General Practitioner Workforce Sustainability to Maximise Effective and Equitable Patient Care:

Findings from a Realist Review

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Key Findings and Recommendations

Background

UK and global primary care are in crisis with a shortage of General Practitioners (GPs) (1, 2). Recent strategies to address this have included attempts to reduce GP workload, such as the introduction of technology and additional healthcare professional roles (3). However, it remains unclear whether these strategies are effective at sustaining the GP workforce.

Previous research about the GP workforce has tended to focus on individual factors (e.g. recruitment and retention) (1). This review takes a broader view, to understand how the nature of GP work, social interactions and related organisational and system-level factors influence GP workforce sustainability. Throughout this review, we included a strong focus on approaches which facilitate GPs to provide effective and equitable patient care. We aimed to look 'under the bonnet' of GP work to explore not only why people might leave, but also understand the 'glue' and 'joy' which enable GPs to flourish and thrive (4, 5).

Aim

To examine how the nature of general practice work and healthcare systems support GP workforce sustainability and effective, equitable patient care.

What We Did

We conducted a realist review to bring together available and relevant evidence and expertise (6). This approach has been compared to building a jigsaw: bringing individual pieces together to form a bigger picture, thereby producing new insights and understanding. A realist review selects, uses and connects each piece of evidence to build causal explanations about a complex process or intervention – here, GP workforce sustainability. It examines the interplay between contexts (conditions), mechanisms (underlying causal forces), and outcomes (desirable and/or undesirable).

A realist review draws on multiple perspectives, including research evidence and experiential knowledge. A review begins by finding existing theories about what works, why, how and for whom. These theories are identified within published research literature, as well as wide-ranging resources (e.g. websites) and conversations with public (e.g. patients and carers, often referred to as 'PPI') and professional (stakeholder) representatives. Identified theories are used to inform the initial focus for evidence searches and subsequent article selection, data extraction and analysis.

This evidence synthesis is expressed by forming **Context–Mechanism–Outcomes (CMOs)**, which inform an overall 'programme theory' or explanation of the research topic and questions (see Table 1).

This review included 168 documents (106 published research articles, 2 conference abstracts, and 60 other types such as policy reports, guidance articles, and editorials), published between 2013 and 2023, focusing on the UK but with findings relevant internationally (5).

Key Findings

This review identified three main factors influencing GP workforce sustainability:

1 Meaningful Work and Engagement

Meaningful Aspects of Clinical Practice:
GP work is intellectually stimulating and can be very rewarding, particularly where systems enable agile and flexible application of expertise to personalise care. GPs find their work more engaging and rewarding when it aligns with their core values (7–9). Meaningful work includes direct interactions with patients and peers, patient advocacy, personalised healthcare, and developing long-term therapeutic relationships (10–14). Administrative work is less burdensome where it is integrated or connected with known patients or peers.

Challenges:
High workloads, bureaucratic monitoring, and target-driven accountability can prevent GPs from engaging in meaningful work (15–18). GPs are experts in integrating and managing complex patient care. However, where there are fewer direct interactions, or tasks become disconnected or depersonalised, GP work becomes less rewarding with fewer opportunities to use expertise to adapt or enhance work. Policies emphasising compartmentalisation (e.g. single disease focus, task separation) and commodification (e.g. payment by reward) of GP work can distort doctor-patient relationships and reduce opportunities for therapeutic connections (12, 17).

2 Relationships Across Individuals, Organisations, and Communities

Connection-Rich Contexts:
Direct interactions with patients and colleagues foster meaningful practice and psychological safety, creating opportunities for reciprocal care and mutual acts of compassion (19, 21). This supports safe and cost-effective management of risk and enables GPs to personalise care and support appropriate use of investigations and treatment. Technology platforms (e.g. e-consulting), referral management software, and supervising allied healthcare professionals to deliver patient care, can contribute to meaningful work, but can also increase indirect care responsibilities, reducing direct patient/peer engagement and eroding continuity of care (22, 23). This makes decision-making more challenging, particularly in situations of complexity and uncertainty.

Collaborative Relationships:
Continuity between patients and GPs enables opportunities for mutual care (9, 13, 18, 20). 'Demand' is dynamic (not fixed) and opportunities for mutual care can shape the negotiation of care needs (e.g. a patient knowing 'when to worry' vs feeling 'alone and in crisis') and help-seeking behaviour (e.g. appointment type – urgent or planned – and frequency).

Knowledge Accumulation:
Long-term relationships with patients, peers and communities enable GPs to provide more appropriate care by strengthening and drawing on their deep understanding of individual and community needs (19, 20).

3 Learning and Development

Enabling Cultures and Organisations:
Regular interactions with colleagues and established systems for knowledge exchange enhance GPs' sense of connection and adaptability (7, 24–26). Informal engagement and peer support, such as group practice meetings and mentoring systems, are crucial for GPs to thrive.

Psychological Safety:
A climate of psychological safety, where GPs feel supported and trusted, is essential for ongoing learning and effective patient care (18, 27, 28). Trust is particularly important when dealing with diagnostic uncertainty and risk.

Recommendations

General Practice can be highly effective and efficient, minimising the need for investigations and focusing care to address patients' needs. To do this, GPs need opportunities to identify and prioritise care needs with patients/carers, and direct patient/carer engagement to support tolerance and negotiation of risk. To sustain a GP workforce capable of delivering effective and equitable patient care, this review proposes the following priorities:

Support GPs in Tolerating and Negotiating Risk

- Enable GPs to work directly with patients to identify and prioritise care needs and align person-centred values with work requirements
- Provide system flexibility and agility. This enables GPs to use their expertise to adapt and implement personalised and cost-effective care

Foster Meaningful Work and Engagement

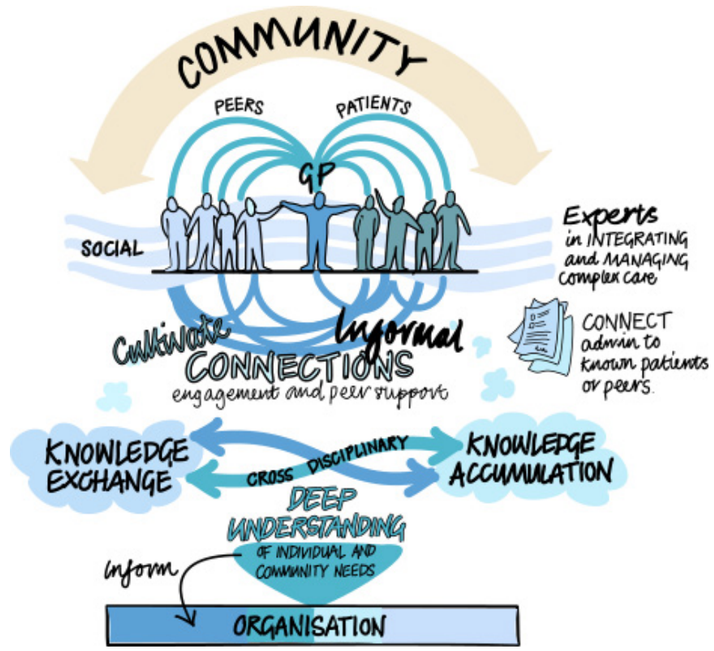
- Ensure congruence between GPs' core values (e.g. to address patient and community needs) and the nature of their work
- Balance work demands with available resources, such as appropriate consultation time
- Recognise and enable intellectual stimulation within GP work

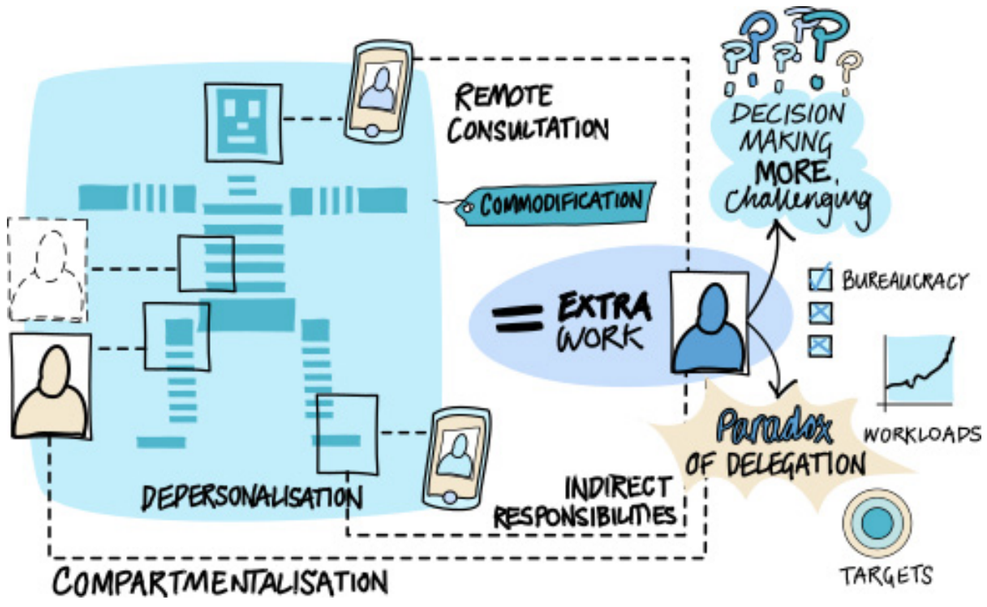
Strengthen Relationships Across Individuals, Organisations, and Communities

- Patient 'demand' is dynamic (not fixed) and benefits from strong relationships between patients and practice staff and opportunities for mutual care
- Cultivate connection-rich contexts with direct interactions within work activities
- Facilitate direct connections and cross-disciplinary learning opportunities between peers and organisations
- Enable informal learning, engagement, and peer support

Promote Learning and Development

- Embed spaces for learning and exchanging cumulative knowledge into learning structures and systems
- Promote enabling cultures and dynamic learning systems to facilitate the negotiation of risk, ambiguity, and uncertainty





Recommendations Continued...

Table 1. Refined Programme Theory: Key Recommendations for Future GP Workforce Sustainability to Maximise Effective and Equitable Patient Care

Facilitators	
1 **Meaningful Work and Engagement**	• Congruence between GPs' core values and the nature of their work • Opportunities for reciprocal care and mutual acts of compassion • Balance work demands and available resources (e.g. appropriate consultation time) • Support GP roles as advocates and enable GP/patient agency • Recognise and enable intellectual stimulation in GP work (e.g. agile and flexible expertise to personalise/contextualise care)
2 **Relationships Across Individuals, Organisations, and Communities**	• Connection-rich contexts (direct interactions and connections within work activities) • Cultivate and use cumulative knowledge (regarding local people and place) to inform the organisation and delivery of care • Facilitate direct connections and cross-disciplinary learning opportunities between peers and organisations • Enable informal learning, engagement, and peer support
3 **Learning and Development**	• Climate of psychological safety that enables opportunities for care and on-going practice-based learning with patients and peers • Embed spaces for learning and exchanging cumulative knowledge into learning structures and systems • Promote enabling cultures and dynamic learning systems to facilitate the negotiation of risk, ambiguity, and uncertainty
Barriers	
	• Depersonalisation and commodification of GP work • Lack of recognition/planning to support potential disconnection and additional work inherent in remote consulting • Paradox of delegation to supervise and support allied healthcare professionals

Conclusion

We need a thriving and engaged GP workforce if we are to deliver long-term, effective and equitable patient care.

GP work can be both rewarding and cost-effective. GPs use their expertise to meet the needs of patients within available resources. While some solutions to patient challenges are straightforward, GPs often need to reach beyond the scope of standardised and protocolised care. GP expertise helps patients, for example, navigate the management of multiple conditions, balance complex social and physical demands, or prioritise treatment approaches. These processes are easier to achieve where GPs can interact directly with patients and colleagues to help navigate options and inherent uncertainties and risks.

This report identifies three barriers to a thriving and engaged GP workforce: **commodification** (where GP work is compartmentalised and/or GPs treated as interchangeable resources, rather than experts in their community), **depersonalisation** (breaking the GP–patient or GP–peer connection that supports adaptation and long-term care), and the **paradox of delegation** (where simpler tasks are taken on by other practice members, leaving the GP with a relentless workload of complex or stressful cases; whilst adding supervisory responsibility and risk).

To overcome these barriers, today we must:

- **Support GPs to tolerate and negotiate risk:** using direct interactions and local knowledge to adapt care to the individual is both equitable and cuts costs
- **Strengthen relationships across individuals, organisations, and communities** to better cultivate and use existing expertise and resources
- **Tackle patient demand as dynamic not fixed:** reciprocal care between patients and GPs builds trust, reduces GP load, and minimises patients' perceived sense of urgency or crisis
- **Foster meaningful work and engagement:** direct connections between people and work help foster meaning, shared values and engagement with work
- **Promote learning and development** to help GPs thrive

Adequate funding is essential for sustainable healthcare, but it is not simply about budget: it is about how our healthcare systems support and adapt the way GPs work. Primary care, and especially GPs, are the gate-keepers and gate-openers to more expensive, secondary NHS resources such as hospitals. By overcoming current barriers to long-term effective and equitable care, we can help GPs thrive, improve patient experience, and reduce overall cost to the NHS.

Meaningful Aspects of Clinical Practice

When GPs can allocate time to aspects of their practice they find meaningful (**C**), they are more engaged in their work (**O**), because they experience a sense of congruence between their core values and the nature of work (**M**).

> ***As front–line clinicians, GPs reported fulfilment, excitement, and a sense of purpose, achieved through responding to patients' needs and offering long–term support.***
> (12)

> ***Meaningful work [is] an orientation towards taking care of significant things of independent value and that offers autonomy, freedom and dignity. In turn, this work is experienced as worthwhile. Meaningful work relies on mutuality, with shared ethics and appropriate structural enablers needed to allow people to contribute with dignity and autonomy around a common goal.***
> (18)

Commodification of Work

When policies and guidelines emphasise the compartmentalisation (e.g.single disease management) and commodification (e.g. payment/reward) of GP work (**C**) this can change the doctor–patient relationship (**O**), because GPs feel pressurised into reducing opportunities for therapeutic connections, situated knowledge, and continuity of care (**M**).

> ***Most often GPs described a slow process of disillusionment and burnout, feeling alienated from a system that had changed the role of general practice from a community–based, person–centred profession that offered continuity of care to a managed service emphasising targets and budgets. Being increasingly squeezed between administrative and patient demands, and having ever less discretion, respect and collegial support afforded to them, sapped their job of pleasure.***
> (17)

Reciprocal Caring: Dynamic Demand and Mutual Acts of Compassion

When a patient feels they know or are known by a practice or clinician(s) (**C**), they are more likely to trust and feel cared for by them (**M**), maximising collaborative preparation (e.g. pre–empting problems, discussing 'red flags', or safety netting), facilitating patient care for practitioners, and where appropriate minimising a patient's sense of crisis and perceived urgency of need in relation to health outcomes (**O**).

> ***When you are ready, you're gonna go to that person 'cause you've built that trust along the way. I trust that they're not gonna railroad me into something.***
> (patient with lived experience 9)

> ***I soon realised that I was enfolded into a mindful and concerned network that had anchorage in personal familiarity. The patients, professional, and support staff together functioned largely through shared experiences and individual understandings. From these grew bonds of trust, support, and affection. Such relationships were the threads weaving a nexus of care: how we could both look after, and look out for, one another.***
> (29)

Imbalance Between Work Demands and Available Resources

When there is an imbalance between demands (e.g. workload) and available resources (e.g. finance, peer and organisational support) (**C**), GPs may be more likely to disengage (**O**) as they perceive the quality and/or nature of their work to be unsustainable (**M**)

> ***It comes back to the GP numbers again... I know there's some days I'm going in that I'm doing the job of two people... When I have medical students.... I mean I'm 56 years old – I often leave them ten metres behind me because I'm moving, physically moving so quickly ... that sort of pressure, the pressure of time that you're working under.***
> (30)

> ***Job dissatisfaction is most influenced by work–related variables. In particular, these include increased workload intensity and volume to meet the requirements of external agencies, having insufficient time to do the job justice, increased administration and bureaucracy, increased demand and expectation from patients, increasing work complexity, lack of support from colleagues, lack of professional recognition, and long working hours.***
> (1)

Resource/Work Mismatch

When GPs consistently have high–workloads and time pressures with limited resources and respite (**C**), they are at risk of burnout (**O**) because they feel out of control and overwhelmed (**M**).

When GPs are persistently seeing patients with complex conditions without adequate time (**C**), they become dissatisfied with their work (**O**) because they feel unable to deliver good quality care (**M**).

> ***I found the continuing long hours, despite working part time, cause continual tiredness and exhaustion and I was concerned that this would affect my competence.***
> (31)

> ***If you're trying to deal with someone with really complex needs in the middle of an absolutely overbooked on–call clinic with 50 calls, and you're just trying to get through the session safely..., you are going to really struggle to provide the empathetic, whole person care that you might want to provide. So structurally, you need to put clinicians in a place where they've got the headspace and the opportunity to be kind and trauma–informed and aware of that person's needs. Otherwise, it's just not fair on either person.***
> (9)

Shifts Towards Remote Consulting

Despite the assumption that remote work is quicker, the transformation from face–to–face to remote consulting (**C**), can paradoxically increase GP workload (**O**), due to increased patient access, expectation/demand, and limited time for GPs to schedule breaks and/or time with colleagues (**M**).

> ***Digital first approaches, now widespread, can paradoxically increase overall GP workload and a recent study warns of extra GP work by up to a third.***
> (32)

> ***Patients think it's much easier to, obviously to reach us now, so perhaps before they would say: "Oh you know, I'll wait a day or so." But now: "Oh, I'll just ring the doctor, they can give advice." So, I actually think, funny [sic] enough, it has actually increased our workload.***
> (22)

Cumulative Knowledge

When GP work and services are designed to facilitate knowledge-building and implementation of knowledge about individuals (people) and communities (place) (**C**), it enables more appropriate patient care (**O**), as GPs can draw upon, expand, and deepen the expertise exchanged during GP-patient and GP-peer encounters (**M**).

> ***Trainers often had long standing service in the practice and knew a lot about the lives of their patients. General practice specialty trainees recognised that a considerable number of patients had spent many years in their practice and had an extended family in the area. Trainers had an extensive knowledge of the histories of these extended families and acted as oral historians, able to recall what had happened to patients, their families and the locality, through decades of continuing practice.***
>
> (19)

Agency/Partnership

When GPs, patients, and peers have opportunities to shape and co-create management plans and potential solutions (**C**), this can facilitate patient and practitioner enablement and satisfaction (**M**), leading to higher levels of peer and patient trust and improved self-management capacity (**O**).

> ***Co-producing service-improvements encouraged empathy, human connection and was rewarding to professionals and marginalised patients.***
>
> (9)

> ***A couple of lived experience participants reflected that their experience of collaborating with general practice staff helped them empathise with them and feel more comfortable and empowered to engage with general practice.***
>
> (9)

Connection-Rich Contexts

Direct Connections

Direct interactions and connections (e.g. a phone call with a patient or colleague, filing/actioning results of a known patient), (**C**) nurture meaningful practice, development and use of cumulative knowledge, and agile/adaptable approaches to personalise care (**M**), enabling GPs to flourish and experience psychological safety in their negotiations with risk, uncertainty and ambiguity in practice (**O**).

> ***The aspects of work that are less meaningful (e.g. documentation, data entry) edge out the more meaningful aspects of practice (time spent talking with patients, working with the rest of the health care team) and lead to a less joyful practice.***
>
> (23)

> ***Such 'families' extended beyond the nuclear: GPs then got to know kindred professionals – hospital specialists and their secretaries; locality district, health visitor, and psychiatric nurses; probation and social workers; housing officers and charity convenors; local pharmacists – these were all people whose faces and voices, and work we got to know…Our exchanges were mostly personal, conversational, and direct. In such 'extended families' we often felt we were helping one another shoulder the burdens of what can be very difficult work.***
>
> (29)

Depersonalisation

When GPs experience reduced human connection with colleagues and patients (C), this can contribute to isolation, reduced sensitivity, and motivation (O), because work becomes depersonalised (M).

> ***GPs talked of the consultation becoming less rich, more transactional, and more awkward in nature, characterised by less active listening and less attention to the emotional dynamics of the interaction.***
> (33)

> ***The higher administrative workload reduced the time available to spend with their patients, leading to a fundamental change in the doctor–patient relationship: 'You see it does change the doctor–patient relationship because it changes how you react to people and how you interact with people.... When you're really stressed and you've still got 15 people to see, you don't have the time for people, you don't have the interest.***
> (16)

Relationships With Allied Healthcare Professionals

Paradox of Delegation

When patients with less complex problems are seen by practice members other than the GP (C), this can produce high levels of uninterrupted clinical complexity and challenge (M), leading to relentless emotional and cognitive load (O).

When tasks usually undertaken by the GP are delegated to other healthcare professionals (C), this can allow GPs to focus on more complex patients (O), but can increase 'indirect' care (e.g. supervising or holding responsibility for another's work) and related complexity and burden of risk management (M).

> ***If all the clinically straightforward consultations are done by others, GPs are left with wall-to-wall, dawn-to-dusk complex patients, which is a sure recipe for burnout. Sometimes we long for a simple sore throat or infected ingrown toenail to interrupt the flow of patients with multiple symptoms and too many medications, severe depression, or cancer...***
> (34)

> ***The financial cost of employing new role professionals against evidence of their value and contribution in general practice needs to be considered, since the very initiatives aimed at alleviating pressure may paradoxically place increased strain on staff, at least initially, and mean that GPs incur extra workload in supervision or mentoring.***
> (35)

Supporting Cross-Disciplinary Learning

When there is a mismatch between service-learning expectations and needs for healthcare professional roles in general practice (C), successful integration can be challenging to establish (O) unless adequate time and resource is allocated for GPs to provide generalist training to colleagues (M).

When other members of the clinical team need supervision, 'second opinions', or prescribing by GPs (C), this can increase GP workload (O) because they have responsibility to manage risks and related additional tasks to do (M).

> ***There is a wide literature on managing uncertainty in healthcare contexts involving different conceptual models, however, it is recognised that general practice is characterised by the presentation of undifferentiated and wide-ranging problems, meaning trainee and qualified GPs need to develop strong skills in dealing with uncertainty and risk. The issues raised by stakeholders in this study about adequately preparing new roles professionals to manage risk in general practice speak to the tension between how professionals' previous experience and potentially more protocol-driven training maps on to the often 'unpredictable' setting of general practice. If unaddressed, this may be a significant barrier to the sustainability of new professional roles in general practice.***
> (35)

Learning Systems

Where regular connection with colleagues and exchange of knowledge is established (**C**), GPs feel connected and able to adapt and cope better (**M**), which can inform clinical expertise and patient care (**O**).

> ***The most effective and efficient way for GPs to achieve mastery is a local community–based, peer–supported network (aka community of practice) that provides a safe peer learning environment in which to explore the interdependencies between patients' health, illness and disease care needs within an inevitably constrained health system.***
> (10)

> ***Previous work by the Royal College of Physicians has shown that the breakdown of the medical team was a central factor contributing to low morale and disengagement. It is therefore conceivable that developing a sense of collegiality and togetherness across a transgenerational group of GPs may boost morale and engagement, leading to greater resilience within the GP workforce.***
> (36)

Informal Interaction and Peer Support

When there are opportunities for informal interaction and peer support (e.g. group practice meetings, quality circles, mentoring systems, and coffee breaks) (**C**), GPs feel part of a community (**O**), which enables them to learn and flourish (grow, develop and thrive) (**M**).

> ***But I think also, looking after each other … I think we're quite good at looking over our shoulder at the other person… if you see somebody's got a really full load, getting them a cup of tea, or going and seeing one of their extras… is quite a positive thing about our team that we tend to do.***
> (37)

> ***For people to be motivated to do their job, they must feel part of a community that supports and enables them to flourish both as an individual and collectively. Collective working enables individual strengths and values to be developed and utilised while contributing to broader goals.***
> (24)

Coordination of Care Across the Primary, Secondary and Community Interface

When exchanges between GPs and secondary/community care colleagues are personal, direct and frequent (**C**), this can increase patient safety and reduce fragmentation of care (**O**), as there are higher levels of personal and local/community knowledge, understanding, and coordination between the two (**M**).

> ***For GPs, good personal relationships with specific specialists led to a sense of being better supported with patient management, of facilitating direct communication with specialists, and of easing patient transitions***
> ("smoothing the waters" as one clinician described it). (38)

Climate of Psychological Safety

When there is a climate of psychological safety (e.g. supportive organisational practices and patient trust) (**C**), GPs are more able to tolerate risk, ambiguity and diagnostic uncertainty (**O**), as they feel supported, trusted, and valued (**M**).

> ***Organisational interventions tend to develop a psychosocial safety climate that comprises clearly communicated managerial participation and commitment to, and prioritisation of, employee psychological health; enhancement of (procedural and relational) organisational justice and team–based interventions to promote mental resources and resilience.***
> (28)

> ***Access to personal, relational and environmental resources are protective factors for good mental health and well–being and impact on individuals' resilience. Crucially, collegial support is a protective factor for good mental health – support from mentors, supervisors and colleagues is associated with resilience and reduced sickness. Balint groups or similarly structured group work or supervision continue to be employed in general practice and are valued by GPs... Individual or group supervision aims to provide a safe and supportive space where staff can openly discuss the pressures and emotional challenges of their work and may, as previous evidence suggests, provide GPs with the support they need while offering protection against compassion fatigue and burn–out.***
> (26)

Time to Care: Appropriate Consultation Time

When GPs have longer consultations and/or time with patients (**C**), this can facilitate patients' active involvement in decision–making (**M**), leading to improved patient outcomes and more cost–effective care (**O**).

Increasing the duration of expert generalist consultations (**C**), may avoid unnecessary investigations and reduce downstream referral costs (**O**), leading to improved patient care and satisfaction (M).

> ***The growing complexity of patients – notably, those with multiple long–term conditions – require GPs to have the option of moving to longer appointments for those with multiple long–term conditions.... This is the best thing for both patients (who need more support) and for staff (who need time to care).***
> (39)

Agile and Flexible Systems

When GPs can adapt standard systems (**C**), they can apply their expertise in agile and flexible ways (**M**) to meet individual circumstances or personal needs (**O**).

> ***It was understood that flexible practices would only be sustainable if they matched patient, practice and individual needs. Co–creation and collaboration with the practice team is important to understand how work practice and job design could be improved to help both working time and work intensity.***
> (40)

> ***Prioritise flexible access and longer appointments to patients in greater need: One practice dovetailed the care coordinator role with a specialist inclusion health clinic for marginalised patients; in the other, the care coordinator had a direct telephone line they provided to patients and priority access to appointments when needed. One practice also had protected appointment slots that could be used by drug and alcohol workers who could use this for one of their clients if needed.***
> (9)

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