treaty on global equity and solidarity is problematic. This tension echoes the perspectives of interviewees in Chapter 8, and again reinforces my argument for more ethical work in the area that could be based on a moderate nationalism grounded in justice.

This brief analysis indicates that these research findings could contribute to the thinking about the future of global health security as the Pandemic Treaty is negotiated over the next year.

10.5 Strengths and limitations

In this section so far, I have I have reflected on what the normative judgements made might imply for a policy environment, and how they fit with the current context of the Pandemic Treaty. In this section I move to evaluating the strengths and weaknesses of the thesis.

The contribution that this thesis makes is as one of the first ethics perspectives on global health security. It fills a research gap in which ethical concepts are called for in the global health security literature, but for which there is little analysis of what these are or how they relate to the experiences of those working in the area. The qualitative interviews provided a rich data set exploring individual perspectives on what ethics is in global health security by those that work in the area or in adjacent areas. It provides insight into the moral boundaries and divisions that are debated in global health security, what normative judgements can be made from an examination of these, and how these might translate to policy.

It is also important to recognise the limitations of the study when considering the findings. Although a wide diversity of interviewees from different sectors were interviewed, there was less representation from the Global South. The reasons and implications of this have been explored in Chapter 4, Section 4.5.2.6. e) and Chapter 9, Section 9.3.2. There is also likely a bias towards those that agreed to interviews having an interest or openness to talking about ethics. The use of some of my own network to recruit interviewees could have resulted in differences in the perspectives represented to me than if I was perceived as an outsider. Whilst there is not a way to fully overcome these biases, I am reassured about the ethics biases as there were negative perceptions and lack of understanding of what ethics is from interviewees as well as positive perceptions. My attendance at meetings such as the global health security conferences and meetings, as well as my literature review helped me site my analyses in the wider context and to note any similarities and discrepancies with the interviewees. Finally, as my subject was broad and my methodological approach (reflected on below), was complex, there could be a criticism that I have spread myself too thin in this thesis – I have not been able to look, in depth, into all the philosophical, bioethical, and social sciences literature that may have been relevant to my thesis. However, I think my interviewee dataset is rich and in a topic like this, which is relatively unexplored from an ethics perspective, it is important to understand the enterprise from this wide perspective, rather than risking a blinkered approach to a small area. I would hope, of course, that it is only the start of research in this area (See Section 10.7).

As with any bottom-up qualitative study, it is difficult to make the results applicable beyond the context explored. In this case the context explored was global health security, which in

some ways is a massive context, but which involves a contained group of professionals working in the area. Thus, although my results cannot be applied to wider areas, they can still add utility to research and practice in this area.

10.6 Empirical bioethics reflections

Finally, it is also important to reflect on the empirical bioethics methods utilised in this thesis. Empirical bioethics is a complex and developing field that involves tying together different methods and methodologies. A key question for my thesis is what are the benefits and limitations of taking this approach of trying to combine a degree of social sciences and philosophical bioethics approaches, and how far did I actually achieve what I set out to do?

The main benefit was that it allowed me to approach an area of practice and evolving thinking in an empirically-grounded, inductive way, yet still connect this to relevant theory. This was an important need given the normative aim of the thesis *('to consider what ethical principles, values or concepts should guide global health security and how this should be decided')*, but also given the lack of empirical data about the realities of global health security in practice and perspectives on ethics from those in the field.

The complexity of the methods and justifications of empirical bioethics have proved an ongoing, albeit interesting, challenge through this thesis. Whilst I suggest that my work is empirical bioethics, I know that only some of the readers may consider it so. This is likely to depend on how far the reader perceives I bridged the is-ought gap in a justified way.

One element of how far I bridged the gap is whether I was able to produce normative judgements, and whether they are relevant for policy. Looking at my judgements, some are more normative than others.

My judgement about natural outbreaks is normative in that this advises what should guide global health security due to moral reasons *(accepted thinking or policy in the field of global health security does not start with the assumption that responsibility should be seen as necessarily and in all cases different or less important in natural outbreaks)*. However, the judgements about the definitional and geopolitical boundaries of global health security are, to some extent, less normative as I suggest firstly that expanding the scope of global health security is not justified as the solution to moral concerns in the boundaries of the enterprise, but do not definitely say which moral model of global health security should be kept, and secondly that that there is room for reclaiming a globally just nationalism as a moderate framework for how global health security should operate, but do not commit to saying moderate nationalism is the theory that should guide global health security. The tentative nature of these judgements is deliberate as both would have required a far broader analysis to make a stronger recommendation. For instance, in nationalism I would have had to consider all the different theories of justice and how they might apply to global health security to justify the stronger recommendation (which would be a thesis in itself) but instead I focus on the differences between the empirical account and one theoretical account in nationalism to show that there is potential for an improved nationalism.

I was unable to produce *policy relevant* normative recommendations from the analysis because there was a gap between what could be justified from empirical-normative analysis and what would function as a policy recommendation. Instead, I reflected on possible implications for policy.

It can also be questioned how successfully the particular methods I specified in the methods chapter (Braun and Clarke's thematic analysis and Frith's symbiotic ethics with some aspects taken from Wolff's engaged philosophy) were used. Most elements were achieved, but I had to make adaptations including three interrelated sub-analyses in the discussion rather than one overall empirical-normative analysis. However, the application of empirical bioethics to an area of global ethics thesis was a novel area, which appears to demonstrate that the method could be useful when considering both ethics in practice and larger concerns about elements such as nationalism. Thus what I consider that I have achieved in this thesis is to justify how I got to my conclusions. As Dunn et al (2012) say:

> *Empirical ethics methodologies should be characterized not as toolboxes for extracting facts that can be fed unproblematically into normative reasoning, but rather as flexible and practice-orientated spaces within which ethics researchers and practitioners can offer explanations, engage in critical reasoning, come to understand one another, and codevelop relevant arguments. (Dunn et al., 2012)*

This is a perspective that I support. One problem with it is that it is a challenge to make the entire process of doing empirical bioethics transparent. That is to say that, even in the methods described by numerous scholars in the area, there comes a point where there appears to be a 'black box' of explaining reasoning and how the is-ought gap was bridged. I think one of the reasons for this is that the novel methods of empirical bioethics lead (rightly)

to a higher degree of scrutiny being placed upon them. Thus, there is a repeated 'but how did you do this?' that perhaps is not asked in the same way to philosophers or social scientists. However, as Ives suggests regarding his reflexive balancing method, the methods of empirical-normative analysis are not so significantly different to the way in which a philosopher might present their argument and defend it against criticism (Ives, 2014). To try and ensure rigor in my research I have used Ives et al.'s standards for empirical bioethics as an informal guide throughout my research. My brief workings on these are seen in Appendix 6, although I used this table as a research tool that was helpful to me rather than to try and demonstrate my rigor to the reader.

A critique of my interpretation of these methods is that this is actually mostly a qualitative ethics study and my empirical bioethics discussion does no more than any other discussion of a similar qualitative ethics project in situating my findings in context of the literature. However, the significant attention given to the empirical methods and analysis can also be seen as a strength of the thesis – these social science methods need to be undertaken in a rigorous, in-depth manner for the thesis results to be valid. I consider that the empirical bioethics discussion does go further than discussion of a similar qualitative ethics project, but also to be compared to this is not a damning criticism: If, at the very least, empirical bioethics provides a structure for how one might situate empirical findings in the wider theoretical landscape, this is still useful. However, in this case, I consider my application of symbiotic ethics methods goes some way to demonstrating what normative implications can be drawn when starting with empirical investigation.

10.7 Further Research

As well as providing novel insights into the moral landscape of global health security, my research has raised further questions for which more research is indicated, as follows:

1. There is a need for further perspectives from those working and living in the Global South. This research might benefit from ethnography or case-based studies approaches that were not possible during the COVID-19 pandemic.

2. There is a need for further conceptual or philosophical research around the core concepts and frameworks that were shown to be of importance to interviewees in this study but that have had limited philosophical analysis in the global health security context, particularly around nationalism, but also resource prioritisation, role allocation and responsibility.

3. Another dimension that it would be useful to explore further is the role of the private sector. Although my interviewees included some from the private sector, most worked in the public sector, for NGOs or international organisations and the role of commercial entities was only a small code relating to vaccine nationalism (Chapter 8). However, since a lot of the technological innovation and the production of vaccines and medical countermeasures is in the private sector, how nations, commercial entities, NGOs and international organisations interact, and how this relates to ethical justifications for access to these, is important and needs further research.

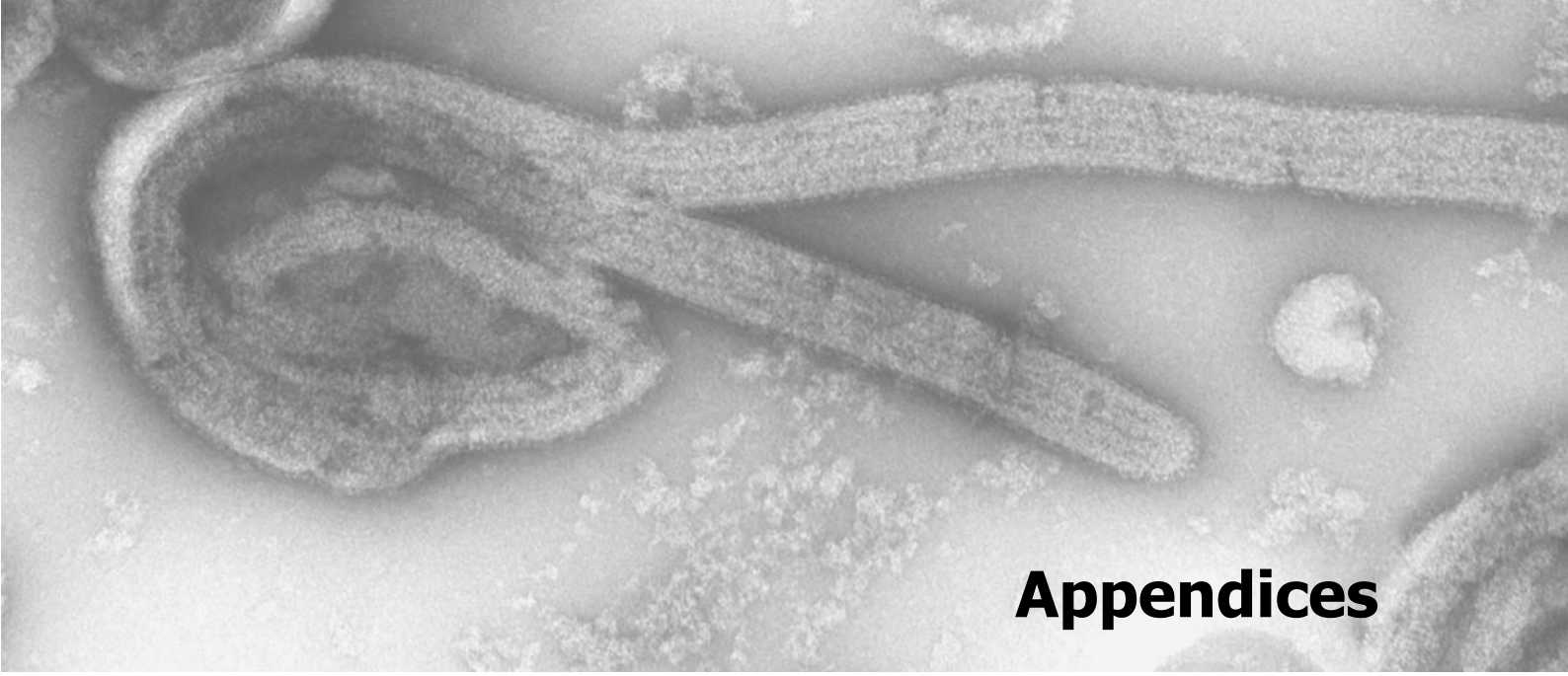
These three recommendations demonstrate that further research using empirical bioethics, social sciences or philosophical methods are indicated to fill new research gaps my study has uncovered.

10.8 Conclusion

My thesis is one of the first (if not the first), in-depth explorations of the moral landscape of global health security, importantly grounding this account in the experiences of those working in the area.

I undertook this doctorate because of an initial professional interest in, and concern about, the ethics of infectious disease control in global health security; an area about which I found there to be little existing research. My results demonstrate that whilst the literature in global health security shows that this space has predominantly been described in terms of political institutions and international relations, one way it might be better described is as a complex moral landscape in which professionals navigate, whilst considering and challenging the moral boundaries of what global health security should include, how it should be organised, and what moral frameworks should guide it. From this analysis of the experiences of interviewees, I have examined these boundaries using ethical theory as a tool of analysis, and highlighted considerations for policy and future research. My next step will be to continue to disseminate the findings through presentations, peer-reviewed publications, and working with those in global health security.

At the beginning of the thesis, I quoted from Albert Camus that "*plagues and wars always find people equally unprepared"*, because this quote highlighted the links between global health and security, as well as the context of this doctorate as being written during the COVID-19 pandemic, for which we were underprepared. At the end of this doctorate, my aim is that my research contributes to *ethical* preparedness and progress as global health security evolves as an enterprise. In this, I have become cautiously optimistic about the future of global health security because of the thoughtful and reflective perspectives of those working in global health security that contributed to the study.



Appendices

Appendix 1: Image credits

The image used in the title page and the start of each chapter is an electron microscopic image of an isolate of Ebola virus taken by Dr Frederick Murphy in 1968. It is available in the US Centers for Disease Control and Prevention's Public Health Image Library (ID: 23185, URL: https://phil.cdc.gov/Details.aspx?pid=23185). This image is in the public domain and thus free of any copyright restrictions.

Appendix 2: Literature search strategy

Search strategy terms[232]

Medline and Global Health (Ovid)

1. "Global health security".tw.
2. (Outbreak? or epidemic? or pandemic? OR "global catastrophic biological risk?" or PHEIC or "antimicrobial resistance" or "Public Health Emergenc* of International Concern" or "emerging infectious disease?" or "disease X" OR zoono* OR ebola or zika or "middle east respiratory syndrome" OR MERS or "severe acute respiratory syndrome" or SARS or coronavirus or nCoV or COVID-19 or plague or cholera or meningococcal or dengue or h?emorrhagic or influenza or smallpox or measles or polio or monkeypox or chikungunya or lassa or typhoid or nipah or listeri* or diphtheria or marburg or hepatitis or "yellow fever" or "rift valley fever").tw.
3. (Government* or "international organi?ation" or militar* or army or security or securitization or "national public health agenc*" or "points of entry" or "health diplomacy" or biosecurity or bioterrorism or "cross border" or "border protection" or "World Health Organi?ation" or IHR or "International Health Regulation?" or JEE or "Joint External Evaluation?" or "World Bank" or "United Nations" or "World Economic Forum" or "Biological Weapons Convention").tw.
4. ("Rapid respon*" or emergenc* or "medical countermeasure?" or humanitarian OR "development aid" or "development assistance" OR "development cooperation" OR "foreign aid").tw
5. 1 AND 2
6. 2 AND 3 AND 4
7. 5 OR 6

PAIS Index (Proquest)

1. NOFT("global health security")
2. AB,TI(Outbreak? or epidemic? or pandemic? OR "global catastrophic biological risk?" or PHEIC or "antimicrobial resistance" or "Public Health Emergenc* of International Concern" or "emerging infectious disease?" or "disease X" OR zoono* OR ebola or zika or "middle east respiratory syndrome" OR MERS or "severe acute respiratory syndrome" or SARS or coronavirus or nCoV or COVID-19 or plague or cholera or meningococcal or dengue or h?emorrhagic or influenza or smallpox or measles or polio or monkeypox or chikungunya or lassa or typhoid or nipah or listeri* or diphtheria or marburg or hepatitis or "yellow fever" or "rift valley fever")
3. AB,TI(Government* or "international organi?ation" or militar* or army or security or securitization or "national public health agenc*" or "points of entry" or "health diplomacy" or biosecurity or bioterrorism or "cross border" or "border protection" or "World Health Organi?ation" or IHR or "International Health Regulation?" or JEE or "Joint External Evaluation?"

[232] Text in red indicates term added (COVID-19) only in second database search in March 2022. Please also note that at the time of undertaking both searches, the virus now known as mpox was called monkeypox. Mpox is referred to in the body of the thesis as WHO recommended term.

or "World Bank" or "United Nations" or "World Economic Forum" or "Biological Weapons Convention")

4. AB,TI("Rapid respon*" or emergenc* or "medical countermeasure?" or humanitarian OR "development aid" or "development assistance" OR "development cooperation" OR "foreign aid")
5. 1 AND 2
6. 2 AND 3 AND 4
7. 5 OR 6

Global Index Medicus

"Global health security" (title, abstract, subject)

WHOLIS and Library Hub Discover

"Global health security" (keyword)

Results per database

Database	Pre-COVID-19	During-COVID-19
Medline (Ovid)	2677	3267
Global Health (Ovid)	2022	1763
PAIS (Proquest)	346	336
Global Index Medicus	21	6
WHOLIS	20	0
Library Hub Discover	90	28
TOTAL	5176	5400
AFTER DEDUPLICATION	3062	4145

Literature included in Pre-COVID-19 review *(full references in bibliography)*

Abeysinghe (2016), Abraham (2011), Aginam (2005), Aginam (2006), Agnew (2016), Aldis (2008), Alirol et al. (2017), Anderson et al. (2016), Armstrong-Mensah et al. (2018), Balasegaram et al. (2015), Ban (2003), Barbiero (2020), Bennett et al. (2017), Bernard et al. (2018), Bernett (2016), Bowsher (2016), Burkle (2015), Burkle et al. (2015), Calain et al. (2015), Caplan et al. (2015), Chretien et al. (2007), Cleavel et al. (2017), Collier et al. (2008), Connolly (2017), Connolly et al. (2004), Davidson et al. (2015), Davies (2010), Davies et al. (2015), Davies et al. (2016), De Bengy Puyvalleé et al. (2019), Devnani et al. (2015), Draper et al. (2017), Echols (2018), Elbe (2010), Elbe (2011), Elbe (2011), Elbe (2014), Elbe (2018), Enemark (2017), Enemark (2017), Enemark (2018), Enria (2019), Erikson (2019), Fidler (2005), Fidler et al. (2006), Folayan et al. (2015), Fraulin et al. (2022), Frenk et al. (2014), Gearóid Ó et al. (2019), Gomez-Temesio (2018), Gostin (2014), Gostin (2014), Gostin (2017), Gostin et al. (2015), Gostin et al. (2016), Gostin et al. (2016), Gostin et al. (2014), Gostin et al. (2014), Gostin et al. (2019), Gostin et al. (2016), Hanrieder et al. (2014), Harman (2016), Heymann et al. (2015), Hoffman (2010), Honigsbaum (2017), Horton (2017), Horton et al. (2015), Irwin (2010), Jain et al. (2017), Johnson et al. (2022), Kamradt-Scott (2008), Kamradt-Scott (2011), Kamradt-Scott (2011), Kamradt-Scott (2016), Karan (2020), Kickbusch et al. (2015), Lakoff (2017), Lamb (2018), Li et al. (2018), Linde Arias et al. (2020), Lyttleton (2018), Masumbuko Claude et al. (2019),Mayhew et al. (2021), McCloskey et al. (2014), McInnes (2016), Milstien et al. (2002), Nunes (2016), O'Malley et al. (2009), Olu (2016), Ong et al. (2008), Ooms et al. (2017), Pallister-Wilkins (2016), Papadimos et al. (2018), Parker et al. (2019), Quinn et al. (2014), Rappert et al. (2013), Ribeiro et al. (2018), Rivera-Amarillo et al. (2020), Robbins et al. (2015), Roberts et al. (2016), Roddy et al. (2007), Roemer-Mahler et al. (2016), Rojek et al. (2016), Rojek et al. (2017), Roper (2019), Royo-Bordonada et al. (2016), Rushton (2011), Savulescu (2015), Sehovic (2020), Selgelid (2016), Smith (2015), Smith (2019), Southall et al. (2017), Standley et al. (2015), Stephenson (2011), Ventura et al. (2016), Wallace Brown et al. (2017), Wenham (2016), Wenham (2017), Wenham (2019), Wenham et al. (2021), Wenham et al. (2019), Wenham et al. (2019), Wickramage et al. (2018) Wilson et al. (2008).

Literature included in During-COVID-19 review *(full references in bibliography)*

Adebisi et al. (2020), Adebisi et al. (2020), Adesanya (2020), Al-Azri (2020), Al-Mandhari et al. (2020), Alawa et al. (2020), ;Assefa et al. (2021), Bartlow et al. (2021), (2022), Belayneh (2020), Bellazzi et al. (2020), Benjamin (2020), Bernard et al. (2020), Bernstein et al. (2021), Blinken et al. (2021), Bohoslavsky et al. (2021), Boschele (2020), Boyd et al. (2021), Brusa et al. (2021), Burkle (2020), Casale (2020), Corpuz (2021), Coyne et al. (2020), Dąbrowska-Kłosińska (2021), De Beukelaer (2021), de Mesquita et al. (2021), Devereux (2021), Dimakou et al. (2021), Duff et al. (2021), Ebuenyi (2020), Eccleston-Turner et al. (2021), Edgell et al. (2021), Ekpenyong et al. (2020), Emanuel et al. (2021), Erondu et al. (2020), Ferhani et al. (2020), Frieden et al. (2021), Fukuda-Parr et al. (2021), Gostin et al. (2021), Guevara (2022), Guzman et al. (2021), Harman et al. (2022), Hassan et al. (2021), Ho et al. (2021), Horodovenko et al. (2020), Hout et al. (2021), Ip (2021), Jain (2020), Jamrozik et al. (2020), Karunajeewa (2020), Kokudo et al. (2020), Lal et al. (2021), Lancet Commission on COVID Vaccines Therapeutics Task Force Members (2021), Lanzarone et al. (2021), Lee (2020), Lencucha et al. (2021), Levine (2021), Li et al. (2020), Li et al. (2021), Lin (2020), Malik et al. (2021), Mantena et al. (2020), Nelson (2021), Nesamoney et al. (2021), Nhamo et al. (2020), Patterson et al. (2020), Patterson et al. (2020), Paul et al. (2020), Rackimuthu et al. (2022), Rainey et al. (2021), Rajan et al. (2020), Richey et al. (2021), Rushton (2022), Santoro (2021), Sehovic et al. (2021), Sekalala et al. (2020), Simba et al. (2020), Singh et al. (2021), Smith et al. (2021), Smith et al. (2021), Tabbaa (2020), Taghizade et al. (2021), Tediosi et al. (2020), Thomson et al. (2020), Toebes et al. (2020), Tozzo et al. (2020), van Daalen et al. (2020), Van Hout et al. (2021), Vinuales et al. (2021), Watters et al. (2021), Wenham et al. (2021), Wenham (2021), Wilson et al. (2020), Yeh et al. (2021), Yimer et al. (2022), Zielinski (2021), Zwitter et al. (2020).

Appendix 3: Qualitative study documents

Interviewee information sheet

Ethox Centre
Nuffield Department of Population Health
Big Data Institute, University of Oxford
Li Ka Shing Centre for Health Information
and Discovery, Old Road Campus
Oxford, OX3 7LF

Tel: 01865 287887

DPhil student researcher:

Dr Frances Butcher
Clinical Research Fellow and DPhil student in Population Health
frances.butcher@ethox.ox.ac.uk

DPhil supervisors:

Professor Michael Parker
Professor of Bioethics
michael.parker@ethox.ox.ac.uk

Professor Patricia Kingori
Associate Professor in Global Health Ethics
patricia.kingori@ethox.ox.ac.uk

Exploring ethical dimensions of global health security

PARTICIPANT INFORMATION SHEET

Central University Research Ethics Committee (CUREC) Approval Reference: R62941/RE001

1. ***Why is this research being conducted?***

   This study will use interviews to understand the experiences and views of key global health stakeholders in relation to their work in the area of global health security, including their understanding of how the area is defined, and ethical issues that they may have experienced working in this area. The findings from this study will be used to identify considerations for ethics recommendations on this topic.

   This information sheet aims to help you to decide whether you want to be interviewed as a part of this study. You are free to say no without explanation. It will not be reported to anybody in your institution or have any influence on your present or future involvement with your institution. If you agree to take part, then you will be asked to consent to being in the study, normally via signing a consent form.

2. ***Why have I been invited to take part?***

   You have been invited because your current or previous work relates to global health security or infectious disease outbreaks.

3. ***Do I have to take part?***

   No. You can ask questions about the research before deciding whether or not to take part. If you do agree to take part, you may withdraw from the study at any point, without giving a reason, and without negative consequences. You can choose to no longer receive any communication from the research team, and/or have the transcript of your interview destroyed. The interview transcript can be removed from the study until the point in which the study findings are written up and published. After this it will not be possible to withdraw your contribution.

4. ***What will happen to me if I take part in the research?***

Before the interview starts, the researcher will talk through the purpose and format of the interview and you will have a chance to ask any questions. You will have received a consent form prior to the interview, which, if you agree to take part, you may fill out prior to the interview or at the beginning of the meeting/call. An esignature is sufficient and this can be emailed back to frances.butcher@ethox.ox.ac.uk.

You will be interviewed by Frances Butcher for about 60 minutes (but this can vary slightly). The interview will usually take place by video calling using Microsoft Teams, but can be via a phone call or face-to face in a convenient location for you (such as a private room in your workplace) if you live in England. With your consent, we would like to audio record you so that we can have an accurate record for our analysis. It is important to hear your personal views for this research. If you do not feel like talking about certain issues, you are free not to do so. The interview can be paused or stopped at any time.

Sometimes it is useful to invite participants to have a second interview. This can help to clarify and understand more about your views. If you take part in one interview, you do not have any obligation to take part in a further interview, and this will not affect your participation in the study.

5. ***Are there any potential risks in taking part?***

This is a low risk study. However, like any study that collects data, there is a small risk of a data breach. To reduce any potential risks, the interview recordings and transcripts will be stored in a password protected folder on the University of Oxford network. The recording device is encrypted. Encrypted audio recordings will be securely transferred to Appen (see https://appen.com/uk/), a professional transcription service approved by the Central University Information Security Team for transcription. The transcripts will be pseudonymised (e.g. participant B, US researcher), and a list of participant names and emails will be stored in a different password protected folder on the university network than the transcripts, then deleted when the study is finished.

6. ***Are there any benefits in taking part?***

There will be no direct or personal benefit to you from taking part in this research.

7. ***Expenses***

There will be no expenses or payment for taking part in this study.

8. ***What happens to the data provided?***

The information you provide during the study is the **research data**. Any research data from which you can be identified (name, email, audio recording) is known as **personal data**.

Personal data (name and email) will be stored in a password-protected folder on the university network, then destroyed when the study is finished (June 2022). Audio recordings will be destroyed after transcriptions are checked. Any data that is transferred (for example, audio files sent to a professional transcriber) will be encrypted and will not contain names or other identifiers.

Other research data (including consent forms) will be stored for three years after publication or public release of the work of the research.

The researcher, her supervisors, and other members of the research team, supervisor, and university-approved professional transcriber will have access to the research data for research purposes. Responsible members of the University of Oxford may be given access to data for monitoring and/or audit of the research.

We will use quotes from interviews anonymously in research outputs.

9. *Will the research be published?*

The research may be published in academic publications, presented at academic conferences, and written up as Frances Butcher's doctoral thesis. The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research. On successful submission of the thesis, it will be deposited both in print and online in the University archives to facilitate its use in future research. If so, the thesis will be openly accessible.

10. *Who is funding the research?*

This research is funded by a Wellcome Trust Research Fellowship in Humanities and Social Sciences (Grant number 217706/Z/19/Z) awarded to Frances Butcher.

11. *Who has reviewed this study?*

This study has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (Reference number: R62941/RE001).

12. *Who do I contact if I have a concern about the study or I wish to complain?*

If you have a concern about any aspect of this study, please contact Dr Frances Butcher at frances.butcher@ethox.ox.ac.uk or her supervisors, Professor Michael Parker (michael.parker@ethox.ox.ac.uk) or Professor Patricia Kingori (patricia.kingori@ethox.ox.ac.uk). The telephone number for the Ethox Centre is 01865 287887. We will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Chair, Medical Sciences Inter-Divisional Research Ethics Committee, email: ethics@medsci.ox.ac.uk, address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD.

13. *Data Protection*

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available from https://compliance.admin.ox.ac.uk/individual-rights.

14. *Further Information and Contact Details*

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Dr Frances Butcher, Ethox Centre, email: frances.butcher@ethox.ox.ac.uk, tel.: 01865 287887 (main Ethox number), Nuffield Department of Population Health, Big Data Institute, University of Oxford, Li Ka Shing Centre for Health Information and Discovery, Old Road Campus, Oxford, OX3 7LF.

Interviewee Consent Form

Ethox Centre
Nuffield Department of Population Health
Big Data Institute, University of Oxford
Li Ka Shing Centre for Health Information
and Discovery, Old Road Campus
Oxford, OX3 7LF

Tel: 01865 287887

DPhil student researcher:

Dr Frances Butcher
Clinical Research Fellow and DPhil student in Population Health
frances.butcher@ethox.ox.ac.uk

Dphil supervisors:

Professor Michael Parker
Professor of Bioethics
michael.parker@ethox.ox.ac.uk

Professor Patricia Kingori
Associate Professor in Global Health Ethics
patricia.kingori@ethox.ox.ac.uk

Exploring ethical dimensions of global health security

PARTICIPANT CONSENT FORM

Central University Research Ethics Committee (CUREC) Approval Reference: R62941/RE001

Purpose of Study: This study is part of a doctoral research project being undertaken by Frances Butcher at the University of Oxford, about ethical dimensions of global health security in the context of acute infectious disease outbreaks.

		Please initial each box
1	I confirm that I have read and understand the information sheet version_____dated _____ for the above 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, and without any adverse consequences or penalty.	☐
3	I understand that research data collected during the study may be looked at by authorised people outside the research team. I give permission for these individuals to access my data.	☐
4	I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.	☐
5	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	☐
6	I understand how this research will be written up and published.	☐

7	I understand how to raise a concern or make a complaint.	☐
8	I consent to being audio recorded	☐
9	I understand how audio recordings will be used in research outputs	☐
10	I agree to the use of anonymised quotes in research outputs	☐
11	OPTIONAL: If certain parts of the interview are difficult to anonymise, I agree that the researcher may contact me to discuss possible ways of modifying wording to ensure anonymity, if I would choose for these not to be used, or to be used and publicly attributable to me.	☐
12	I agree to take part in the study	☐

_____	dd / mm / yyyy	_____
Name of Participant	Date	Signature
_____	dd / mm / yyyy	_____
Name of person taking consent	Date	Signature

Topic Guide

Topic Guide: Exploring ethical dimensions of global health security

Introduction: You have been invited to take part in this interview because we are keen to learn about professionals' views in the area of global health security or acute infectious disease outbreaks. This includes their understanding of how the area is defined, and ethical issues that they may have experienced working in this area. With your consent, this interview is being recorded and will then be transcribed. Sentences or phrases you say may be used in written publications, but you will not be identifiable from these. No information will be fed back to your workplace or colleagues about your participation in this study. If you don't want to answer a question or wish to stop the interview, you may do so at any point without explanation. I'll also caveat here, that some of the questions I may ask might sound naïve, or that you may feel we both know the answer to, but this is because I don't want to make assumptions about what you mean.

Do you have any questions about what you've just been told or about the participant information leaflet you received?

About the participant's role (short questions)

1. What sector do you currently work in (i.e. government, NGO, IO, academia etc)?
2. Would you define yourself as early/mid/senior career?
3. What country/do you currently work in?
4. Have you been based in any other countries in the last five years?
5. How would you define your professional background? (e.g. medicine, epidemiology, policy etc)
6. Can you tell me about your current professional role?

Definitions of global health security

7. How does security factor into your work?
8. In what context, (if at all) have you heard the term global health security?
9. Can you explain what you understand by the term?
10. Do you find it a useful concept? Why?/Why not?
11. What is the relevance, if any, of global health security to your role?

Boundaries in global health security

12. Can you tell me about what you consider to be an important problem in global health security?
13. What makes something a global health security problem?
14. What areas do you feel should be included in global health security? Why?
15. What areas do you feel should not be included in global health security?
16. Prompts if needed: Is Ebola/malaria/universal healthcare/non communicable disease global health security concern/vaccines, and why/why not?
17. Is GHS a helpful way of talking about these challenges? What are its limitations?
18. Who (else) has a role in global health security?

Ethical concerns within global health security

19. What values do you think guide global health security?
20. What values do you think *ought* to guide global health security?
21. What values guide your own work?
22. Can you give me an example of good practice in your area?

23. What kind of challenges do you encounter in your work?
24. Can you tell me about any ethically challenging situations or dilemmas you've experienced?
25. What incentivises your work in this area?

COVID-19

26. Have your views on GHS changed since the COVID-19 pandemic? If so, how?
27. What impact do you think COVID-19 has had on global health security?
28. Are there changes you would like to see to your field?

Finishing up

1. *Sometimes when I ask about the definition of GHS at the beginning of the interview, interviewees are taken by surprise or have never been asked to define it before. As we're now been talking about it for a while, I wanted to give you see if you wanted to add anything further to your answer?*
2. Are there any other areas that you'd like to talk about?
3. Do you have questions or last thoughts for me?

Thank you so much for taking part in this interview. I really appreciate you giving your time. I'm going to stop the recorder now.

Is there anyone else you'd recommend I interview?

Appendix 4: Interviewee pseudonyms

Interview number	Region and current role	Pseudonym
1	North European, international law	Robin
2	East African, emergency preparedness	Berhane
3	North American, epidemiologist	Ash
4	North European, public health	Marron
5	North European, health policy	Eike
6	North European, public health	Teagan
7	East African, epidemiologist	Makena
8	North American, global health security policy	Harley
9	Central African, public health	Chari
10	West African, public health	Ade
11	North European, public health	Carey
12	North European, military health	Kim
13	North European, infectious disease	Bo
14	South African, global health	Lerato
15	North European, public health	Alvi
16	Southeast Asian, global health	Nikko
17	North European, humanitarian	Venni
18	Northern European, health operations	Louison
19	North European, humanitarian public health	Luca
20	North European, policy advisor	Rowan
21	North European, humanitarian development	Finley
22	North American, humanitarian aid	Jordan
23	North European, public health	Cameron
24	West African, public health	Dayo
25	North European, military health	Vanja
26	North American, scientific business development	Drew
27	Latin American and the Caribbean, public health	Azul
28	North American, health consulting	Cody
29	North American, military	Toni
30	North American, global health security	Evan
31	North European, public health policy	Kyrie
32	North European, strategy generalist	Cruz
33	North American, health security policy	Avery
34	West Africa, biotechnology	Bassey
35	Southeast Asia, public health	Quang
36	Latin America and the Caribbean, public health	Femi
37	North Europe, NGO leadership	Jo
38	North America, health security	Blair

Appendix 5: Themes and codes

Theme	Description	Codes included
The work of global health security	Initially simply coded each time interviewees mention an example of the type of work they do, then divided into different categories of work	▪ Operational work ▪ Strategy and advocacy work ▪ Technical and scientific work ▪ Partnerships and community work
Ethics in the work of global health security	Focusing on ethical challenges experienced by interviewees. Initially just limited to first person challenges, but then altered to include second hand challenges.	▪ Pay ▪ Stress/fatigue ▪ Legal ▪ Emergency ▪ Inappropriate use of resources ▪ Big player relationships ▪ Vaccine research ethics ▪ Managing problems ▪ Balancing individual rights with populations
Global health security as….	This included interviewees' own definitions of what global health security was, alongside other insights I gained about their definitions from the way they spoke in discussing examples or other areas of work.	▪ Policy-orientated definitions ▪ Definitions around health ▪ Pragmatic or flexible definitions ▪ Definitions as useful
Boundary setting	This includes the work interviewees do to carve out boundaries of what is included or excluded in the term. It mostly relates to interviewees discussing specific diseases or areas that are included or excluded from the concept, and practical and moral arguments	▪ COVID ▪ Ebola ▪ Noncommunicable diseases and climate change

	for these, it also includes more abstract concerns about how global health security relates to other concepts and considerations on whether boundary setting is useful.	▪ Universal health coverage and health systems strengthening ▪ Deliberate, accidental and biosecurity ▪ Military
Concerns about global health security	This is about reasons why interviewees had (ethical) concerns about global health security and why some of them rejected it	▪ Means to an end ▪ Insincerity ▪ Them and us ▪ Diseases that affect the North ▪ Rejection of the language
Moral underpinning of global health security	This was about how interviewees discussed different values in what global health security should be. These grouped codes eventually made up the four moral models, focusing on interviewees moral	▪ Infectious diseases is the security threat ▪ Elimination of deaths ▪ Government perspectives ▪ Holistic definitions ▪ Collective action ▪ Human security ▪ Moral unease ▪ Trying to make it better ▪ Global South focus ▪ Acute human suffering ▪ Where needed ▪ Literal security concerns
Natural, accidental, deliberate	This was a latent theme looking at the language around naturalness and unnatural outbreaks.	▪ Biological ▪ Natural ▪ Accidental ▪ Deliberate ▪ Threats
Person-centred response	This was an area looking at the emphasis on a person centred response	▪ Person-centred ▪ Holistic ▪ Solidarity
Roles and responsibilities	This was about how interviewees assigned, questioned, and justified roles and responsibilities, and funding considerations related to this.	▪ Military role ▪ Civilian role ▪ Responsibility to prevent

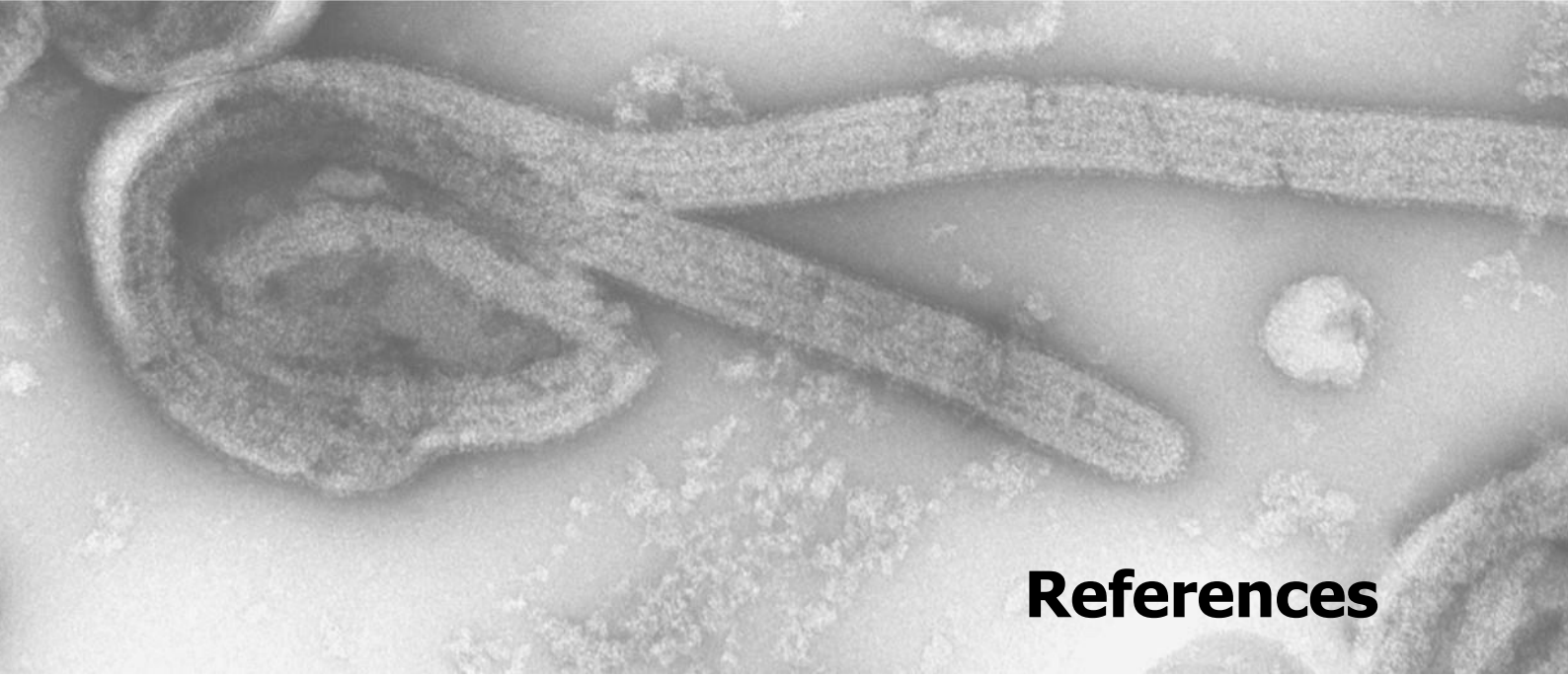
		▪ Responsibility to respond ▪ Challenges with resources / funds
Nationalism	This theme included everything participants said about nationalism, self-interest, and sovereignty, as well as discussion about putting national interests ahead of global interests without using this terminology.	▪ Nationalism defined ▪ Self-interest ▪ Sovereignty ▪ Justifying nationalism
Interviewee motivations to work in global health security	This simply charting self-expressed reasons why participants work in this area.	▪ Altruism ▪ Equity ▪ Sustainability ▪ Non-philanthropic

Appendix 6: Empirical bioethics standards

Standard of practice (from Ives et al. 2018)	My approach
Empirical bioethics research should address a normative issue that is oriented towards practice	Yes, the practice of global health security, even if this is not clinical practice. However, it is not just the practice (Chapter 5) but wider considerations around ethics of global health security enterprise (Chapters 6-8).
Empirical Bioethics research should integrate empirical methods with ethical argument in order to address this normative issue	Empirical chapters (Chapters 5 – 8) combined with argument in discussion. Some sections led by interrogating empirical findings with theory (Section 9.4 and 9.5) whilst other more conceptual analysis of arguments (Section 9.3).
Empirical bioethics researchers ought to be explicit about how the research question(s) asked address the normative issue identified in the aims	Included in methods and reflected on in conclusion.
The theoretical position on integration (that is, the theoretical views on how the empirical and the normative are related) should be made clear and explicit	Adoption of Frith's symbiotic ethics with a theoretical position of moderate pragmatic naturalism adapted.
The method of integration should be explained and justified, including details of what is integrated with what, how and by whom	Explained in methods (Chapter 3), adoption of Frith's symbiotic ethics, but influenced by Wolff's engaged philosophy.
There should be transparency, consistency and rigor in the execution and reporting of the integrating analysis	Explained in methods (Chapter 3) then reflected on in conclusion (Chapter 9, Section 10.5) how far this is possible. Slightly deviated from consistency with not

	same approach to each section (for example, more theory interrogation or argument led) in each chapter, but also wrote these as standalone sections as part of a wider model.
Empirical bioethics research ought to attend to the rigorous implementation of empirical methods, and import accepted standards of conduct from appropriate research paradigm	Used Braun and Clarke's thematic analysis and then Frith's symbiotic ethics. Had social science expertise support from a supervisor.
Empirical bioethics research should, if and where necessary, develop and amend empirical methods to facilitate collection of the data required to meet the aims of the research; but deviation from accepted disciplinary standards and practices ought to be acknowledged and justified	This was a relatively novel context for the application of empirical bioethics being global/public health, but the adaption and context was acknowledged and justified in the methods (Chapter 3).
Empirical bioethics research should reflect on and justify the appropriateness and fit of the chosen empirical methods in relation to (a) the normative aims (b) the stated approach to integration	This is reflected on in the conclusion (Chapter 9, Section 10.5).
Empirical bioethics research should consider and reflect on the implicit ethical and epistemological assumptions of the chosen empirical method	This is contained on the methods (Chapter 3)
In empirical bioethics research there should be thorough delineation of the ethical issue(s), paying attention to, and locating them within, the relevant disciplinary literature	This is somewhat achieved with caveats relating to the cross-disciplinary and broad area (See Chapter 9, Section 10.5).

In empirical bioethics research there should be explicit and robust normative analysis. 'Normative analysis' includes attempts to justify position X to person Y with the use of ethical reasoning, providing suggestion for improvement to position X based on ethical reasoning, or attempts to break down and make explicit a complex normative issue in order to gain a better understanding of it	This was aimed for and I think partially achieved in Chapter 9. In this definition of normative analysis my research tended towards the second part of the definition of 'attempts to break down and make explicit a complex normative issue in order to gain a better understanding of it'.
The empirical bioethics researcher, or the research team as a whole, should possess competence in ethical inquiry, empirical inquiry and methods of integration	Acquired through a MA in Bioethics and Society prior to the DPhil and training on the DPhil including the Ethox RIBBON programme for new DPhils, a University of Oxford week-long qualitative methods course, a multitude of shorter training session and seminars, support from my supervisors who have extensive experience in this area, and learning from the wider Ethox team.
The empirical bioethics researcher(s) should have at least a basic knowledge of bioethics, and an understanding of whatever aspects of other disciplines or fields that are engaged with	As above
Provision should be made for ensuring that any team members can acquire or enhance competence in empirical bioethics research	As above



References

Abeysinghe, S. 2016. Ebola at the borders: newspaper representations and the politics of border control. *Third World Quarterly,* 37**,** 452-467.

Abraham, T. 2011. The chronicle of a disease foretold: pandemic H1N1 and the construction of a global health security threat. *Political Studies,* 59**,** 797-812.

Adebisi, Y. A., Alaran, A. J., Akinokun, R. T., Micheal, A. I., Ilesanmi, E. B. & Lucero-Prisno, D. E. 2020a. Sex workers should not be forgotten in Africa's COVID-19 response. *American Journal of Tropical Medicine & Hygiene,* 103**,** 1780-1782.

Adebisi, Y. A., Ekpenyong, A., Ntacyabukura, B., Lowe, M., Jimoh, N. D., Abdulkareem, T. O. & Lucero-Prisno, D. E. 2020b. COVID-19 highlights the need for inclusive responses to public health emergencies in Africa. *American Journal of Tropical Medicine and Hygiene,* 104**,** 449-452.

Adesanya, O. A. 2020. COVID-19 outbreak in Africa: lessons and insights from the west African Ebola virus disease epidemics. *International Journal of Travel Medicine and Global Health,* 8**,** 96-99.

Aebischer Perone, S., Martinez, E., du Mortier, S., Rossi, R., Pahud, M., Urbaniak, V., Chappuis, F., Hagon, O., Jacquérioz Bausch, F. & Beran, D. 2017. Non-communicable diseases in humanitarian settings: ten essential questions. *Conflict and Health,* 11**,** 17.

Aginam, O. 2005. Bio-terrorism, human security and public health: can international law bring them together in an age of globalization? *Medicine and Law,* 24**,** 455-62.

Agnew, A. 2016. A combative disease: the Ebola epidemic in international law. *Boston College International and Comparative Law Review,* 39**,** 97-128.

Al-Azri, N. H. 2020. Health care workers' legal liability and immunity during the COVID-19 Pandemic. *Disaster Medicine & Public Health Preparedness,* 16**,** 1-2.

Al-Mandhari, A., Kodama, C., Abubakar, A. & Brennan, R. 2020. Solidarity in response to COVID-19 outbreak in the Eastern Mediterranean Region. *Eastern Mediterranean Health Journal,* 26**,** 492-494.

Alawa, J., Alawa, N., Coutts, A., Sullivan, R., Khoshnood, K. & Fouad, F. M. 2020. Addressing COVID-19 in humanitarian settings: a call to action. *Conflict and Health,* 14**,** 64.

Aldis, W. 2008. Health security as a public health concept: a critical analysis. *Health Policy and Planning,* 23**,** 369-375.

Alirol, E., Kuesel, A. C., Guraiib, M. M., de la Fuente-Nunez, V., Saxena, A. & Gomes, M. F. 2017. Ethics review of studies during public health emergencies - the experience of the WHO ethics review committee during the Ebola virus disease epidemic. *BMC Medical Ethics,* 18**,** 43.

Anderson, E.-L. & Beresford, A. 2016. Infectious injustice: the political foundations of the Ebola crisis in Sierra Leone. *Third World Quarterly,* 37**,** 468-486.

Arksey, H. & O'Malley, L. 2005. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology,* 8**,** 19-32.

Armstrong-Mensah, E. A. & Ndiaye, S. M. 2018. Global Health Security Agenda implementation: a case for community engagement. *Health Security,* 16**,** 217-223.

Assefa, Y., Gilks, C. F., van de Pas, R., Reid, S., Gete, D. G. & Van Damme, W. 2021. Reimagining global health systems for the 21st century: lessons from the COVID-19 pandemic. *BMJ Global Health,* 6.

Balasegaram, M., Clift, C. & Rottingen, J.-A. 2015. The global innovation model for antibiotics needs reinvention. *Journal of Law, Medicine & Ethics,* 43**,** 22-6.

Ball, N. 1975. The myth of the natural disaster. *The Ecologist,* 5**,** 368-369.

Ban, J. 2003. Health as a Global Security Challenge. *Seton Hall Journal of Diplomacy and International Relations,* 4**,** 5-57.

Barakat, L. A., Quentzel, H. L., Jernigan, J. A., Kirschke, D. L., Griffith, K., Spear, S. M., Kelley, K., Barden, D., Mayo, D., Stephens, D. S., Popovic, T., Marston, C., Zaki, S. R., Guarner, J., Shieh, W. J., Carver, H. W., 2nd, Meyer, R. F., Swerdlow, D. L., Mast, E. E. & Hadler, J. L. 2002. Fatal inhalational anthrax in a 94-year-old Connecticut woman. *JAMA,* 287**,** 863-8.

Barbiero, V. K. 2020. Ebola: a hyperinflated emergency. *Global Health: Science and Practice,* 8**,** 178-182.

Bartlow, A. W., Middlebrook, E. A., Romero, A. T. & Fair, J. M. 2021. How cooperative engagement programs strengthen sequencing capabilities for biosurveillance and outbreak response. *Frontiers in Public Health,* 9**,** 648424.

Beauchamp, T. L. & Childress, J. F. 2001. Principles of biomedical ethics, *Oxford University Press, UK*.

Belayneh, A. 2020. Off-label use of chloroquine and hydroxychloroquine for COVID-19 treatment in africa against WHO recommendation. *Research and Reports in Tropical Medicine,* 11**,** 61-72.

Bell, J. A. & Nuzzo, J. B. 2021. Global Health Security Index: advancing collective action and accountability amid global crisis.

Bellazzi, F. & Boyneburgk, K. V. 2020. COVID-19 calls for virtue ethics. *Journal of Law and the Biosciences,* 7**,** 056.

Benatar, S. R., Daar, A. S. & Singer, P. A. 2003. Global health ethics: the rationale for mutual caring. *International Affairs,* 79**,** 107-138.

Benjamin, G. C. 2020. Ensuring health equity during the COVID-19 pandemic: the role of public health infrastructure. *Revista Panamericana de Salud Pública,* 44**,** e70.

Bennett, B. & Carney, T. 2017. Public health emergencies of international concern: global, regional, and local responses to risk. *Medical Law Review,* 25**,** 223-239.

Berger, R. 2013. Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research,* 15**,** 219-234.

Bernard, R., Bowsher, G., Milner, C., Boyle, P., Patel, P. & Sullivan, R. 2018. Intelligence and global health: assessing the role of open source and social media intelligence analysis in infectious disease outbreaks. *Journal of Public Health,* 26**,** 509-514.

Bernard, R., Bowsher, G. & Sullivan, R. 2020. COVID-19 and the rise of participatory SIGINT: an examination of the rise in government surveillance through mobile applications. *American Journal of Public Health,* 110**,** 1780-1785.

Bernett, B. 2016. Where to now for reform of global health governance? *Journal of Law and Medicine,* 24**,** 7-14.

Bernstein, J. & Dutkiewicz, J. 2021. A public health ethics case for mitigating zoonotic disease risk in food production. *Food Ethics,* 6**,** 9.

Biruk, C. 2017. Ethical gifts? An analysis of soap-for-data transactions in Malawian survey research worlds. *Medical Anthropology Quarterly,* 31**,** 365-384.

Blinken, A. J. & Becerra, X. 2021. Strengthening global health security and reforming the International Health Regulations: making the world safer from future pandemics. *JAMA,* 326**,** 1255-1256.

Bohoslavsky, J. P. & Rulli, M. 2021. Bretton Woods' pandemic policies: A gender equality analysis-perspectives from Latin America. *Development (Rome),* 64**,** 97-106.

Boschele, M. 2020. COVID-19 Science Policy, Experts, and Publics: Why Epistemic Democracy Matters in Ecological Crises. *Omics a Journal of Integrative Biology,* 24**,** 479-482.

Bower, W. A., Schiffer, J., Atmar, R. L., Keitel, W. A., Friedlander, A. M., Liu, L., Yu, Y., Stephens, D. S., Quinn, C. P. & Hendricks, K. 2019. Use of anthrax vaccine in the united states: recommendations of the Advisory Committee on Immunization Practices, 2019. *MMWR Recommendations and Reports,* 68**,** 1-14.

Bowsher, G., Milner, C. & Sullivan, R. 2016. Medical intelligence, security and global health: the foundations of a new health agenda. *Journal of the Royal Society of Medicine,* 109**,** 269-73.

Boyd, M. & Wilson, N. 2021. Failures with COVID-19 at the international level must not be repeated in an era facing global catastrophic biological risks. *Australian and New Zealand Journal of Public Health,* 45**,** 184.

Bramer, W. M., Giustini, D., de Jonge, G. B., Holland, L. & Bekhuis, T. 2016. De-duplication of database search results for systematic reviews in EndNote. *Journal of the Medical Library Association,* 104**,** 240-243.

Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3**,** 77-101.

Braun, V. & Clarke, V. 2013. Successful qualitative research: A practical guide for beginners*,* London, UK, *SAGE Publications*.

Braun, V. & Clarke, V. 2019. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health,* 11**,** 589-597.

Bravata, D. M., Holty, J. E., Wang, E., Lewis, R., Wise, P. H., McDonald, K. M. & Owens, D. K. 2007. Inhalational, gastrointestinal, and cutaneous anthrax in children: a systematic review of cases: 1900 to 2005. *Archives of Pediatrics & Adolescent Medicine* 161**,** 896-905.

Broom, A. & Willis, E. 2007. Competing paradigms and health research. *In:* Saks, M. & Allsop, J. (eds.) Researching health: qualitative, quantitative and mixed methods. Los Angeles: *SAGE*.

Brown, T. M., Cueto, M. & Fee, E. 2006. The World Health Organization and the transition from "international" to "global" public health. *American Journal of Public Health,* 96**,** 62-72.

Brusa, M. & Barilan, Y. M. 2021. Voluntary COVID-19 vaccination of children: a social responsibility. *Journal of Medical Ethics,* 47**,** 543-546.

Bryman, A. 2012. Social research methods*,* Oxford, UK, *Oxford University Press*.

Bull, S., Roberts, N. & Parker, M. 2015. Views of ethical best practices in sharing individual-level data from medical and public health research: A systematic scoping review. *Journal of Empirical Research on Human Research Ethics,* 10**,** 225-238.

Burkle, F. M. 2020. Declining Public Health Protections within Autocratic Regimes: Impact on Global Public Health Security, Infectious Disease Outbreaks, Epidemics, and Pandemics. *Prehospital & Disaster Medicine,* 35**,** 237-246.

Burkle, F. M., Jr. 2015. Global health security demands a strong International Health Regulations Treaty and leadership from a highly resourced World Health Organization. *Disaster Medicine & Public Health Preparedness,* 9**,** 568-80.

Buzan, B., Wæver, O. & Wilde, J. d. 1998. Security: a new framework for analysis*,* London, UK, *Lynne Rienner*.

Caduff, C. 2015. The pandemic perhaps*,* Oakland, US, *University of California Press*.

Calain, P. & Abu Sa'Da, C. 2015. Coincident polio and Ebola crises expose similar fault lines in the current global health regime. *Conflict and Health,* 9**,** 29.

Caplan, A. L. & Curry, D. R. 2015. Refugees, humanitarian aid and the right to decline vaccinations. *Journal of Medical Ethics,* 41**,** 276-7.

Casale, M. 2020. COVID-19: can this crisis be transformative for global health? *Global Public Health,* 15**,** 1740-1752.

Centers for Disease Control and Prevention. 2017. Prevent avoidable epidemics, including naturally occurring, accidental, or intentional outbreaks. [Online]. Available: https://www.cdc.gov/globalhealth/security/ghsareport/2017/prevent.html [Accessed Jan 2023].

Chmutina, K. & von Meding, J. 2019. A dilemma of language: “natural disasters” in academic literature. *International Journal of Disaster Risk Science,* 10**,** 283-292.

Cleavel, S., Sharp, J., Abela-Ridder, B., Allan, K. J., Buza, J., Crump, J. A., Davis, A., Del Rio Vilas, V. J., de Glanville, W. A., Kazwala, R. R., Kibona, T., Lankester, F. J., Lugelo, A., Mmbaga, B. T., Rubach, M. P., Swai, E. S., Waldman, L., Haydon, D. T., Hampson, K. & Halliday, J. E. B. 2017. One Health contributions towards more effective and equitable approaches to health in low- and middle-income countries. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences,* 372.

Collier, S. J. & Lakoff, A. 2008. The problem of securing health. *Biosecurity interventions: global health and security in question***,** 7-32.

Connolly, J. 2017. Governing towards 'One Health': Establishing knowledge integration in global health security governance. *Global Policy,* 8**,** 483-494.

Connolly, M. A., Gayer, M., Ryan, M. J., Salama, P., Spiegel, P. & Heymann, D. L. 2004. Communicable diseases in complex emergencies: impact and challenges. *Lancet (British edition),* 364**,** 1974-1983.

Conrad, P. & Barker, K. K. 2010. The social construction of illness: key insights and policy implications. *Journal of Health and Social Behavior,* 51**,** S67-S79.

Corpuz, J. C. G. 2021. COVID-19 vaccination certificate (CVC) for ASEAN: the way forward? *Journal of Public Health,* 9**,** 09.

Coyne, C. J. & Yatsyshina, Y. 2020. Pandemic Police States. *Peace Economics, Peace Science and Public Policy,* 26**,** 1329-64.

Crane, J. 2010. Adverse events and placebo effects: African scientists, HIV, and ethics in the 'global health sciences'. *Social Studies of Science,* 40**,** 843-870.

Cutcliffe, J. R. 2003. Reconsidering reflexivity: Introducing the case for intellectual entrepreneurship. *Qualitative Health Research,* 13**,** 136-148.

D'Souza, N. A., Guzder, J., Hickling, F. & Groleau, D. 2018. The ethics of relationality in implementation and evaluation research in global health: reflections from the dream-a-world program in Kingston, Jamaica. *BMC Medical Ethics,* 19**,** 50.

Dąbrowska-Kłosińska, P. 2021. The protection of human rights in pandemics—reflections on the past, present, and future. *German Law Journal,* 22**,** 1028-1038.

Dahbour, O. 2011. Nationalism. *In:* Chatterjee, D. K. (ed.) Encyclopedia of global justice. Dordrecht, The Netherlands: *Springer Netherlands*.

Davidson, B., Sherman, S., Barraza, L. & Marinissen, M. J. 2015. Legal challenges to the international deployment of government public health and medical personnel during public health emergencies: impact on national and global health security. *The Journal of law, medicine & ethics : a journal of the American Society of Law, Medicine & Ethics,* 43 Suppl 1**,** 103-6.

Davies, R., Ives, J. & Dunn, M. 2015a. A systematic review of empirical bioethics methodologies. *BMC Medical Ethics,* 16**,** 15.

Davies, S. E. 2010. What contribution can international relations make to the evolving global health agenda? *International Affairs,* 86**,** 1167-90.

Davies, S. E., Kamradt-Scott, A., Rushton, S. & ProQuest 2015b. Disease diplomacy: international norms and global health security, Baltimore, US, *Johns Hopkins University Press*.

Davies, S. E. & Rushton, S. 2016. Public health emergencies: a new peacekeeping mission? Insights from UNMIL's role in the Liberia Ebola outbreak. *Third World Quarterly,* 37**,** 419-435.

De Bengy Puyvalleé, A. & Kittlesen, S. 2019. "Disease knows no borders": pandemics and the politics of global health security. *In:* Bjørkdahl, K. & Carlsen, B. (eds.) Pandemics, publics, and politics: staging responses to public health crises.

De Beukelaer, C. 2021. COVID-19 border closures cause humanitarian crew change crisis at sea. *Marine Policy,* 132**,** 104661.

De Hert, S. 2020. Burnout in healthcare workers: prevalence, impact and preventative strategies. *Local and Regional Anesthesia,* 13**,** 171-183.

de Mesquita, J. B., Kapilashrami, A. & Meier, B. M. 2021. Strengthening Human rights in global health law: lessons from the COVID-19 response. *Journal of Law, Medicine & Ethics,* 49**,** 328-331.

De Schutter, H. & Hazenberg, H. 2011. Miller, David. *In:* Chatterjee, D. K. (ed.) Encyclopedia of Global Justice*.* Dordrecht, NETHERLANDS, THE: *Springer Netherlands*.

De Vries, R. 2004. How can we help? From "sociology in" to "sociology of" bioethics. *Journal of Law, Medicine & Ethics,* 32**,** 279-92, 191.

Dembek, Z. F., Kortepeter, M. G. & Pavlin, J. A. 2007. Discernment between deliberate and natural infectious disease outbreaks. *Epidemiology & Infection,* 135**,** 353-71.

Devereux, S. 2021. Social protection responses to COVID-19 in Africa. *Global Social Policy,* 21**,** 421-447.

Devnani, M. & Guo, Y. 2015. Isolation of an individual already treated for Ebola: has India gone too far? *Indian Journal of Medical Ethics,* 12**,** 246-8.

Dimakou, O., Romero, M. J. & Van Waeyenberge, E. 2021. Never let a pandemic go to waste: turbocharging the private sector for development at the World Bank. *Canadian Journal of Development Studies,* 42**,** 221-237.

Dixon-Woods, M., Cavers, D., Agarwal, S., Annandale, E., Arthur, A., Harvey, J., Hsu, R., Katbamna, S., Olsen, R., Smith, L., Riley, R. & Sutton, A. J. 2006. Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. *BMC Medical Research Methodology,* 6**,** 35.

Draper, H. & Jenkins, S. 2017. Ethical challenges experienced by UK military medical personnel deployed to Sierra Leone (Operation GRITROCK) during the 2014-2015 Ebola outbreak: a qualitative study. *BMC Medical Ethics,* 18**,** 77.

Duff, J. H., Liu, A., Saavedra, J., Batycki, J. N., Morancy, K., Stocking, B., Gostin, L. O., Galea, S., Bertozzi, S., Zuniga, J. M., Alberto-Banatin, C., Dansua, A. S., Del Rio, C., Kulzhanov, M., Lee, K., Scaglia, G., Shahpar, C., Ullmann, A. J., Hoffman, S. J., Weinstein, M. & Szapocznik, J. 2021. A global public health convention for the 21st century. *Lancet Public Health,* 6**,** e428-e433.

Dunn, M., Sheehan, M., Hope, T. & Parker, M. 2012. Toward methodological innovation in empirical ethics research. *Cambridge Quarterly of Healthcare Ethics,* 21**,** 466-80.

Ebuenyi, I. D. 2020. COVID-19: an opportunity for African governments to rethink social welfare benefits and protection. *Pan African Medical Journal,* 35**,** 64.

Eccleston-Turner, M. & Wenham, C. 2021. Declaring a public health emergency of international concern: between international law and politics*,* Bristol, UK, *Bristol University Press*.

Echols, B. 2018. "Heal thyself."-an argument for granting asylum to healthcare workers persecuted during the 2014 West African Ebola crisis. *SMU Law Review,* 71**,** 1153-79.

Edgell, A. B., Lachapelle, J., Luhrmann, A. & Maerz, S. F. 2021. Pandemic backsliding: Violations of democratic standards during Covid-19. *Social Science & Medicine,* 285**,** 114244.

Ekpenyong, A. & Pacheco, M. S. 2020. COVID-19: reflecting on the role of the WHO in knowledge exchange between the Global North and South. *Global Social Policy,* 20**,** 388-392.

Elbe, S. 2010. Haggling over viruses: the downside risks of securitizing infectious disease. *Health Policy and Planning,* 25**,** 476-485.

Elbe, S. 2011a. Pandemics on the radar screen: health security, infectious disease and the medicalisation of insecurity. *Political Studies,* 59**,** 848-866.

Elbe, S. 2011b. Should health professionals play the global health security card? *Lancet,* 378**,** 220-1.

Elbe, S. 2014. The pharmaceuticalisation of security: molecular biomedicine, antiviral stockpiles, and global health security. *Review of International Studies,* 40**,** 919-938.

Elbe, S. 2018. Pandemics, pills, and politics: governing global health security*,* Baltimore, US, *Johns Hopkins University Press*.

Emanuel, E. J., Buchanan, A., Chan, S. Y., Fabre, C., Halliday, D., Leland, R. J., Luna, F., McCoy, M. S., Norheim, O. F., Schaefer, G. O., Tan, K. C. & Wellman, C. H. 2021. On the ethics of vaccine nationalism: The case for the fair priority for residents framework. *Ethics & International Affairs,* 35**,** 543-562.

Emanuel, E. J., Persad, G., Kern, A., Buchanan, A., Fabre, C., Halliday, D., Heath, J., Herzog, L., Leland, R. J., Lemango, E. T., Luna, F., McCoy, M. S., Norheim, O. F., Ottersen, T., Schaefer, G. O., Tan, K.-C., Wellman, C. H., Wolff, J. & Richardson, H. S. 2020. An ethical framework for global vaccine allocation. *Science,* 369**,** 1309-1312.

Enemark, C. 2007. Disease and security: natural plagues and biological weapons in East Asia*,* London, UK, *Routledge*.

Enemark, C. 2017a. Biosecurity dilemmas: dreaded diseases, ethical responses, and the health of nations*,* Washington, US, *Georgetown University Press*.

Enemark, C. 2017b. Influenza virus research and EU export regulations: publication, proliferation, and pandemic risks. *Medical Law Review,* 25**,** 293-313.

Enemark, C. 2018. Global bioheroes: clinical research and new vaccines for health security. *Australian Journal of International Affairs,* 72**,** 584-601.

Enria, L. 2019. The Ebola crisis in Sierra Leone: mediating containment and engagement in humanitarian emergencies. *Development and Change,* 50**,** 1602-1623.

Erondu, N. A., Conde Iya, S. & Rahman-Shepherd, A. 2020. WHO has been reformed: How can it be empowered to lead global public health? *Global Social Policy,* 20**,** 393-398.

Fassin, D. 2010. Ethics of survival: a democratic approach to the politics of life. *Humanity: An International Journal of Human Rights, Humanitarianism, and Development,* 1**,** 81-95.

Ferhani, A. & Rushton, S. 2020. The International Health Regulations, COVID-19, and bordering practices: Who gets in, what gets out, and who gets rescued? *Contemporary Security Policy,* 41**,** 458-477.

Fidler, D. P. 2005. From International Sanitary Conventions to global health security: the new International Health Regulations. *Chinese Journal of International Law,* 4**,** 325-392.

Fidler, D. P. & Gostin, L. O. 2006. The new International Health Regulations: an historic development for international law and public health. *Journal of Law, Medicine & Ethics,* 34**,** 85-94, 4.

Folayan, M. O., Peterson, K. & Kombe, F. 2015. Ethics, emergencies and Ebola clinical trials: the role of governments and communities in offshored research. *The Pan African medical journal,* 22 Suppl 1**,** 10.

Fraulin, G., Lee, S. & Bartels, S. A. 2021. 'They came with cholera when they were tired of killing us with bullets': Community perceptions of the 2010 origin of Haiti's cholera epidemic. *Global Public Health***,** 1-15.

Frenk, J., Gómez-Dantés, O. & Moon, S. 2014. From sovereignty to solidarity: a renewed concept of global health for an era of complex interdependence. *Lancet,* 383**,** 94-97.

Frieden, T. R. & Buissonniere, M. 2021. Will a global preparedness treaty help or hinder pandemic preparedness? *BMJ Global Health,* 6.

Friedman, E. A., Finch, A. & Gostin, L. O. 2023. Pandemic treaty: the conceptual zero draft [Online]. Available: https://oneill.law.georgetown.edu/pandemic-treaty-the-conceptual-zero-draft/ [Accessed May 2023].

Frith, L. 2012. Symbiotic empirical ethics: a practical methodology. *Bioethics,* 26**,** 198-206.

Fukuda-Parr, S., Buss, P. & Ely Yamin, A. 2021. Pandemic treaty needs to start with rethinking the paradigm of global health security. *BMJ Global Health,* 6**,** 06.

Gaillard, J.-C., Liamzon, C. C. & Villanueva, J. D. 2007. 'Natural' disaster? A retrospect into the causes of the late-2004 typhoon disaster in Eastern Luzon, Philippines. *Environmental Hazards,* 7**,** 257-270.

Gearóid Ó, C. & Switzer, S. 2019. Ebola and the airplane – securing mobility through regime interactions and legal adaptation. *Leiden Journal of International Law,* 32**,** 71-89.

Geertz, C. 1973. Thick description: toward an interpretative theory of culture. The interpretation of cultures*.* New York: *Basic Books*.

Gemine, R., Davies, G. R., Tarrant, S., Davies, R. M., James, M. & Lewis, K. 2021. Factors associated with work-related burnout in NHS staff during COVID-19: a cross-sectional mixed methods study. *BMJ Open,* 11**,** e042591.

Gibson, A. D. 2009. Miasma revisited - the intellectual history of tropical medicine. *Australian Family Physician,* 38**,** 57-9.

Gillard, E.-C. 2021. IHL and the humanitarian impact of counterterrorism measures and sanctions. Unintended ill effects of well-intended measures. *In:* House, C. (ed.). London, UK.

Global Health Security Agenda. 2023. A partnership against global health threats [Online]. Available: https://globalhealthsecurityagenda.org/ [Accessed April 2023].

Global Health Security Initiative. 2023. About the GHSI [Online]. Available: http://ghsi.ca/about/ [Accessed April 2023].

Gomez-Temesio, V. 2018. Outliving death: Ebola, zombies, and the politics of saving lives. *American Anthropologist,* 120**,** 738-751.

Gostin, L. O. 2014a. Chapter 6: the International Health Regulations: responding to public health emergencies of international concern. *In:* Gostin, L. O. (ed.) Global health law*.* London, England: *Harvard University Press*.

Gostin, L. O. 2014b. Chapter 12: pandemic influenza: a case study on global health security. Global health law*.* London, England: *Harvard University Press*.

Gostin, L. O. 2017. Our shared vulnerability to dangerous pathogens. *Medical Law Review,* 25**,** 185-199.

Gostin, L. O. 2021. Global health security: a blueprint for the future*,* Cambridge, US, *Harvard University Press*.

Gostin, L. O., DeBartolo, M. C. & Friedman, E. A. 2015. The International Health Regulations 10 years on: the governing framework for global health security. *Lancet,* 386**,** 2222-6.

Gostin, L. O. & Hodge, J. G., Jr. 2016. Zika virus and global health security. *Lancet Infectious Diseases,* 16**,** 1099-1100.

Gostin, L. O. & Katz, R. 2016. The International Health Regulations: the governing framework for global health security. *Milbank Quarterly,* 94**,** 264-313.

Gostin, L. O., Meier, B. M. & Stocking, B. 2021. Developing an innovative pandemic treaty to advance global health security. *Journal of Law, Medicine & Ethics,* 49**,** 503-508.

Gostin, L. O. & Phelan, A. 2014. The global health security agenda in an age of biosecurity. *JAMA,* 312**,** 27-8.

Gostin, L. O., Phelan, A., Stoto, M. A., Kraemer, J. D. & Reddy, K. S. 2014. Virus sharing, genetic sequencing, and global health security. *Science,* 345**,** 1295-6.

Gostin, L. O., Sircar, N. R. & Friedman, E. A. 2019. Fighting novel diseases amidst humanitarian crises. *Hastings Center Report,* 49**,** 6-9.

Gostin, L. O., Tomori, O., Wibulpolprasert, S., Jha, A. K., Frenk, J., Moon, S., Phumaphi, J., Piot, P., Stocking, B., Dzau, V. J. & Leung, G. M. 2016. Toward a common secure future: four global commissions in the wake of Ebola. *PLoS Medicine,* 13**,** e1002042.

Gould, K. A., Garcia, M. M. & Remes, J. A. 2016. Beyond" natural-disasters-are-not-natural": the work of state and nature after the 2010 earthquake in Chile. *Journal of Political Ecology,* 23**,** 93-114.

Grant, J. M. 2016. From subjects to relations: Bioethics and the articulation of postcolonial politics in the Cambodia Pre-Exposure Prophylaxis trial. *Social Studies of Science,* 46**,** 236-258.

Gruber, M. F. 2022. Current status of monkeypox vaccines. *NPJ Vaccines,* 7**,** 94.

Guevara, M. S. 2022. A humanitarian perspective: keeping people and their health, not national security, at the centre. *Australian Journal of International Affairs,* 76**,** 17-21.

Guzman, J., Hafner, T., Maiga, L. A. & Giedion, U. 2021. COVID-19 vaccines pricing policy options for low-income and middle- income countries. *BMJ Global Health,* 6.

Hanrieder, T. & Kreuder-Sonnen, C. 2014. WHO decides on the exception? Securitization and emergency governance in global health. *Security Dialogue,* 45**,** 331-348.

Harman, S. 2016. Ebola, gender and conspicuously invisible women in global health governance. *Third World Quarterly,* 37**,** 524-541.

Harman, S. & Wenham, C. 2022. The UN Security Council and gender in health emergencies: what comes next? *Australian Journal of International Affairs,* 76**,** 22-26.

Harris, J. & Holm, S. 2000. The future of human reproduction: ethics, choice and regulation*,* Oxford, UK *Oxford University Press*.

Harvey, W. S. 2011. Strategies for conducting elite interviews. *Qualitative Research,* 11**,** 431-441.

Hassan, I., Mukaigawara, M., King, L., Fern, es, G. & Sridhar, D. 2021. Hindsight is 2020? Lessons in global health governance one year into the pandemic. *Nature Medicine,* 27**,** 396-400.

Hedgecoe, A. M. 2007. Medical sociology and the redundancy of empirical ethics', in R.E. Ashcroft et al (eds.) ,. *In:* Ashcroft, R. E., Dawson A., Draper, H., McMillan, J. (ed.) Principles of Health Care Ethics*.* Second edition ed. Chichester: *Wiley.*

Heymann, D. L., Chen, L., Takemi, K., Fidler, D. P., Tappero, J. W., Thomas, M. J., Kenyon, T. A., Frieden, T. R., Yach, D., Nishtar, S., Kalache, A., Olliaro, P. L., Horby, P., Torreele, E., Gostin, L. O., Ndomondo-Sigonda, M., Carpenter, D., Rushton, S., Lillywhite, L., Devkota, B., Koser, K., Yates, R., Dhillon, R. S. & Rannan-Eliya, R. P. 2015. Global health security: the wider lessons from the west African Ebola virus disease epidemic. *Lancet,* 385**,** 1884-901.

Ho, J. M., Li, Y. T. & Whitworth, K. 2021. Unequal discourses: Problems of the current model of world health development. *World Development,* 137**,** 105176.

Hoff, N. A., Bratcher, A., Kelly, J. D., Musene, K., Kompany, J. P., Kabamba, M., Mbala-Kingebeni, P., Dighero-Kemp, B., Kocher, G., Elliott, E., Reilly, C., Halbrook, M., Ilunga Kebela, B., Gadoth, A., Ngoie Mwamba, G., Tambu, M., McIlwain, D. R., Mukadi, P., Hensley, L. E., Ahuka-Mundeke, S., Rutherford, G. W., Muyembe-Tamfum, J. J. & Rimoin, A. W. 2022. Immunogenicity of rVSVΔG-ZEBOV-GP Ebola vaccination in exposed and potentially exposed persons in the Democratic Republic of the Congo. *Proceedings of the National Academy of Sciences,* 119.

Hoffman, S. J. 2010. The evolution, etiology and eventualities of the global health security regime. *Health Policy and Planning,* 25**,** 510-22.

Hoffmaster, C. B. 2001. Bioethics in social context*,* Philadelphia, US, *Temple University Press*.

Hofmann, B. 2023. Biases in bioethics: a narrative review. *BMC Medical Ethics,* 24**,** 17.

Honigsbaum, M. 2017. Between securitisation and neglect: managing Ebola at the borders of global health. *Medical History,* 61**,** 270-294.

Horodovenko, V. V., Udovyka, L. G. & Dichko, H. O. 2020. Ensuring Respect for Human Rights and Freedoms in the Context of States' Measures Introduction to Combat the Covid-19 Pandemic: European Experience. *Wiadomosci Lekarskie,* 73**,** 2773-2779.

Horton, R. 2017. Offline: global health security-smart strategy or naive tactics? *Lancet,* 389**,** 892.

Horton, R. & Das, P. 2015. Global health security now. *Lancet,* 385**,** 1805-6.

Hout, M. C. v. & Wells, J. S. G. 2021. The right to health, public health and COVID-19: a discourse on the importance of the enforcement of humanitarian and human rights law in

conflict settings for the future management of zoonotic pandemic diseases. *Public Health,* 192**,** 3-7.

Hume, D. (ed.) [1738] 2020. A treatise concerning human nature*,* Online: *Liberty Fund (content in public domain)*.

Ip, E. C. 2021. The constitutional economics of the World Health Organization. *Health Economics, Policy and Law,* 16**,** 325-339.

Irwin, R. 2010. Indonesia, H5N1, and global health diplomacy. *Global Health Governance,* III.

Ives, J. 2014. A method of reflexive balancing in a pragmatic, interdisciplinary and reflexive bioethics. *Bioethics,* 28**,** 302-12.

Ives, J. & Dunn, M. 2010. Who's arguing? A call for reflexivity in bioethics. *Bioethics,* 24**,** 256-265.

Ives, J., Dunn, M. & Cribb, A. 2016. Theoretical perspectives: an introduction. *In:* Cribb, A., Ives, J. & Dunn, M. (eds.) Empirical bioethics: theoretical and practical perspectives*.* Cambridge: *Cambridge University Press*.

Ives, J., Dunn, M., Molewijk, B., Schildmann, J., Bærøe, K., Frith, L., Huxtable, R., Landeweer, E., Mertz, M., Provoost, V., Rid, A., Salloch, S., Sheehan, M., Strech, D., de Vries, M. & Widdershoven, G. 2018. Standards of practice in empirical bioethics research: towards a consensus. *BMC Medical Ethics,* 19**,** 68.

Jain, V. 2020. Financing global health emergency response: outbreaks, not agencies. *Journal of Public Health Policy,* 41**,** 196-205.

Jain, V. & Alam, A. 2017. Redefining universal health coverage in the age of global health security. *BMJ Global Health,* 2**,** e000255.

Jamrozik, E. & Heriot, G. S. 2020. Pandemic public health policy: with great power comes great responsibility. *Internal Medicine Journal,* 50**,** 1169-1173.

Jennings, B. 1990. Ethics and Ethnography in Neonatal Intensive Care. *In:* Weisz, G. (ed.) Social Science Perspectives on Medical Ethics*.* Dordrecht: *Springer Netherlands*.

Jernigan, J. A., Stephens, D. S., Ashford, D. A., Omenaca, C., Topiel, M. S., Galbraith, M., Tapper, M., Fisk, T. L., Zaki, S., Popovic, T., Meyer, R. F., Quinn, C. P., Harper, S. A., Fridkin, S. K., Sejvar, J. J., Shepard, C. W., McConnell, M., Guarner, J., Shieh, W. J., Malecki, J. M., Gerberding, J. L., Hughes, J. M. & Perkins, B. A. 2001. Bioterrorism-related inhalational anthrax: the first 10 cases reported in the United States. *Emerging Infectious Diseases,* 7**,** 933-44.

Johnson, O., Walsh, S. & Olonisakin, F. 2022. The role of the UN Security Council in health emergencies: lessons from the Ebola response in Sierra Leone. *Australian Journal of International Affairs,* 76**,** 11-16.

Kamradt-Scott, A. 2008. Managing global health security: The World Health Organization and disease outbreak control*,* London, UK, *Palgrave Macmillan*.

Kamradt-Scott, A. 2011a. The evolving WHO: implications for global health security. *Global Public Health,* 6**,** 801-13.

Kamradt-Scott, A. 2011b. A public health emergency of international concern? Response to a proposal to apply the International Health Regulations to antimicrobial resistance. *PLoS Medicine,* 8**,** e1001021.

Kamradt-Scott, A. 2016. WHO's to blame? The World Health Organization and the 2014 Ebola outbreak in West Africa. *Third World Quarterly,* 37**,** 401-418.

Karan, A. 2020. How should global health security priorities be set in the Global North and West? *AMA Journal of Ethics,* 22**,** E50-54.

Karunajeewa, H. 2020. Hydroxychloroquine for coronavirus: how not to repurpose a drug during a pandemic. *Internal Medicine Journal,* 50**,** 1307-1310.

Keikelame, M. J. 2018. 'The tortoise under the couch': an African woman's reflections on negotiating insider- outsider positionalities and issues of serendipity on conducting a qualitative research project in Cape Town, South Africa. *International Journal of Social Research Methodology,* 21**,** 219-230.

Kelman, I. 2020. Disaster by choice: how our actions turn natural hazards into catastrophes*,* Oxford, UK, *Oxford University Press*.

Khan, T., Abimbola, S., Kyobutungi, C. & Pai, M. 2022. How we classify countries and people-and why it matters. *BMJ Glob Health,* 7.

Kickbusch, I., Orbinski, J., Winkler, T. & Schnabel, A. 2015. We need a sustainable development goal 18 on global health security. *Lancet,* 385**,** 1069.

King, J. C., Jr., Gao, Y., Quinn, C. P., Dreier, T. M., Vianney, C. & Espeland, E. M. 2015. Evaluation of anthrax vaccine safety in 18 to 20 year olds: A first step towards age de-escalation studies in adolescents. *Vaccine,* 33**,** 2470-6.

Kokudo, N. & Sugiyama, H. 2020. Call for international cooperation and collaboration to effectively tackle the COVID-19 pandemic. *Global Health & Medicine,* 2**,** 60-62.

Kopelman, L. M. 2004. Minimal risk as an international ethical standard in research. *Journal of Medicine and Philosophy,* 29**,** 351-78.

Lakoff, A. 2017. Unprepared: global health in a time of emergency. *Unprepared: global health in a time of emergency*.

Lal, A., Erondu, N. A., Heymann, D. L., Gitahi, G. & Yates, R. 2021. Fragmented health systems in COVID-19: rectifying the misalignment between global health security and universal health coverage. *Lancet,* 397**,** 61-67.

Lamb, D. 2018. Factors affecting the delivery of healthcare on a humanitarian operation in West Africa: A qualitative study. *Applied Nursing Research,* 40**,** 129-136.

Lancet Commission on COVID Vaccines 2021. Operation Warp Speed: implications for global vaccine security. *Lancet Global Health,* 9**,** e1017-e1021.

Lanzarone, A., Tullio, V., Argo, A. & Zerbo, S. 2021. When a virus (COVID-19) attacks human rights: the situation of asylum seekers in the medico-legal setting. *Medico-Legal Journal,* 89**,** 29-30.

Lee, K. 2020. WHO under fire: the need to elevate the quality of politics in global health. *Global Social Policy,* 20**,** 374-377.

Leget, C., Borry, P. & de Vries, R. 2009. 'Nobody tosses a dwarf!' The relation between the empirical and the normative reexamined. *Bioethics,* 23**,** 226-235.

Lencucha, R. & Bandara, S. 2021. Trust, risk, and the challenge of information sharing during a health emergency. *Global Health,* 17**,** 21.

Levine, P. 2021. Why protect civil liberties during a pandemic? *Journal of Public Health Policy,* 42**,** 154-159.

Li, J., Guo, K., Viedma, E. H., Lee, H., Liu, J., Zhong, N., Autran Monteiro Gomes, L. F., Filip, F. G., Fang, S. C., Ozdemir, M. S., Liu, X., Lu, G. & Shi, Y. 2020. Culture versus policy: more global collaboration to effectively combat COVID-19. *Innovation (Cambridge),* 1**,** 100023.

Li, Y., Wang, H., Jin, X.-R., Li, X., Pender, M., Song, C.-P., Tang, S.-L., Cao, J., Wu, H. & Wang, Y.-G. 2018. Experiences and challenges in the health protection of medical teams in the Chinese Ebola treatment center, Liberia: a qualitative study. *Infectious Diseases of Poverty,* 7**,** 92.

Li, Z., Lu, J. & Lv, J. 2021. The inefficient and unjust global distribution of COVID-19 vaccines: From a perspective of critical global justice. *Inquiry,* 58**,** 469580211060992.

Linde Arias, A. R., Tristan-Cheever, E., Furtado, G. & Siqueira, E. 2020. "Too much to ask, too much to handle": women's coping in times of Zika. *International Journal of Environmental Research & Public Health,* 17**,** 26.

Lo Iacono, V., Symonds, P. & Brown, D. H. K. 2016. Skype as a tool for qualitative research interviews. *Sociological Research Online,* 21**,** 103-117.

Luna, F. 2009. Elucidating the concept of vulnerability: layers not labels. *International Journal of Feminist Approaches to Bioethics,* 2**,** 121-139.

Luna, F. 2014. 'Vulnerability', an interesting concept for public health: the case of older persons. *Public Health Ethics,* 7**,** 180-194.

Lyttleton, C. 2018. Vigilance and sentinels in global health security. *Medical Anthropology,* 37**,** 327-342.

Madhav, N., Oppenheim, B., Gallivan, M., Mulembakani, P., Rubin, E. & Wolfe, N. 2017. Pandemics: Risks, Impacts, and Mitigation. *In:* Jamison, D. T., Gelband, H., Horton, S., Jha, P., Laxminarayan, R., Mock, C. N. & Nugent, R. (eds.) Disease Control Priorities: Improving Health and Reducing Poverty. Washington DC, US: *The International Bank for Reconstruction and Development / The World Bank.*

Malik, S. M., Barlow, A. & Johnson, B. 2021. Reconceptualising health security in post-COVID-19 world. *BMJ Global Health,* 6**,** 07.

Mantena, S., Rogo, K. & Burke, T. F. 2020. Re-examining the race to send ventilators to low-resource settings. *Respiratory Care,* 65**,** 1378-1381.

Maslach, C., Jackson, S. E. & Leiter, M. P. 1997. Maslach Burnout Inventory: third edition. Evaluating stress: A book of resources. Lanham, MD, US: *Scarecrow Education*.

Mason-Bish, H. 2018. The elite delusion: reflexivity, identity and positionality in qualitative research. *Qualitative Research,* 19**,** 263-276.

Masumbuko Claude, K., Underschultz, J. & Hawkes, M. T. 2019. Social resistance drives persistent transmission of Ebola virus disease in Eastern Democratic Republic of Congo: a mixed-methods study. *PloS One,* 14**,** e0223104.

Mayhew, S. H., Kyamusugulwa, P. M., Kihangi Bindu, K., Richards, P., Kiyungu, C. & Balabanova, D. 2021. Responding to the 2018-2020 Ebola Virus Outbreak in the Democratic Republic of the Congo: Rethinking Humanitarian Approaches. *Risk Management & Healthcare Policy,* 14**,** 1731-1747.

McCloskey, B., Dar, O., Zumla, A. & Heymann, D. L. 2014. Emerging infectious diseases and pandemic potential: status quo and reducing risk of global spread. *Lancet Infectious Diseases,* 14**,** 1001-10.

McDougall, R. 2015. Reviewing literature in bioethics research: increasing rigour in non-systematic reviews. *Bioethics,* 29**,** 523-528.

McInnes, C. 2016. Crisis! What crisis? Global health and the 2014–15 West African Ebola outbreak. *Third World Quarterly,* 37**,** 380-400.

McMillan, J. 2016. Empirical Bioethics and the Fact/Value Distinction. *In:* Cribb, A., Ives, J. & Dunn, M. (eds.) Empirical Bioethics: Theoretical and Practical Perspectives. Cambridge, UK: *Cambridge University Press*.

Melton, L. 2000. Lifesaving vaccine caught in an ethical minefield. *Lancet,* 356**,** 318.

Meselson, M., Guillemin, J., Hugh-Jones, M., Langmuir, A., Popova, I., Shelokov, A. & Yampolskaya, O. 1994. The Sverdlovsk anthrax outbreak of 1979. *Science,* 266**,** 1202-8.

Mill, J. S. 1904. Nature, the utility of religion and theism*,* London, UK, *Watts & Co*.

Miller, D. 2007. National responsibility and global justice. Oxford, UK: Oxford University Press.

Milstien, J. & Lambert, S. 2002. Emergency response vaccines--a challenge for the public sector and the vaccine industry. *Vaccine,* 21**,** 146-54.

Moodie, A., Gerami, N. & D'Alessandra, F. 2021. Rethinking health security after COVID-19. Oxford, UK: University of Oxford.

Moore, G. E. [1903] 2006. Principia ethica*,* Online, *Project Gutenberg (in the public domain)*.

Moreno, J. 1999. Bioethics is a naturalism. *In:* McGee, G. (ed.) Pragmatic Bioethics*.* London, UK: *Vanderbilt University*.

Morley, G., Ives, J., Bradbury-Jones, C. & Irvine, F. 2019. What is 'moral distress'? A narrative synthesis of the literature. *Nursing Ethics,* 26**,** 646-662.

Morse, J. M. 2015. "Data were saturated . . . ". *Qualitative Health Research,* 25**,** 587-588.

Musunuri, S., Sandbrink Jonas, B., Monrad Joshua, T., Palmer Megan, J. & Koblentz Gregory, D. 2021. Rapid proliferation of pandemic research: Implications for dual-use risks. *mBio,* 12**,** e01864-21.

Nelson, M. J. 2021. Pandemic politics in South Asia: Muslims and democracy. *Review of Faith & International Affairs,* 19**,** 83-94.

Nesamoney, S. N., Darmstadt, G. L. & Wise, P. H. 2021. Addressing the impacts of COVID-19 on gender equality and global health security in regions of violent conflict. *Journal of Global Health,* 11**,** 03074.

Nhamo, G., Chikodzi, D., Kunene, H. P. & Mashula, N. 2020. COVID-19 vaccines and treatments nationalism: challenges for low-income countries and the attainment of the SDGs. *Global Public Health,* 16**,** 319-339.

Noblit, G. W. & Hare, R. D. 1988. Meta-ethnography. Thousand Oaks, US: SAGE Publications.

Novossiolova, T. 2017. Comparing responses to natural, accidental and deliberate biological events. *Revue Scientifique et Technique* 36**,** 647-656.

Noyce, R. S., Lederman, S. & Evans, D. H. 2018. Construction of an infectious horsepox virus vaccine from chemically synthesized DNA fragments. *PLoS One,* 13**,** e0188453.

Nuffield Council on Bioethics 2015. Ideas about naturalness in public and political debates about science, technology and medicine. London, UK.

Nuffield Council on Bioethics 2020. Research in global health emergencies: ethical issues. London, UK: Nuffield Council on Bioethics.

Nunes, J. 2016. Ebola and the production of neglect in global health. *Third World Quarterly,* 37**,** 542-556.

Nussbaum, M. 2000. Women and human development: the capabilities approach*,* Cambridge University Press, *Cambridge*.

O'Keefe, P., Westgate, K. & Wisner, B. 1976. Taking the naturalness out of natural disasters. *Nature,* 260**,** 566-567.

O'Malley, P., Rainford, J. & Thompson, A. 2009. Transparency during public health emergencies: from rhetoric to reality. *Bulletin of the World Health Organization,* 87**,** 614-618.

Office of the High Commissioner for Human Rights. 2022. OHCHR and the 2030 Agenda for Sustainable Development [Online]. Geneva, Switzerland: *United Nations,*. Available: https://www.ohchr.org/sites/default/files/Documents/Issues/MDGs/Post2015/SDG_HR_Table.pdf [Accessed Jan 2023].

Olu, O. O. 2016. The Ebola virus disease outbreak in West Africa: a wake-up call to revitalize implementation of the International Health Regulations. *Frontiers in Public Health,* 4**,** 120.

Ong, A., Kindhauser, M., Smith, I. & Chan, M. 2008. A global perspective on avian influenza. *Annals of the Academy of Medicine, Singapore,* 37**,** 477-81.

Ooms, G., Beiersmann, C., Flores, W., Hanefeld, J., Muller, O., Mulumba, M., Ottersen, T., Sarker, M. & Jahn, A. 2017. Synergies and tensions between universal health coverage and global health security: why we need a second 'Maximizing Positive Synergies' initiative. *BMJ Global Health,* 2**,** e000217.

Organization for Economic Cooperation and Development. 2023. DAC List of ODA Recipients [Online]. Available: https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/daclist.htm [Accessed October 2023].

Ouzzani, M., Hammady, H., Fedorowicz, Z. & Elmagarmid, A. 2016. Rayyan—a web and mobile app for systematic reviews. *Systematic Reviews,* 5**,** 210.

Pallister-Wilkins, P. 2016. Personal Protective Equipment in the humanitarian governance of Ebola: between individual patient care and global biosecurity. *Special Issue: The international politics of Ebola.,* 37**,** 507-523.

Papadimos, T. J., Marcolini, E. G., Hadian, M., Hardart, G. E., Ward, N., Levy, M. M., Stawicki, S. P. & Davidson, J. E. 2018. Ethics of outbreaks position statement. Part 1: therapies, treatment limitations, and duty to treat. *Critical Care Medicine,* 46**,** 1842-1855.

Parker, J. C. 2020. Conceptual clarity in clinical bioethical analysis. *Journal of Medicine and Philosophy,* 45**,** 1-15.

Parker, M. 2009. Two concepts of empirical ethics. *Bioethics,* 23**,** 202-213.

Parker, M., Hanson, T. M., Vandi, A., Babawo, L. S. & Allen, T. 2019. Ebola and public authority: saving loved ones in Sierra Leone. *Medical Anthropology,* 38**,** 440-454.

Patterson, A. & Clark, M. A. 2020. COVID-19 and power in global health. *International Journal of Health Policy and Management,* 9**,** 429-431.

Patterson, D. & Dineke Zeegers, P. 2020. COVID-19 and human rights - why should the public health community be concerned? *European Journal of Public Health,* 30**,** 852-853.

Paul, E., Brown, G. W. & Ridde, V. 2020. COVID-19: time for paradigm shift in the nexus between local, national and global health. *BMJ Global Health,* 5.

Perkins, D., Danskin, K., Rowe, A. E. & Livinski, A. A. 2019. The culture of biosafety, biosecurity, and responsible conduct in the life sciences: A comprehensive literature review. *Applied Biosafety,* 24**,** 34-45.

Peterson, A., Largent, E. A. & Karlawish, J. 2020. Ethics of reallocating ventilators in the COVID-19 pandemic. *British Medical Journal,* 369**,** m1828.

Pilch, R., Pomper, M., Luster, J. & Lentzos, F. 2020. A guide to investigating outbreak origins: nature versus the laboratory. *In:* James Martin Center for Nonproliferation Studies Middlebury Institute for International Studies at Monterey (ed.) *CNS Occasional Paper #49. .* Monterey, US.

Presidential Commission for the Study of Bioethical Issues 2013. Safeguarding children. Pediatric medical countermeasure research. Washington DC, US.

Quinn, S. C. & Kumar, S. 2014. Health inequalities and infectious disease epidemics: a challenge for Global Health Security. *Special Issue: Global Health Security Agenda.,* 12**,** 263-273.

Racine, E. 2008. Which naturalism for bioethics? A defense of moderate (pragmatic) naturalism. *Bioethics,* 22**,** 92-100.

Rackimuthu, S., Narain, K., Lal, A., Nawaz, F. A., Mohanan, P., Essar, M. Y. & Charles Ashworth, H. 2022. Redressing COVID-19 vaccine inequity amidst booster doses: charting a bold path for global health solidarity, together. *Global Health,* 18**,** 23.

Rainey, S. & Giubilini, A. 2021. Return to status quo ante: the need for robust and reversible pandemic emergency measures. *Cambridge Quarterly of Healthcare Ethics,* 30**,** 222-233.

Rainey, S., Mormina, M., Lignou, S., Nguyen, J. & Larsson, P. 2021. The Post-Normal Challenges of COVID-19: Constructing Effective and Legitimate Responses. *Science & Public Policy,* 48**,** 592-601.

Rajan, D. & Koch, K. 2020. The health democracy deficit and COVID-19. *Eurohealth,* 26**,** 26-28.

Rappert, B. & Selgelid, M. J. 2013. Dual uses of science and ethics: principles, practices, and prospects*,* Canberra, *ANU Press*.

Ravi, S. J., Meyer, D., Cameron, E., Nalabandian, M., Pervaiz, B. & Nuzzo, J. B. 2019. Establishing a theoretical foundation for measuring global health security: a scoping review. *BMC Public Health,* 19**,** 954.

Renault, V., Humblet, M. F. & Saegerman, C. 2021. Biosecurity concept: origins, evolution and perspectives. *Animals (Basel),* 12.

Rhodes, R. 2021. Justice in COVID-19 vaccine prioritisation: rethinking the approach. *Journal of Medical Ethics,* 47**,** 623.

Ribeiro, C. D. S., van Roode, M. Y., Haringhuizen, G. B., Koopmans, M. P., Claassen, E. & van de Burgwal, L. H. M. 2018. How ownership rights over microorganisms affect infectious disease control and innovation: A root-cause analysis of barriers to data sharing as experienced by key stakeholders. *PloS One,* 13**,** e0195885.

Richey, L. A., Gissel, L. E., Kweka, O. L., Baerendtsen, P., Kragelund, P., Hambati, H. Q. & Mwamfupe, A. 2021. South-South humanitarianism: the case of COVID-organics in Tanzania. *World Development,* 141**,** 1.

Rivera-Amarillo, C. & Camargo, A. 2020. Zika assemblages: women, populationism, and the geographies of epidemiological surveillance. *Gender, Place & Culture* 27**,** 412-428.

Roberts, S. L. & Elbe, S. 2016. Catching the flu: syndromic surveillance, algorithmic governmentality and global health security. *Security Dialogue,* 48**,** 46-62.

Robson, G., Gibson, N., Thompson, A., Benatar, S. & Denburg, A. 2019. Global health ethics: critical reflections on the contours of an emerging field, 1977–2015. *BMC Medical Ethics,* 20**,** 53.

Roddy, P., Weatherill, D., Jeffs, B., Abaakouk, Z., Dorion, C., Rodriguez-Martinez, J., Palma, P. P., de la Rosa, O., Villa, L., Grovas, I. & Borchert, M. 2007. The Medecins Sans Frontieres intervention in the Marburg hemorrhagic fever epidemic, Uige, Angola, 2005. II. lessons learned in the community. *The Journal of infectious diseases,* 196 Suppl 2**,** S162-7.

Roemer-Mahler, A. & Elbe, S. 2016. The race for Ebola drugs: pharmaceuticals, security and global health governance. *Third World Quarterly,* 37**,** 487-506.

Rogers, W., Mackenzie, C. & Dodds, S. 2012. Why bioethics needs a concept of vulnerability. *International Journal of Feminist Approaches to Bioethics,* 5**,** 11-38.

Rojek, A., M., a. & Horby, P. W. 2016. Modernising epidemic science: enabling patient-centred research during epidemics. *BMC Medicine,* 14**,** 212.

Rojek, A. M. & Horby, P. W. 2017. Offering patients more: how the West Africa Ebola outbreak can shape innovation in therapeutic research for emerging and epidemic infections. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences,* 372.

Roper, S. L. 2019. What can be learnt from Ebola about the dangers of the global health security approach? *Transactions of the Royal Society of Tropical Medicine and Hygiene,* 113**,** 805-806.

Ross, J. W. 1989. The militarization of disease: do we really want a war on AIDS? *Soundings: An Interdisciplinary Journal,* 72**,** 39-58.

Royal College of Physicans 2021. Ethical dimensions of COVID-19 for frontline staff. London, UK.

Royo-Bordonada, M. A., Garcia Lopez, F. & J., o. 2016. Ethical considerations surrounding the response to Ebola: the Spanish experience. *BMC medical ethics,* 17**,** 49.

Rumbold, B., Wenham, C. & Wilson, J. 2017. Self-tests for influenza: an empirical ethics investigation. *BMC Medical Ethics,* 18**,** 33.

Rushton, S. 2011. Global health security: security for whom? security from what? *Political Studies,* 59**,** 779-796.

Rushton, S. 2022. Can we rely on the Security Council during health emergencies? *Australian Journal of International Affairs,* 76**,** 35-39.

Santoro, M. A. 2021. Why the United Nations is not the ideal forum for business and human rights: the UNGPs and the right to COVID-19 vaccine access in the Global South. *Business and Human Rights Journal,* 6**,** 326-335.

Savulescu, J. 2015. Science wars - how much risk should soldiers be exposed to in military experimentation? *Journal of Law and the Biosciences,* 2**,** 99-104.

Schmitt, C. [1922] 2005. Political theology: four chapters on the concept of sovereignty*.,* Chicago, IL: , *University of Chicago Press*.

Schoch-Spana, M., Cicero, A., Adalja, A., Gronvall, G., Kirk Sell, T., Meyer, D., Nuzzo, J. B., Ravi, S., Shearer, M. P., Toner, E., Watson, C., Watson, M. & Inglesby, T. 2017. Global Catastrophic Biological Risks: Toward a Working Definition. *Health Secur,* 15**,** 323-328.

Schofield, G., Brangan, E., Dittborn, M., Huxtable, R. & Selman, L. 2019. Real-world ethics in palliative care: protocol for a systematic review of the ethical challenges reported by specialist palliative care practitioners in their clinical practice. *BMJ Open,* 9**,** e028480-e028480.

Schofield, G., Dittborn, M., Selman, L. E. & Huxtable, R. 2021. Defining ethical challenge(s) in healthcare research: a rapid review. *BMC Medical Ethics,* 22**,** 135.

Schutz, A. 1962. Collected Papers. Volume 1*.,* The Hague, *Martinus Nijhoff*.

Schwartz, J. L. 2012. The first rotavirus vaccine and the politics of acceptable risk. *Milbank Quarterly,* 90**,** 278-310.

Seale, C. 1999. Chapter 7: grounding theory. The Quality of Qualitative Research*.* London, UK: *SAGE Publications Ltd*.

Sehovic, A. B. 2020. Towards a new definition of health security: a three-part rationale for the twenty-first century. *Global Public Health,* 15**,** 1-12.

Sehovic, A. B. & Govender, K. 2021. Addressing COVID-19 vulnerabilities: how do we achieve global health security in an inequitable world. *Global Public Health,* 16**,** 1198-1208.

Sekalala, S., Forman, L., Habibi, R. & Meier, B. M. 2020. Health and human rights are inextricably linked in the COVID-19 response. *BMJ Global Health,* 5**,** 09.

Selgelid, M. J. 2016. Gain-of-function research: ethical analysis. *Science and Engineering Ethics,* 22**,** 923-964.

Selgelid, M. J. & Enemark, C. 2008. Infectious diseases, security and ethics: the case of HIV/AIDS. *Bioethics,* 22**,** 457-65.

Shaver, K. G. 2012. The attribution of blame: causality, responsibility, and blameworthiness, *Springer Science & Business Media*.

Siipi, H. 2003. Artefacts and living artefacts. *Environmental Values,* 12**,** 413-430.

Siipi, H. 2008. Dimensions of naturalness. *Ethics and the Environment,* 13**,** 71-103.

Simba, H. & Ngcobo, S. 2020. Are pandemics gender neutral? Women's health and COVID-19. *Frontiers in Global Women's Health,* 1**,** 570666.

Singer, P. 1972. Famine, affluence, and morality. *Philosophy & Public Affairs,* 1**,** 229-243.

Singh, B. & Chattu, V. K. 2021. Prioritizing 'equity' in COVID-19 vaccine distribution through global health diplomacy. *Health Promotion Perspectives,* 11**,** 281-287.

Smith, J. 2015. Global health security: a flawed SDG framework. *Lancet,* 385**,** 2249.

Smith, J. 2019. Overcoming the 'tyranny of the urgent': integrating gender into disease outbreak preparedness and response. *Gender & Development,* 27**,** 355-369.

Smith, M. J., Forman, L., Parker, M., Perehudoff, K., Rawson, B. & Sekalala, S. 2021a. Should COVID-19 vaccines authorized for emergency use be considered "essential" medicines? *Health and Human Rights,* 23**,** 145.

Smith, M. J., Ujewe, S., Katz, R. & Upshur, R. E. G. 2021b. Emergency use authorisation for COVID-19 vaccines: lessons from Ebola. *Lancet,* 396**,** 1709-1711.

Sofaer, N. & Strech, D. 2012. The need for systematic reviews of reasons. *Bioethics,* 26**,** 315-28.

Southall, H. G., DeYoung, S. E. & Harris, C. A. 2017. Lack of cultural competency in international aid responses: the Ebola outbreak in Liberia. *Frontiers in Public Health,* 5**,** 5.

Standley, C. J., Sorrell, E. M., Kornblet, S., Fischer, J. E. & Katz, R. 2015. Implementation of the International Health Regulations (2005) Through Cooperative Bioengagement. *Frontiers in public health,* 3**,** 231.

Stephenson, N. 2011. Emerging infectious disease/emerging forms of biological sovereignty. *Science, Technology, and Human Values,* 36**,** 616-637.

Stone, K. W., Kintziger, K. W., Jagger, M. A. & Horney, J. A. 2021. Public health workforce burnout in the COVID-19 response in the U.S. *International Journal of Environmental Research and Public Health,* 18.

Strech, D., Synofzik, M. & Marckmann, G. 2008. Systematic reviews of empirical bioethics. *Journal of Medical Ethics,* 34**,** 472-7.

Sullivan, J. R. 2012. Skype: an appropriate method of data collection for qualitative interviews? *The Hilltop Review,* 6**,** 10.

Tabbaa, D. 2020. International Health Regulations and COVID-19 pandemic, challenges and gaps. *Veterinaria Italiana,* 56**,** 237-244.

Taghizade, S., Chattu, V. K., Jaafaripooyan, E. & Kevany, S. 2021. COVID-19 pandemic as an excellent opportunity for global health diplomacy. *Frontiers in Public Health,* 9**,** 655021.

Tediosi, F., Lonnroth, K., Pablos-Mendez, A. & Raviglione, M. 2020. Build back stronger universal health coverage systems after the COVID-19 pandemic: the need for better governance and linkage with universal social protection. *BMJ Global Health,* 5.

Thomson, S., Ip, Eric C 2020. COVID-19 emergency measures are hurting democracy globally. *American Journal of Public Health,* 110**,** 1356-1357.

Toebes, B., Forman, L. & Bartolini, G. 2020. Toward human rights-consistent responses to health emergencies. *Health and Human Rights,* 22**,** 99-111.

Tol, R. S. J. & Verheyen, R. 2004. State responsibility and compensation for climate change damages—a legal and economic assessment. *Energy Policy,* 32**,** 1109-1130.

Tozzo, P., Politi, C., Gabbin, A. & Caenazzo, L. 2020. To take care of those on the front line against Covid-19: is it possible to limit medical liability? *Science & Justice,* 60**,** 311-312.

United Nations Commission on Human Rights 1984. Siracusa principles on the limitation and derogation provisions in the International Covenant on Civil and Political Rights. New York, US: United Nations,.

van Daalen, K. R., Bajnoczki, C., Chowdhury, M., Dada, S., Khorsand, P., Socha, A., Lal, A., Jung, L., Alqodmani, L., Torres, I., Ouedraogo, S., Mahmud, A. J., Dhatt, R., Phelan, A. & Rajan, D. 2020. Symptoms of a broken system: the gender gaps in COVID-19 decision-making. *BMJ Global Health,* 5.

Vasileiou, K., Barnett, J., Thorpe, S. & Young, T. 2018. Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. *BMC Medical Research Methodology,* 18**,** 148.

Ventura, D. d. F. L. 2016. From Ebola to Zika: international emergencies and the securitization of global health. *Cadernos de Saúde Pública,* 32**,** e00033316.

Viglione, G. 2020. Are women publishing less during the pandemic? Here's what the data say. *Nature,* 581**,** 365-366.

Vinuales, J., Moon, S., Le Moli, G. & Burci, G. L. 2021. A global pandemic treaty should aim for deep prevention. *Lancet,* 397**,** 1791-1792.

Vora, N., Hannah, L., Walzer, C., Vale, M., Lieberman, S., Emerson, A., Jennings, J., Alders, R., Bonds, M., Evans, J., Chilukuri, B., Cook, S., Sizer, N. & Epstein, J. 2023. Interventions to reduce risk for pathogen spillover and early disease spread to prevent outbreaks, epidemics, and pandemics. *Emerging Infectious Diseases,* 29**,** 1.

Wahlberg, A., Rehmann-Sutter, C., Sleeboom-Faulkner, M., Lu, G., Döring, O., Cong, Y., Laska-Formejster, A., He, J., Chen, H., Gottweis, H. & Rose, N. 2013. From global bioethics to ethical governance of biomedical research collaborations. *Social Science & Medicine,* 98**,** 293-300.

Wallace Brown, G. & Stoeva, P. 2017. Re-evaluating health security from a cosmopolitan perspective. *In:* Rushton, S. & Youde, J. R. (eds.) Routledge handbook of global health security. London, UK: *Routledge*.

Walsh, A., Brugha, R. & Byrne, E. 2016. "The way the country has been carved up by researchers": ethics and power in north–south public health research. *International Journal for Equity in Health,* 15**,** 204.

Watters, K. E., Kirkpatrick, J., Palmer, M. J. & Koblentz, G. D. 2021. The CRISPR revolution and its potential impact on global health security. *Pathogens and Global Health,* 115**,** 80-92.

Watterson, C. & Kamradt-Scott, A. 2015. Fighting flu: securitization and the military role in combating influenza. *Armed Forces & Society,* 42**,** 145-168.

Weijer, C. 2000. The future of research into rotavirus vaccine. *British Medical Journal,* 321**,** 525.

Wells, C. R., Pandey, A., Parpia, A. S., Fitzpatrick, M. C., Meyers, L. A., Singer, B. H. & Galvani, A. P. 2019. Ebola vaccination in the Democratic Republic of the Congo. *Proceedings of the National Academy of Sciences,* 116**,** 10178-10183.

Wenham, C. 2016. Ebola responsibility: moving from shared to multiple responsibilities. *Third World Quarterly,* 37**,** 436-451.

Wenham, C. 2017. What we have learnt about the World Health Organization from the Ebola outbreak. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences,* 372.

Wenham, C. 2019. The oversecuritization of global health: changing the terms of debate. *International Affairs,* 95**,** 1093-1110.

Wenham, C. 2021. Feminist global health security*,* New York, *Oxford University Press*.

Wenham, C., Abagaro, C., Arevalo, A., Coast, E., Correa, S., Cuellar, K., Leone, T. & Valongueiro, S. 2021a. Analysing the intersection between health emergencies and abortion during Zika in Brazil, El Salvador and Colombia. *Social Science & Medicine,* 270**,** 113671.

Wenham, C., Arevalo, A., Coast, E., Correa, S., Cuellar, K., Leone, T., Valongueiro, S. & ra 2019a. Zika, abortion and health emergencies: a review of contemporary debates. *Globalization and Health,* 15**,** 49.

Wenham, C., Katz, R., Birungi, C., Boden, L., Eccleston-Turner, M., Gostin, L., Guinto, R., Hellowell, M., Onarheim, K. H., Hutton, J., Kapilashrami, A., Mendenhall, E., Phelan, A., Tichenor, M. & Sridhar, D. 2019b. Global health security and universal health coverage: from a marriage of convenience to a strategic, effective partnership. *BMJ Global Health,* 4**,** e001145.

Wenham, C., Kavanagh, M., Phelan, A., Rushton, S., Voss, M., Halabi, S., Eccleston-Turner, M. & Pillinger, M. 2021b. Problems with traffic light approaches to Public Health Emergencies of International Concern. *Lancet,* 397**,** 1856-1858.

Wernli, D., Jørgensen, P. S., Morel, C. M., Carroll, S., Harbarth, S., Levrat, N. & Pittet, D. 2017. Mapping global policy discourse on antimicrobial resistance. *BMJ Global Health,* 2**,** e000378.

White, D. B. & Lo, B. 2020. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA,* 323**,** 1773-1774.

Wickramage, K., Gostin, L. O., Friedman, E., Prakongsai, P., Suphanchaimat, R., Hui, C., Duigan, P., Barragan, E. & Harper, D. R. 2018. Missing: where are the migrants in pandemic influenza preparedness plans? *Health and Human Rights,* 20**,** 251-258.

Wilson, K., Halabi, S. & Gostin, L. O. 2020. The International Health Regulations (2005), the threat of populism and the COVID-19 pandemic. *Global Health,* 16**,** 70.

Wilson, K., von Tigerstrom, B. & McDougall, C. 2008. Protecting global health security through the International Health Regulations: requirements and challenges. *Canadian Medical Association Journal,* 179**,** 44-8.

Wolff, J. 2012. Global justice and health: the basis of the global health duty. Global Justice and Bioethics*.* Oxford, UK: *Oxford University Press*.

Wolff, J. 2019. Method in philosophy and public policy: applied philosophy versus engaged philosophy. *In:* Lever, A. & Poama, A. (eds.) Routledge handbook of ethics and public policy*.* Abingdon, UK: *Routledge*.

World Health Organization 2004. International Health Regulations. Geneva, Switzerland: World Health Organization.

World Health Organization 2007. Global public health security in the 21st century: a safer future. Geneva, Switzerland: World Health Organization.

World Health Organization 2022. Bridging the gap between ethics and decision-making in pandemics: report of the WHO Pandemic Ethics and Policy Summit, 6 December 2021. Geneva: World Health Organization.

World Health Organization. 2023a. Review committee on the functioning of the International Health Regulations (2005) during the COVID-19 response [Online]. Geneva, Switzerland: *World Health Organization,*. Available: https://www.who.int/teams/ihr/ihr-review-committees/covid-19 [Accessed March 2023].

World Health Organization. 2023b. Zero draft of the WHO CA+ for the consideration of the Intergovernmental Negotiating Body at its fourth meeting [Online]. Geneva, Switzerland: *World Health Organization,*. Available: https://apps.who.int/gb/inb/e/e_inb-4.html [Accessed March 2023].

Yeh, K. B., Parekh, F. K., Borgert, B., Olinger, G. G. & Fair, J. M. 2021. Global health security threats and related risks in Latin America. *Global Security: Health, Science and Policy,* 6**,** 18-25.

Yimer, B., Ashebir, W., Wolde, A. & Teshome, M. 2020. COVID-19 and global health security: overview of the Global Health Security Alliance, COVID-19 response, African countries' approaches, and ethics. *Disaster Medicine & Public Health Preparedness***,** 1-5.

Zielinski, C. 2021. Infodemics and infodemiology: a short history, a long future. *Revista Panamericana de Salud Pública,* 45**,** e40.

Zwitter, A. & Gstrein, O. J. 2020. Big data, privacy and COVID-19 – learning from humanitarian expertise in data protection. *Journal of International Humanitarian Action,* 5.

