Stuart G. Bailey
s.bailey@gsa.ac.uk

Empowered health and social care staff: The value of human-centred service design in co-producing transformative change.

Stuart G Bailey, Dr Karen Bell, Dr Julie Gordon, Dr Hans Hartung, and Zoë A Prosser

ABSTRACT

Empowered staff can make meaningful change. Empowerment involves recognising the potential that lies within staff and providing them with the time and space to reflect, be creative, action change and ultimately thrive both as individuals and as team members. The authors will discuss the value of utilising human-centred service design in co-producing transformative change with empowered staff and 'extreme teams' within a complex health and social care system traditionally viewed as a linear machine system. They will question the value of the predominance of visualising a linear machine system model in 21st century healthcare and explore the importance of delivering change through the lens of health and social care as an eco-system of people and interconnected relationships. The value of human-centred service design will be illustrated with case studies from the authors' work, which involve collaborations between undergraduate students from the Innovation School at The Glasgow School of Art and a local National Health Service (NHS) health board, NHS Ayrshire & Arran (NHS A&A), both pre-pandemic and within the pandemic response. As health and social care services move out of the emergency response to the remobilisation phase with a focus on recover, restore and renew, opportunities for consolidating pandemic changes and initiating further systems change arise. The authors will reflect on the use of human-centred service design as an enabler of transformation to new models of care that recognise the importance of empowered and valued staff owning and driving journeys of possibilities.

1 Introduction

In Service Design Empowering Innovative Communities within Healthcare (Bailey, Bell & Hartung, 2019) we reported on the impact of a collaboration between Glasgow School of Art and National Health Service Ayrshire & Arran (NHS A&A). The focus of that report was on the impact of service design tools on service outcomes and the role that human-centric service design plays in analysing and diagnosing the complex processes involved in delivering patient care. Since 2019, the collaboration has continued to develop, new service areas have engaged with the process and in 2020 and 2021 projects were undertaken entirely on a virtual basis. Although a virtual delivery model presented some constraints to the process, namely a reduction in ad hoc opportunistic interactions between staff and students and more difficulty in engaging with staff who do not use digital platforms routinely in their day-to-day work, other benefits materialised that will be expanded upon later in this chapter.

In 2020 the project focussed on the Caring for Ayrshire Ambition:

> 'that care shall be delivered as close to home as possible, supported by a network of community services with safe, effective and timely access to high quality specialist services for those whose needs cannot be met in the community.' Caring for Ayrshire Ambition of NHS A&A (2019).

The project focused on the integration of distributed health and social systems at neighbourhood-level. The last 3 years, health and social care service delivery has been impacted and dominated by the response to the pandemic, and it is recognised that COVID-19 has negatively impacted the mental health of the population (Mental Health Foundation Scotland, COVID Response Programme). The staff within health and social care were not only required to deal with the pandemic on a professional level but also to reflect and cope with the impact on themselves, family members, friends and colleagues. Consequently, the focus for the latest project was staff wellbeing.

Staff wellbeing during the delivery of care during the pandemic was brought sharply to the general public and government's attention leading to public demonstrations of appreciation through initiatives such as 'Clap for Heroes' and 'Meals for the NHS'. Meanwhile, at the front-line, clinical and non-clinical staff were working tirelessly with limited resources and growing patient numbers to deliver appropriate care. Much of this work required the rapid reconfiguration of services, staff redeployment, embedding of new equipment and digital technology which required staff training within the overarching pressures of minimising infection risk and control in an environment that was changing daily. It was during this period of intense activity that insights into organisational practices and the effect on staff wellbeing were identified by staff as they initiated and experienced changes in working practices to deal with the treatment of patients with COVID-19.

General feelings of being ‘cogs in a machine’ as a result of a linear, controlled, top-down organisational structure were replaced for a period during the pandemic with a more flexible, autonomous, self-organising style to respond to the rapidly changing demands of delivering care and treatment to patients. With time to reflect on this period, the evolving structures and interconnected relationships resembled more an open eco-system than the closed, linear system experienced before and since the pandemic. We will consider these reflections and insights within the context of recent discussions within service science and service design research.

2 Human-centred service design experiences throughout the pandemic

Having explored and engaged with human-centred service design methods through collaborative projects for several years (since 2014), the authors now recognise that it is engaging with a human-centred service design process that provides the long-term benefits, rather than focussing solely on the delivery of project outcomes. As such, the scope of the projects presented as case studies involved undergraduate students who embraced co-design processes with health and social care stakeholders via their partnership with NHS A&A and delivered experimental, speculative design proposals to define and describe problems in service delivery. Value was derived from process reflections, learnings and capacity building instead of outcome implementation and has provided services with materials to continue the reflections and conversations to drive change following the end of the student projects.

The projects discussed in our previous article (Bailey, Bell & Hartung, 2019) focused on the human-centred design of patient service experiences and utilised collaborative design methods that were both in-person and on-site. Subsequent projects have adopted remote and hybrid engagement methods as a necessary response to the constraints of COVID-19. In previous projects, engagement with staff was limited to specific physical locations within the service and time frames. The move to a virtual platform expanded projects so that engagement could happen 24 hours a day 7 days per week. The virtual platform provided staff with the opportunity to engage at a time that suited them and facilitated engagement with partner organisations and diverse stakeholders beyond clinical staff.

In 2020, the project operated entirely through distributed communication, with service design project teams utilising digital collaborative platforms to conduct research, development and co-design activities with a focus on designing speculative human-centred service experiences for the future of blended healthcare. Notionally this applied both to the blending of physical and digital service delivery models and the introduction of new roles within complex and place-based multi-

stakeholder service delivery, such as the relationships between health and social care providers, pharmacies and third sector organisations. In 2021, project teams built upon the previous year's methodology by developing distributed engagement methods into hybrid forms, for example by using digital technology to communicate with groups of staff members in situ (on-site). This offered a deeply personal and honest reflection of the experiences of staff, which allowed the teams to design speculative service experiences that would improve staff wellbeing.

The scope of each project has evolved, both in relation to their design methodologies and thematic areas of focus, by building upon the learnings of the previous and responding to changing health and social care contexts. These incremental changes alongside the barriers presented by Covid-19, have resulted in increased innovation of design research and co-design methods and as a result, an increase in both the quantity and diversity of stakeholder engagement. The ability to communicate and analyse human experiences throughout the phenomenon of the health pandemic has directed designers increasingly to look inward, at the complex structures and relationships that form the foundations of health and social care services.

In this section we present three key findings from an analysis of the projects, which outlines new perspectives about the role of human-centred service design for transformative change within the system of health and social care post-pandemic. We present the human-centred service design methods demonstrated within the projects as drivers for change, away from traditional linear machine models towards an open and co-created eco-system. We also discuss new initiatives and approaches that have emerged within NHS A&A during this period as system concepts that function as key change mechanisms. These include the establishment of extreme teams, the recognition of working in a VUCA context (volatile, uncertain, complex and ambiguous), collaborative decision-making with clinical and non-clinical staff, and the role of staff wellbeing initiatives to sustain agency and co-creation. The diagram below presents the project findings within a framework adapted from Sangiorgi, Patricio and Fisk (2017), which outlines the service design levels and system concepts involved in transitioning towards service eco-systems. Further analysis of the framework and its application within the context of health and social care systems transformation is discussed in section 3.

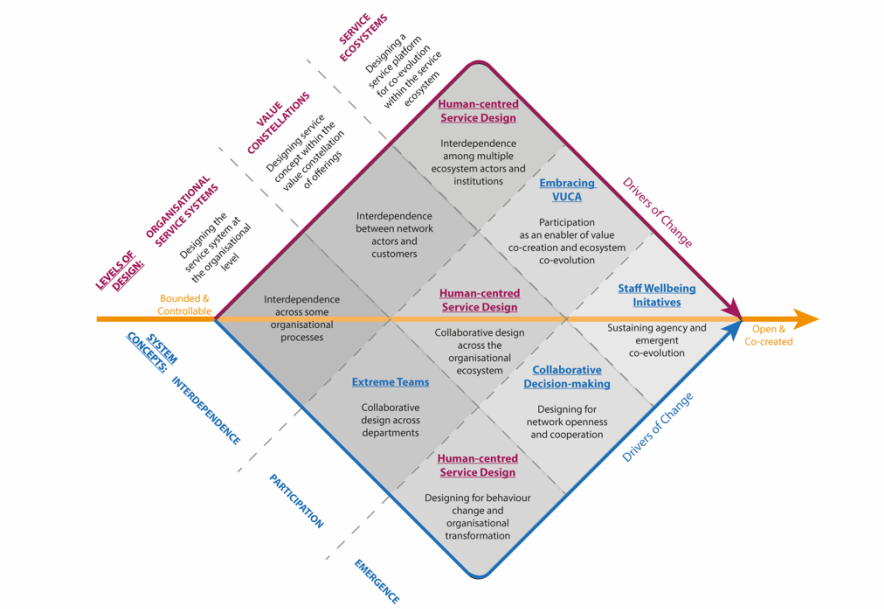

Fig 1. Presenting drivers of change from within a framework adapted from Sangiorgi, Patricio and Fisk (2017), Table 4.2, p. 61. 'Service design levels and related system concepts.'

2.1 Distributed engagement methods enhance human-centred system-wide perspectives

The need to conduct primary research and co-design activities remotely during the pandemic increased the quantity and diversity of project participants in terms of their roles and experiences. While digital engagement excludes those without access and therefore cannot be adopted exclusively, it can be said that distributed and hybrid human-centred engagement methods within the projects increased opportunities for new voices to be heard and multi-stakeholder collaborations. During remote co-design workshops for example, clinical and non-clinical NHS staff, third and voluntary sector workers and people with lived experiences from different locations were brought together. Common pre-pandemic barriers, such as physical distribution, travel and time constraints and general motivation to engage, were cited as reasons that prevented these ways of working from taking place in the past. Introduction of distributed and hybrid engagement mitigated these barriers and consequently the majority of these stakeholders were engaging with service design activities and each other's roles for the first time.

This insight is not novel, it has been shared across service design within the public sector (McAra, Broadley, Simms, Prosser and Teal, 2021). However, what this has enabled within the current projects, is a more holistic and system-wide perspective of health and social care services, beyond the initial experiences of NHS staff and patients directly involved in service delivery. Many of the project outcomes in 2020 focused on the integration of distributed health and social systems at neighbourhood-level, such as the role of charities, family members and neighbours within identifying the health needs of others and enabling their access to localised services reflecting the organisation's Caring for Ayrshire Ambition (2019).

Engaging in human-centred service design remotely has allowed the project teams to involve a wider demographic of people and roles rapidly, and bring physically distributed stakeholders together, such as clinical and non-clinical staff, specialist and national services, local authorities and third sector organisations. As such it has allowed the project teams to understand the wider systems around patient and staff experiences through a human-centred lens. In response, the design students' development of remote engagement methods (Fig 2.) adopted creative activities that allowed participants to visualise and position themselves within these complex human systems iteratively and do so collaboratively with people of different roles and experiences. During such activities, both design students and diverse participants reflected upon a shift in perspective, away from a linear top-down machine model, towards a system of human connections that is dynamic and interconnected.

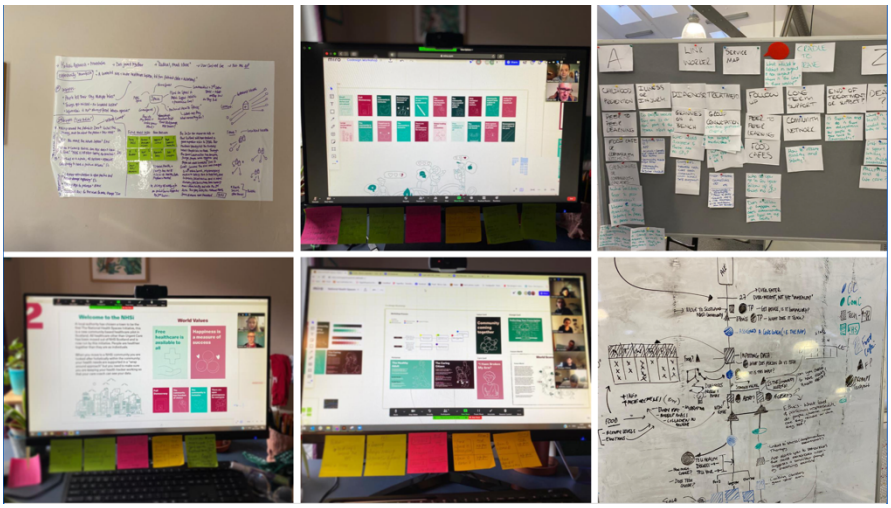

Fig 2. Images of hybrid (physical and digital) co-design methods being tested and iterated by students Bethany Lloyd, Eve McNeil, Gabriella Morris, Greta Cozza and Thomas O'Brien (2020)

2.2 Staff wellbeing as an area of focus is required to support empowerment and engagement in collaborative decision making

The lived experiences of staff shared throughout the 2020 project identified intimate struggles with wellbeing and welfare due to the pressures of the early-stage health pandemic.

> We already knew that many of our staff have experienced stress over the years affecting their wellbeing. We wanted to ensure that staff wellbeing was addressed across the organisation, and that we worked in partnership with our staff to ensure wellbeing initiatives were what staff wanted and needed. The pandemic crisis highlighted the need for staff support. Health and social care workers felt vulnerable as they faced an increased risk to their own health and life by coming to work. A strong sense of urgency and purpose enabled rapid developments to enhance staff support and wellbeing during these challenging times. Barriers were removed. Permission, trust, and opportunity to just "do what you think is right" from the senior management team and the Medical Director encouraged us to do just that. There were no committees, delays, endless paperwork and bureaucracy. Staff felt empowered to come together to make huge changes in a very short period of time. There was a level of excitement, camaraderie and absence of hierarchy in our working together for the greater good of our colleagues and patients.
> (Julie Gordon, Consultant in Emergency and Paediatric Medicine University Hospital Crosshouse, NHS Ayrshire & Arran)

In 2021, the project adopted a focus of involving clinical and non-clinical health and social care staff within the design of health and wellbeing spaces and initiatives across Ayrshire & Arran. Distributed and hybrid methods of engagement and co-design were continuously tested and developed across nine project teams addressing three different locations and three themes: spaces for health and wellbeing; distributed staff support structures; and cultures and connections of wellbeing. In doing so, they were able to deliver a variety of speculative project outcomes that stimulated further discussion about the long-term role of health and wellbeing initiatives beyond the pandemic recovery.

> Staff wellbeing isn't a new concept, however it wasn't seen as part of NHS core business prior to the pandemic. Organisations had staff wellbeing initiatives but often these were short lived, relied on endowment or charity funding and didn't form part of the fabric of the organisation. Although done with the best intentions these initiatives were often introduced without prior engagement of staff. Early in the pandemic evidence emerged from China and Italy that getting the basics right in the Maslow hierarchy of needs was a good place to start when addressing the wellbeing needs of our staff as well as early staff support This formed the basis of our NHSAA staff wellbeing suites and staff support services. (Julie Gordon, Consultant in Emergency and Paediatric Medicine University Hospital Crosshouse, NHS Ayrshire & Arran)

From 2020 to 2021 and in parallel with the projects, staff members who were already involved in Medical Peer Support and Wellbeing informally linked with key

stakeholders within the organisation including Quality Improvement, Public Health, Occupational Health, Medical Director, Health & Safety, Catering, Estates, Hotel Services, Staff Care, Clinical Psychology and Psychiatry. Designated staff wellbeing areas were assigned at acute sites and a dedicated team of Medical Peer Support, Clinical Psychology, Staff Care and Psychiatrists were based in these areas. These areas provided a safe space for staff in the heart of the hospitals where their basic needs were met with access to utilities such as food and drinks, toilets and beds as well as access to many other wellbeing initiatives based on feedback from the staff themselves for example quiet areas, recreation and mindfulness support. Staff could also directly access support for their psychological and emotional wellbeing with onsite medical peer support, staff care, psychologists and psychiatry all providing a range of support from basic psychological first aid to therapy based sessions.

> The spaces and services made staff members feel appreciated and valued. It helped several employees to stay in their jobs, overcome tough moments and unanimously staff were in favor of the wellbeing facilities continuing permanently.
> (Hans Hartung, Consultant in Respiratory Medicine, NHS Ayrshire & Arran)

Distributed and hybrid research and co-design methods during the 2021 project allowed an increased number and diversity of staff to engage in conversations about the future of health and wellbeing support towards creating a vision of post-pandemic care for everyone involved in health and social care service delivery.

2.3 Service design supports a human-centred system of health and care that empowers and engages staff in distributed decision making

The collective effort of creating a wellbeing and support service for NHS staff at the start of the pandemic was significantly accelerated by the assembly of an ‘extreme team.’

> As already outlined COVID-19 provided the opportunity for a Staff Wellbeing Extreme Team at NHS Ayrshire & Arran. The team recognised the importance of staff wellbeing as a key principle of patient safety. Amplified by the pandemic, the issue of staff wellbeing in health and social care had come to the forefront. Supported by senior management, a diverse group of professionals came together spontaneously with a sense of purpose and urgency to set up staff wellbeing and support services and dedicated wellbeing spaces at the three hospital sites. Frequent and effective communication between team members, absence of hierarchy, a sense of camaraderie, a high degree of autonomy and linkage with key stake holders made possible a cohesive, non- bureaucratic and rapid approach to the development of a service which was greatly appreciated by staff members across the organisation.
> (Julie Gordon, Consultant in Emergency and Paediatric Medicine University Hospital Crosshouse, NHS Ayrshire & Arran)

Alongside the need to address the welfare of staff, this period of emergency response revealed emerging new ways of working beyond just remote and

distributed methods. During the pandemic, unlike any other situation experienced by staff, services and patient pathways during this time required agility and responsiveness to the continuous changing clinical knowledge, information, guidance and service capacity. Key to this was the unacknowledged acceptance of working in a VUCA (Volatility, Uncertainty, Complexity and Ambiguity) driven environment. VUCA, a concept first introduced into its curriculum by the U.S Army War College in the late 1980s and is now widely used in discussions about leadership in organisations and reflects the experiences that staff found themselves in during the pandemic (Johansen and Euchner, 2015). The urgency and pace required staff to engage in multi-layer decision making by bypassing previously bureaucratic, rigid processes and silo boundaries. The organisation had pre-pandemic committed to utilising the methodology of Extreme Teams (Edmondson, A. C. and Harvey, J-F. (2017), Edmondson AC 2019) to underpin its approach of Caring for Ayrshire. Early in the pandemic it was recognised that Extreme Teaming could be utilised as part of the organisation's pandemic response.

> NHS Ayrshire & Arran promotes the concept of extreme teams which was first introduced by Amy Edmondson. Extreme teaming breaks down silos between teams enabling the emergence of new knowledge in the face of complex problems in a volatile, uncertain, complex and ambiguous environment (VUCA). Such a dynamic cross boundary team of a range of diverse professionals assembles in a non-hierarchical manner around a meaningful vision quite often on a temporary basis. The agile and non-hierarchical nature of an extreme team allows for frequent course corrections and fast learning in a psychologically safe environment. Commitment by senior leadership gives confidence to take necessary risks and challenge the status quo to meet the objective.
> (Hans Hartung, Consultant in Respiratory Medicine, NHS Ayrshire & Arran)

The spirit of the extreme team enabled spaces for human connection, light touch support, easy access to formal support, testing of new ideas and safe conversations. Appreciation of the emotional impact and the human and relational dimension of work in health and social care especially during the pandemic and irrespective of organisational priorities, processes and silos made staff feel valued and listened to. Regular formal and informal feedback, enhanced by the presence and co-design methods of the student projects, empowered a climate of co-creation and the emergence of the future trajectory for staff wellbeing. An ecosystem of collaboration across many boundaries arose around the ubiquitous issue of staff wellbeing raising an awareness of the interdependence and interconnectedness on such fundamental issues in a complex system as health and social care.

> The initiative by the extreme team ultimately resulted in the implementation of a fully funded wellbeing and support service for NHS Ayrshire & Arran staff members. What would have taken a long time to achieve under usual conditions was accomplished in the space of a few days to weeks by the connective, integrative, flexible and adaptable nature of the extreme team. For all members of the extreme team the experience was energizing and positive. Connection with a collective purpose seemed to 'move mountains' forging a sense of meaningful progress.
> (Hans Hartung, Consultant in Respiratory Medicine, NHS Ayrshire & Arran)

Student engagement with diverse stakeholders involved in and impacted by the Extreme Team shaped their project deliverables towards the long-term empowerment of staff. Often projects delivered methods and strategies for involving staff in distributed service decision making while recognising the need for staff wellbeing to sustain their engagement in the wider human-centered system. Three project lenses were used by the students to explore the connections between staff wellbeing, empowerment and participation within wider system decision making: 'self' - individual human experiences; 'organisational' – the structures of organisations and services that create human experiences; and 'system' - the wider context that influences organisations, services and the underlying beliefs and values that shape human experiences (Meadows, 2008).

While the students have contributed service and co-design methods and increased the engagement of staff within distributed decision-making throughout NHS A&A developments, their pedagogical experiences have equally been shaped by the contributions of the health and social care staff through their participation. A wider learning environment has been created around the innovation of service design approaches for health and social care. This environment has evolved in response to immediate real-world challenges and has identified a need for new perspectives about the structure of health and social care systems and a role for collaborative human-centred service design to support staff wellbeing, empowerment and participation in system-wide decision making.

3 Linear closed to open eco-system

In this chapter the authors discuss how clinical and non-clinical staff often feel as if they are working in a 'machine,' experienced as top-down linear command and control thinking. This experience is not limited to NHS Scotland with many physicians in the US similarly feeling "like 'cogs in the wheel' of austere corporations that care more about productivity and finances than compassion or quality" (Shanafelt, T. et al 2021). The relaxation of control and restrictions during the COVID-19 pandemic showed that when staff experienced more autonomy and empowerment they were enabled to work in more flexible and collaborative ways, achieving amazing results within noticeably short periods of time. Experienced by NHS Ayrshire & Arran staff through the utilisation of Extreme Teams, this non-hierarchical, multi-professional approach has more in common with an open, collaborative, 'living' ecosystem than a closed, bounded, linear machine-like system. If a linear, top-down management style is endemic within the health service, then how might human-centred service design support the creation of a healthcare ecosystem?

To transform a service organisation from a closed, bounded linear system to one that is an open, living ecosystem we might consider a human-centred service design

approach that considers the organisation as a living and complex adaptive system (van der Bijl-Bower, 2017). How teams self-organise in line with projects, demonstrating emergent, self-organising behaviours is similar to the dynamics and behaviours of 'dissipative structures' within complex living systems.

"The understanding of living structures as open systems provided an important new perspective, but it did not solve the puzzle of the coexistence of structure and change, of order and dissipation, until Ilya Prigogine (1984) formulated his theory of dissipative structures." (Capra 1996, p.174)

In the case of extreme teams, we might infer that the human-centred service design processes applied are what generates the dynamics within the system, resulting in the behaviours observed. By identifying where and how design acts at the points of instability "where order emerges spontaneously and complexity unfolds" (Ibid, p.185) and considering where design interventions provide the information, resources, and energy to create stability (Irwin, 2011), we might understand how to generate more sustainable change towards organisations of co-evolved ecosystems.

The projects and experiences discussed here in this chapter reflect recent discussions within the field of service science. Service science researchers are turning to the human-centred design approach of service design, identifying that "in order to effectively understand and design for complex human-centred service systems, a service design approach supports professionals to integrate multidisciplinary knowledge in practice" (Sangiorgi et al, 2019, p.176). This multidisciplinary collaboration and human-centred approach parallels the experiences of the NHS Ayrshire & Arran Staff Wellbeing Extreme Teams as discussed earlier in section 2.

If we map the human-centred service design initiatives discussed in section 2 and illustrated in Figure 1, onto levels of design and system concepts (Sangiorgi, Patricio, and Fisk, 2017) we can identify the design interventions as drivers of change that can action change to move the system from one point of stability to another, which moves the system from closed and linear to an open, adaptive and co-evolved ecosystem. If the energy applied by the design intervention is not sustained, then the system slips back to the previous point of stability, as experienced by clinical staff and non-clinical staff post-pandemic when the system returned to previous practices. Implementing a human-centred service design approach can help us to identify, visualise and understand the dynamics of new service models. Helping us identify the core principles of not only how the new model works but how to move from the existing state to a new preferable one. This avoids falling foul of Rossi's Iron Law of evaluation (Rocco, Cohen, and Parry 2015), which argues that "as a new model is implemented widely across a broad range of settings, the effect will tend toward zero." (Ibid 2015, p. 2).

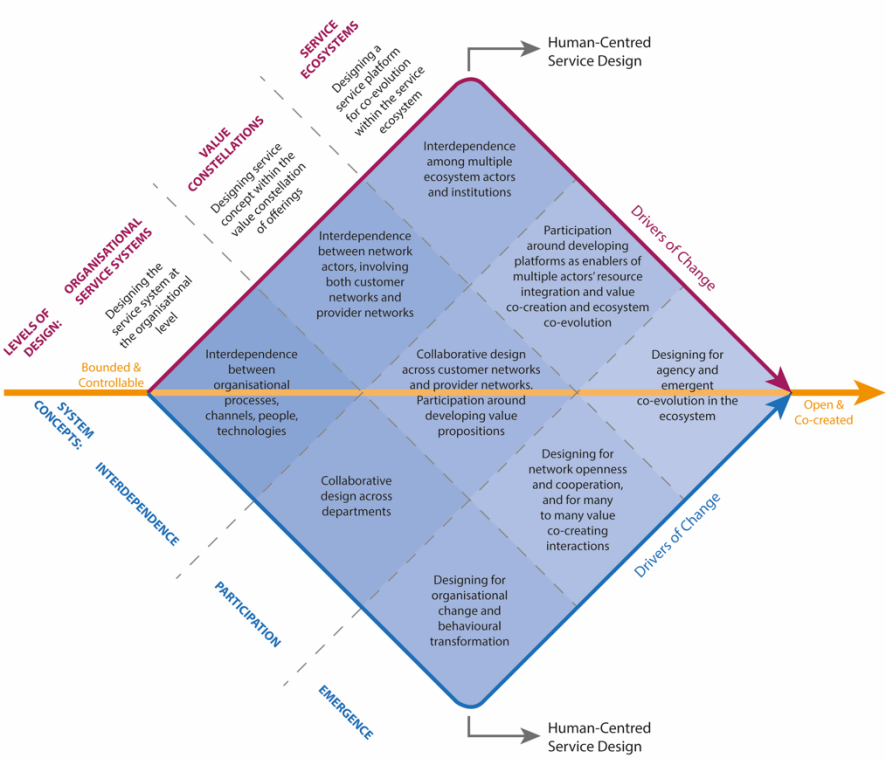

Fig 3. From controlled, linear, machine-like service systems to open, adaptive co-evolved ecosystems. Adapted from Sangiorgi, Patricio and Fisk (2017), Table 4.2, p. 61. 'Service design levels and related system concepts.'

Engaging with a service design process provides the means to simplify and understand complex systems and interactions; sharing tacit as well as explicit information, collectively identifying problems and opportunities that facilitate collaborative sensemaking and decision making. And thereby facilitating a human-centred approach to transformative service system innovation (Bailey, Bell and Hartung, 2019). The idea of the health service as an ecosystem rather than as a linear, machine-like system suggests adopting a service ecosystem design approach as discussed by Sangiorgi, Patrício and Fisk (2017), and Vink et al (2020). With reference to the characteristics of an open versus closed organisation (Foster, 2014) and recognising organisations as complex, living, ecosystem, Figure 2 (adapted from Sangiorgi, Patricio, and Fisk (2017) Table 4.2) visualises the impact of applying increasingly more complex levels of strategic design practices for increasingly open system concepts. By illustrating the continuum from a closed, interdependent system to an emergent and co-evolved, ecosystem in this way, we can begin to identify where change is facilitated through the agency of design.

Human-centred service design practices within an organisation help us navigate complexity by identifying and visualising patterns and connections to achieve a level of simplicity that can be easily understood and shared; to identify "the 'drivers of simplicity' that help us navigate the complexity to elicit simplicity" (Ng 2019). The very nature of a living organisation of people, from a range of disciplines and backgrounds each with different agendas, makes it increasingly difficult to manage any focussed transformation, or innovation, within the service system with the traditional management styles (Bailey 2012; van der Bijl-Bower 2017; Jones 2013). However, as we have seen in the projects discussed in this chapter, a human-centred service design approach to collaborative exploration can define problems and support navigating co-evolved solutions, while importantly also reflecting the relationships experienced within a service. Therefore, recognising the human elements within the service system.

4 Conclusion

"Huge variety exists in the way primary, secondary and social care is structured and governed, so it has proved difficult to identify sensible interventions that have consistent relevance and impact across the board. The NHS is itself far from a homogenous unified organisation but rather a federated ecosystem where complex tribal and status dynamics continue to exist. Given the clear benefits of cross-boundary teamwork and collaborative behaviours, everything should be done to encourage greater parity of esteem, conditions and influence between sectors and, within secondary care, a re-balancing of the focus on acute trusts to the benefit of their community, mental health and ambulance trust counterparts. The vast majority of health and care delivery never touches the acute sector, and it is in the interests of all to keep it that way, so more equitable representation and empowerment must be a key enabler to enhanced collaboration. Equally, the more that can be done to instil locally a culture of teamwork, understanding and shared objectives across the primary, secondary and social care communities, the better will be the nation's public health outcomes.

> To those of our recommendations which require time and resource to implement, I predict a partially understandable reaction that the current pressures on the system preclude investment beyond the urgent. My response is that a well-led, motivated, valued, collaborative, inclusive, resilient workforce is 'the' key to better patient and health and care outcomes, and that investment in people must sit alongside other operational and political priorities. To do anything else risks inexorable decline" (Department of Health and Social & Social Care, 2022)

This quote is from the Department of Health and Social Care's Independent review of the role of leadership for a collaborative and inclusive future across health and social care delivery post-pandemic. It is an eloquent summary of the situation facing the NHS in the UK and identifies that the issues facing the NHS will not be robustly resolved unless the challenges facing the workforce are addressed. NHS

organisations have the growing problem of staff retention, an ageing workforce and reducing numbers of new staff. If an NHS organisation is to retain and attract staff, then it needs to build its reputation as an exemplar employer. Having a focus on staff wellbeing is key but the work undertaken by the authors suggests another element worth considering.

The authors now recognise that the collaboration is providing benefits beyond individual service changes to include localised impact on staff engagement and power to influence change within services. The challenge now is to spread that impact so that it results in systemic change while identifying and addressing systemic barriers. The recent project collaborations in 2020 and 2021 provided opportunities to scale the work across health and partner services and staff groups, although it must be noted that the project still has the constraint of limited engagement with staff who are not using digital platforms on a regular basis. This limitation is a concern not only for these individual projects but also for an organisation when embedding the use of digital platforms for workflow transformation to ensure that staff groups are not marginalised and disenfranchised by the tools utilised.

The scope of each project has evolved, both in relation to their design methodologies and thematic areas of focus, by building upon the learnings of the previous and responding to changing health and social care contexts. These incremental changes alongside the barriers presented by Covid-19, have resulted in increased innovation of design research and co-design methods and as a result, an increase in both the quantity and diversity of stakeholder engagement. The ability to communicate and analyse human experiences throughout the phenomena of the health pandemic has directed designers increasingly to look inward, at the complex structures and relationships that form the foundations of health and social care services. Human-centred service design in this context has been demonstrated to support the engagement and empowerment of diverse staff to understand the experiences of different roles, position themselves in a wider human eco-system and participate in distributed decision making about service development. However, this bottom-up approach is met by top-down management structure barriers. The tension between perspectives of health and social care delivery as a linear machine model versus a human-centred, dynamic ecosystem continue to prevail. More work is required to address the adequate resourcing of staff wellbeing and empowerment and the enablement of distributed decision making from a top-down perspective. With this comes a need for senior management structures to recognise staff not as numerical resources but as actors in an ecosystem, each with expertise drawn from lived experience that can inform effective distributed decision making.

> A supportive system enables staff to do their job well. Being able to connect with our main purpose to help people when they are at their most vulnerable generates a sense of professional fulfilment. Feeling fulfilled in work is directly connected to staff wellbeing

and produces better outcomes for patients. (Hans Hartung, Consultant in Respiratory Medicine, NHS Ayrshire & Arran)

In parallel to the system-wide barriers discussed, future generations of service design practitioners are becoming increasingly equipped to operate within complex human-centred systems through their participation in partnership projects such as the ones presented in this article. Their experiences of live health and wellbeing contexts and collaborative design activities with patients and staff across organisations are providing more opportunities to innovate design and pedagogical practices. This symbiotic benefit to all those involved in the projects is intended to create future opportunities to address these problems at scale through the diffusion of human-centred design skills, such as health and social care staff's increased capacity for designerly ways of thinking, design students' abilities to collaboratively innovate with diverse staff in complex environments, and teaching staff's ability to evolve curriculum.

New models and roles are beginning to arise, as demonstrated by design internships and placements within NHS Ayrshire & Arran and there is intention for these to inform similar opportunities for clinical and non-clinical health and social care staff. Proximity and partnerships between diverse people with different expertise and experiences has demonstrated an untapped potential to empower staff across a system that is truly human-driven, which we seek to further investigate in future projects.

References

Bailey, S. G. (2012), Embedding service design: the long and the short of it. ServDes.2012 conference, Co-creating Services, 8th-10th February 2012, Espoo, Finland. In Proceedings of 3rd Service Design and Service Innovation conference, ServDes.2012. Linköping Electronic Conference Proceedings, 67. Linköping, Sweden: Linköping University Electronic Press.

Bailey, S. G., Bell, K, and Hartung, H. (2019), Service Design empowering innovative communities within healthcare. In M. A. Pfannstiel & C. Rasche (Eds.), Service Design and Service Thinking in Healthcare and Hospital Management, (pp.137-153). Switzerland: Springer Nature

van der Bijl-Bower, M. (2017). Designing for Social Infrastructures in Complex Service Systems: A Human-Centered and Social Systems Perspective on Service Design. *She Ji, The Journal of Design, Economics, and Innovation*, 3 (3): 183-197.

Cameron, M., Gordon, J., Hartung, H., MacAskill, C., Mulhern, S., and Wilson, I. (2020) NHS Ayrshire & Arran Staff Wellbeing Extreme Team: https://ihub.scot/improvement-programmes/scottish-patient-safety-programme-spsp/world-patient-safety-day-2020/inspiring-initiatives/can-a-wellbeing-extreme-team-promote-patient-safety-from-nhs-ayrshire-arran/

Capra, F. (1996), *The Web of Life: A New Synthesis of Mind and Matter*, Glasgow: Flamingo, 1997 imprint of HarperCollins, London.

Caring for Ayrshire - https://www.nhsaaa.net/caring-for-ayrshire

Department of Health & Social Care (2022) Leadership for a collaborative and inclusive future. The UK Government: Independent Report. Accessed: https://www.gov.uk/government/publications/health-and-social-care-review-leadership-for-a-collaborative-and-inclusive-future/leadership-for-a-collaborative-and-inclusive-future

Edmondson, A. C. and Harvey, J-F. (2017), *Extreme Teaming: Lessons in Complex, Cross-Sector Leadership*. Bingley: Emerald Publishing Limited

Edmondson, A C (2019): *The Fearless Organisation: Creating Psychological Safety in the Workplace for Learning, Innovation and Growth*. John Wiley & Sons, Inc

Foster, P.A. (2014). *The open organization: A new era of leadership and organizational development*. Surrey: Gower.

Gordon, Julie (2020) - https://www.nhsaaa.net/news/latest-news/staff-wellbeing-during-the-coronavirus-COVID-19-pandemic/

Irwin, T. (2011), Living Systems Theory: Relevance to Design, last accessed 23 June 2022.https://www.academia.edu/6076107/Living_Systems_Theory_Relevance_to_Design, last accessed 23 June 2022.

Jones, P. H. (2013). *Design for Care: Innovating Healthcare Experience*, New York: Rosenfeld Media, LLC.

Johansen, B. and Euchner, J. (2015) Navigating the VUCA World. Research-Technology Management 56 (1), pp. 10-15.

McAra, M., Broadley, C., Simms, H., Prosser, Z. and Teal, G. (2021). Designing Distributed Community Participation. Project Report. Glasgow: GSA RADAR.

Meadows, D. (2008) *Thinking in Systems: A Primer*. London: Chelsea Green Publishing.

Mental Health Foundation Scotland, COVID Response Programme. https://www.mentalhealth.org.uk/our-work/programmes/covid-response-programme

Ng, I. (2019). Foreword by Irene Ng. In P. P. Maglio, C. A. Kieliszewski, J. C. Spohrer, K. Lyons, L. Patrício, Y. Sawatani (eds), *Handbook of Service Science, Volume II*, xv - xviii. Switzerland: Springer Nature Switzerland AG

Prigogine, I., and I. Stengers (1984) *Order out of Chaos*, Bantam, New York

Rocco J Perla, Cohen, A.M. Parry, G. (2015), Health Care Reform and the Trap of the "Iron Law", Health Affairs Blog Technical Report https://ihub.scot/improvement-programmes/scottish-patient-safety-programme-spsp/world-patient-safety-day-2020/inspiring-initiatives/can-a-wellbeing-extreme-team-promote-patient-safety-from-nhs-ayrshire-arran/

Sangiorgi, D., Lima, F., Patrício, L.,Joly, M. P., and Favini, C. (2019). A Human-Centred, Multidisciplinary, and Transformative Approach to Service Science: A Service Design Perspective. In P. P. Maglio, C. A. Kieliszewski, J. C. Spohrer, K. Lyons, L. Patrício, Y. Sawatani (eds), Handbook of Service Science, Volume II, 147-181. Switzerland: Springer Nature Switzerland AG

Sangiorgi, D., Patrício, L., and Fisk, R. (2017), Designing for interdependence, participation, and emergence in complex systems. In D. Sangiorgi and A. Prendiville (eds, Designing for Service: Key Issues and New Directions, 49-64. London: Bloomsbury.

Shanafelt, T., Trockel, M., Rodriguez, A., and Logan, D. (2021). Wellness-Centred Leadership: Equipping Health Care leaders to Cultivate Physician Well-Being and Professional Fulfillment. *Academic Medicine*, 96 (5), 641-651.

Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., and Wetter-Edman, K. (2020) 'Service Ecosystem Design: Propositions, Process Model, and Future Research Agenda.' in Journal of Service Research 2021, 24(2): 168-186.