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[Title] Reimagining Health and Care to Tackle the Rising Tide of Inequity, Multimorbidity, and Complex Conditions

[highlight] Leaders at King's College London are spearheading an effort to launch the Better Health and Care Futures initiative, which will harness the power of 'careforce', frugal innovations, and communities.

[summary/abstract: maximum 450 words]

On September 24, 2024, academic, clinical, health, social and voluntary care, and national political and governmental policy makers will meet in London to discuss and shape the launch the *Better Health and Care Futures* initiative led by King's College London, with follow-up events across the United Kingdom. The attendees will be aware that the challenges that health and care systems face are complex, and they are not likely to surrender to simple solutions. There are no magic bullets. On the other hand, doing nothing will not be judged well by history. To provide focus and direction, Better Health and Care Futures comprises three clusters of activities that offer a thoughtful path forward: the need to Recognize and Foster a Wider, Inclusive Careforce; Prioritize Frugal Innovation; and Co-produce with Communities. This article summarizes the thinking behind these initiatives.

Global health and care systems are under unprecedented pressures due to rising demand from increasing multimorbidity at all ages, demographic changes with aging populations, workforce shortages, barriers to patient access, post–Covid-19 pandemic illnesses, and fiscal challenges. Proposed solutions often overlook individuals with complex, multimorbid conditions, where burden and inequity are high, care is costly, and outcomes are suboptimal. Meeting the needs of these individuals is both a moral and practical necessity, as it would alleviate strain on health and care

services, improve care value (i.e., patient-relevant outcomes relative to cost), and enhance lives. Doing so requires a new paradigm that goes beyond existing disciplinary-based approaches and disease-specific interventions.

[main text]

Health care spending continues to rise globally, with widening gaps between richer and poorer economies, especially during economic slowdowns.[1] In the United States, life expectancy for the wealthiest exceeds that of the poorest by 10–15 years,[1.1] with Black people receiving less care than White people.[2] In England, 7.8 million people were waiting for hospital treatment at the end of September 2023 and the 18-week treatment target has not been met since 2016..[3] In many countries these access-to-care issues are exacerbated for socioeconomically deprived populations.[4] Chronic conditions, such as diabetes, heart disease, stroke, and cancer, continue to be major causes of worldwide morbidity and mortality.[5] While these and other issues are preventable in the longer term, they must be effectively managed in the short term for those people who already have multimorbidity. The health and care workforce required to meet rising demands are in crisis. The World Health Organization (WHO) projects a deficit of 10 million health care and social workers by 2030, impacting countries worldwide.[6]

Building Resilience in Health and Care Systems

While preventive measures to improve public health and reduce illness are crucial, addressing the current needs of people with high care demands is imperative now. Children and adults with complex conditions, where health and care costs are highest, often have the poorest experiences and outcomes, and face the greatest inequities.[11] Health and care systems must better manage the complexities of those requiring extensive care to free up resources for longer-term health initiatives

such as prevention. This is essential for building resilient health and care systems capable of meeting both present and future demands.

Why health and care, rather than health care?

We deliberately differentiate between *health* and *care* as distinct concepts, which interact and are mutually influencing. By *health* we refer to the overall state of well-being, encompassing physical, mental, and social aspects.[N1] In the context of complex illness, it often focuses on quality of life, symptom relief, and the reduction of vulnerability and frailty, extending to include the health of informal carers (unpaid caregivers, such as family and friends). By *care* we pertain to the practical and emotional support provided to maintain or improve that well-being, alleviate symptoms, and reduce frailty or vulnerability. This support can come from social care services, the health care system, volunteers, informal carers, and through self-care by the individual themselves.[N2]

While *health and care* and *health care,* as terms, are often used interchangeably, they refer to different concepts within the broader context of well-being and clinical services. *Health care* is a specific domain focused on clinical services aimed at treating and supporting individuals usually with diseases.[N3] We would regard it as a subset of *care*, but that care encompasses much more.

Drawing this distinction is valuable as it underscores the need to start with the individual, to build a holistic approach, and facilitate clearer communication regarding the types of services required, as well as the relevant workforce and initiatives. It also prompts reflection on the necessity for integration, for example, between health and social care services, and extends to include self-care, caregiver support, and the voluntary sector (non-governmental not-for-profit organizations). Understanding these distinctions is beneficial when thinking about the ways to improve effective and comprehensive health and care systems. By distinguishing between these concepts, we argue we offer a more transformative perspective on the pressing issues facing societies.

Creative Solutions to Complex Problems

Tackling the intricate challenges facing health and care necessitates creative solutions, new ways of thinking about how patients, communities and health and social care organizations can co-create value through their interactions. A comprehensive strategy that addresses workforce expansion, innovation, and community engagement is essential for breaking down barriers and making substantial progress. We propose a new direction through three creative and interconnected approaches related to the careforce, frugal innovation, and coproduction with communities.

We focus on these three areas because they are often overlooked but have significant potential to drive meaningful change across health care systems around the world. By engaging with the complexities that arise across organizational and sector boundaries, we believe that interdisciplinary collaboration can accelerate the development of solutions for those with the most complex illnesses.

The current focus on the health care workforce tends to emphasise staff numbers and shortages of health care professionals, often neglecting the potential of the broader care workforce and the interconnectedness between health and social care. Similarly, innovation is predominantly centered around new technologies, artificial intelligence (AI), and diagnostics, which are often expensive, overshadowing simpler innovations that could have a substantial impact, especially in health and care systems that have very stretched resources. Additionally, contemporary approaches to involving patients and the public in designing and delivering health and care are typically short-term. They often fall short in empowering local communities and enabling them to jointly lead in developing and sustaining solutions. By focussing on these areas, we aim to foster more inclusive and effective approaches to health and care challenges, both nationally and globally.

1. Recognize and Foster a Wider, Inclusive Careforce

Workforce shortages exacerbate the challenges facing health and care systems. Health and care systems require sufficient workers; services depend on their availability, accessibility, acceptability, and quality. The Association of American Medical Colleges projects that physician demand will continue to grow faster than supply, with the United States seeing a shortage of between 13,500

and 86,000 physicians by 2036.[N4] The UK NHS Long Term Workforce Plan highlighted an expected shortfall of 260,000 to 360,000 staff by 2036/37.[N5] Shortages lead to overburdened staff, longer wait times, and compromised care quality, potentially increasing costs due to inefficiencies and missed early-stage illnesses.

It is widely recognized that boosting education and conditions for the workforce — especially in social care, nursing, and allied health professions — is fundamental. Making these professions flexible, well-supported, and attractive ensures a skilled workforce. In the context of multimorbidity or complexity, patients often see multiple specialists, risking fragmented care. We need grow the number of clinicians who can work safely and with confidence across specialisms and disciplines, putting the person before their diseases. Rehabilitation offers significant opportunities, and fostering independence should be a focus for all health professionals and policymakers. However, the workforce crisis cannot be resolved simply by employing more staff, due to factors including the global shortages of trained health care professionals, a shrinking labor pool, heightened competition for talent, ever-increasing demand for care, and financial constraints. We must, therefore, go further and reimagine the approach.

The Circles of Care model places the person at the center, surrounded by family, friends, and then by community, and health and social services.[N6] Carers UK estimates that 5.7 million people in the UK provided unpaid care in 2021, valued at £162 billion a year in 2021 — around total cost of the UK's National Health Service (NHS).[N7] The *replacement costs* of *informal care* (i.e., the value of care determined based on the cost of an equivalent service purchased in the market through a home health agency) provided by family and friends (unpaid caregivers) can equal or exceed *formal* care costs (those of paid care providers), especially for advanced or complex illnesses.[12,13] We propose a paradigm shift in fostering the *careforce* — recognizing everyone involved in delivering care, including the patient's daily self-management, support from informal (unpaid) carers, and volunteers. While self-management has long been recognized as essential,[14] access to training for

informal carers is patchy or lacking, often relying on volunteer-sector organizations and on informal carers proactively seeking support. Our ambitions go further, recognizing patients, informal carers, and volunteers as fundamental partners in the workforce. Collaborations such as the *Volunteer to Career* program — which is operated by a charitable organization, Helpforce, to support the UK's NHS — provide new entry points and ongoing opportunities to pioneer new roles and training approaches.[15]

Empowering individuals, their carers, and volunteers with training, tools, and support, together with technologies such as remote monitoring, home diagnostic tests, and real-time training tools could significantly extend the reach of the health and care system. In Sweden, in response to increased demand and patient feedback, patients were trained and provided with facilities to perform dialysis on themselves allowing expansion in facilities. We have already shown that for people with chronic breathlessness in serious illness (affecting >75 million people worldwide), frugal self-management and targeted support can improve quality of life with lower health care costs, with savings of around £50 000 per patient, plus additional quality of life.[N8] We are now testing this as a virtual self-care program, SELF-BREATHE.[N9] There are also simple technologies, such as muscle strengthening and hand-held fans, and simple poems to follow which are worthy of further testing across different cultural communities. Building on this a new project — in its formative stages — at the London launch of Better Health and Care Futures — is fostering change through arts and humanities, along with technology and training interventions, to aid carers of people with severe breathlessness and respiratory disease. At the policy level, the societal benefits of informal caring should be formally recognized through appropriate employment benefits (similar to maternity/paternity leave) and financial support for carers when appropriate, to enable a more sustainable careforce.

2. Prioritise Frugal Innovation

New technologies are major contributors to rising health care costs. Advances in technology boost costs faster than inflation due to new, expensive treatments, greater detection, and higher

demand.[N10] New technologies and medicines often require significant investment and infrastructure, which can be expensive and complex, leading to increased care costs and widening disparities in access to care. By contrast, frugal innovations aim to deliver effective solutions using minimal resources, which can make a significant difference in improving health and care delivery, for all populations.

While other industries have leveraged frugal innovation to improve back-office functions or increase automation and efficiency,[16] health and care have lagged, focusing more on complex and expensive investigative or therapeutic technologies. Frugal innovations, that focus on improving the ways of providing health and care, offer untapped opportunities. Moreover, frugal innovation encourages creativity and localized problem-solving, enabling communities and health and care systems to develop solutions that are tailored to their specific needs and circumstances. This approach not only helps in reducing costs but also fosters greater ownership and sustainability of health and care interventions, ultimately leading to better health outcomes and more equitable care. Using data, technology, and engineering science embedded within new models of care, frugal innovations can improve home-based support and reduce hospital time.

Technologies — such as practical home aids, rechargeable syringe drivers for the delivery of medicines at home subcutaneously,[N11] handheld point-of-care interventions or investigations (e.g., ultrasound) or to support remote monitoring, mobile health applications, and telehealth — can provide cost-effective solutions for managing chronic conditions, delivering care, and promoting independence. Teams from London and Montréal developed and tested a 12-week digital Intensive Care Unit (ICU) recovery pathway after hospital discharge. The use of the a TouchAway app enabled a focus on personalized recovery goals, with 63% of recovery goals set with a 1-week horizon being achieved.[N12] Evidence of continued issues with functional ability has led the team to engineer a simple handheld motion sensor squeeze ball to inform community rehabilitation support following an ICU admission.

We have also shown that in areas such as epilepsy we can highlight those most at risk, and that self-reporting in an app diary can be introduced to keep people safely at home.[N13] Teams also found that an integrated care model in South London successfully identified children with unmet needs at risk in the community and reduced inequalities of access, for example to appropriate asthma medication, although non-elective admissions were not affected. Refining and scaling effective innovations such as these has the potential to transform health systems and improve outcomes and inequalities. These innovations also often have substantial environmental and climate sustainability advantages.[17]

3. Co-produce with Communities

Engaging communities in the design and delivery of health and care services ensures that solutions are culturally appropriate and meet the specific needs of different populations. Buurtzorg, a heath care organization from the Netherlands, established and tested independent, self-managing teams of nurses that sought to provide person-centered care, continuity of care, building trusting relationships, and networks in the neighborhood. Evidence from the Netherlands suggested this delivered high-quality home care at a lower cost than more traditional models,[N14] resulting in derived models being developed in several countries.

While the Buurtzorg model and other self-managed neighborhood teams require more quantitative evaluation outside of the Netherlands,[N15] communities are becoming increasingly active in mobilizing for change. Fostering this momentum through co-production requires health and social care providers to understand what is in place already and to work with communities and *third sector organizations* (i.e., those that are neither public sector nor private sector, such as registered charities, associations, self-help groups, etc.) to build on those foundations together. *Fugitive co-production* — when individuals and groups within communities collaborate with staff in ways that significantly shape the provision of local services to meet an immediate perceived need rather than strategic change, *without* permission or authorization from relevant authorities [18] — could provide

the basis for more radical thinking and solutions. Such thinking should include *value* in health and care that is defined to include "the health outcomes achieved that matter to patients relative to the cost of achieving those outcomes,"[R1,R2] such as quality of life, symptoms, and daily living. Developing and testing measures across different races, ethnicities, and cultures can help reduce disparities in health and care, and address hesitancy in accessing health services. Equality, diversity, accessibility, and reciprocity must be at the core of co-production approaches.

For example, in South East London *community organizing* (Citizens UK model) was used to gather insights from 6500 people, and for 500 members of the public to come together to agree actions to improve mental health.[N16] This led to the development of 62 Be-Well hubs that provide holistic support for individuals across council and health services, and 180 "safe surgeries" that enable migrants to access primary care physicians without concerns of being challenged on their right to remain in the United Kingdom.

Looking Ahead

No single solution can effectively address the complex challenges facing health care systems today. Developing frugal innovations requires a suitable careforce to deliver them. Co-production is vital to ensure these solutions meet the needs of disadvantaged communities. The careforce, if expanded, must be equipped with the right tools and supported within communities. These three elements are interrelated and must be implemented together to create a comprehensive, effective, and holistic approach to improving health care systems.

Innovative approaches need innovative and inclusive methods to inform how we deliver real and radical change. Applied researchers, practitioners, educators, carers, and patients need to work together to co-produce research questions (developing knowledge situated with those able to enact change) and design novel pedagogical approaches to train the next generation.[19]

Implementing such a paradigm shift in health and care systems will present challenges, influenced by professional structures, practices, and vested interests; health and care payment systems; cultural attitudes toward volunteering and societal roles; and existing power dynamics. Oversimplification or over-reliance on a single approach can lead to partial solutions that may appear acceptable in isolation but have unintended consequences on other parts of the system, or not provide a system wide improvement, rendering the solution ineffective. By adopting these approaches simultaneously, we can build a more resilient, equitable, and efficient health care system capable of meeting the needs of all individuals, building a better health and care future for all.

Note: Irene J. Higginson and Jenny Shand are joint first authors.

Disclosures

Irene J. Higginson, Jenny Shand, Glenn Robert, Annette Boaz, Catherine French, Andreia Carvalho N'Djai, Mary Malone, Ingrid Wolfe, Charles Normand, and Matthew Hotopf have nothing to disclose.

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