

# Technology enabling new models of care in the home or community

By PUBLIC, for the Health Foundation

**Final report:**

analysis and recommendations

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## About PUBLIC

PUBLIC is Europe's leading venture and research group for government transforming technology. Founded by Daniel Korski (former Deputy Head of Policy, No.10) and Alexander de Carvalho (Venture Investor, non-Executive Director Heineken), PUBLIC combines deep experience and expertise across government, venturing, technology and finance, supporting public bodies and market providers to catalyse innovation through new technology. PUBLIC's mission is to help public sector bodies transform the services they offer to create a better society for everyone. We believe that public service can be pursued both inside and outside of government. We built PUBLIC amid Europe's start-up ecosystem, helped shape 'govtech' and firmly believe new companies are critical to government transformation. Since 2019, PUBLIC has worked alongside UK local and national government bodies to transform service through better use of technology. We have worked with bodies like NHSX, CQC, Birmingham CCG, and Greater Manchester Combined Authority on issues related to the intersection of technology strategy, User Experience (UX), and innovation. PUBLIC has also built technology products within the health system. Its subsidiary, Eva Health Technologies, is a GP IT Futures Lot 1 accredited supplier, and supplied a vaccine recording module linked to the primary care record for over 1m vaccinations in England. Our GovStart programme brings together promising new technology companies to create an interactive community, creating opportunities to network and problem solve with like-minded start-ups. Over the last 4 years, we've supported 48 companies to win £40m of contracts and raise £340m of investment.

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# Part 1: Summary of learning from stakeholder engagement

## Executive summary

Technology is widely recognised as being an increasingly critical enabler in how future models of both health and social care will be designed and delivered. In parallel, as systems of health and social care continue to integrate structures, activities and objectives, we find ourselves in a period of reimagining a health and social care system ready to address the challenges of an ageing population with more complex needs that intrinsically span traditional boundaries and system responsibilities. New ideas and new service models are required, and success will need these ideas and reforming capability of technology to be combined.

As an established and valuable contributor to the progression of care in the UK, the Health Foundation is seeking to commence activities with a more direct focus on how technology can enable care to support people to maintain, or improve, their own health and independence for as long as possible. From preparatory research, a more direct focus on two philosophical ambitions emerged: shifting to more **proactive care**, addressing underlying causes and supporting prevention, and **relational care**, developing and nurturing relationships and multidirectional communities of support.

PUBLIC, commissioned by the Health Foundation to undertake research, largely through interviews and workshops, developed a series of 10 problem statements relating to proactive and relational components for testing with relevant stakeholders. This included those receiving care and those formally and informally providing care, along with decision makers at provider, system and national levels.

While this research was broad in nature, our findings through these interviews largely confirmed nine of the problem statements, although they highlighted layers of complexity. At a care provider level many felt that their immediate

services were managing to deliver proactive and relational elements of care, but often in spite of the system. Social care was perceived to be more naturally relational, however this applied to health services delivering care within people's own environments. In numerous cases, system pressures were cited for more reactive (and less proactive) care services, yet in some examples, such as utilising community assets, system pressures and funding levels were instead seen as a driver through necessity. Interviews frequently highlighted the important role of the family in care, and this was closely correlated with the levels of relational support, whether direct or through support and advocacy. However, as the tiers of social care and health care increased, interviewees suggested it becomes challenging for families to maintain that active role, with access to information and communication referenced.

When considering the wider system factors that could enable or inhibit technology to successfully support new and improved care approaches, market mechanisms and dynamics were considered largely informal in nature and insufficient for both those seeking to adopt or provide technology. Nationally there appears to be few activities to address and improve this, particularly for new emerging areas of technology, such as remote monitoring, outside of the more traditional care planning and record keeping systems. Social care was perceived to be more lacking than health care, but no mechanisms to support shared health and social objectives exist or are understood to be in development.

At many levels, while evidence is greatly sought after, the capability, time and skills to select, implement and then evaluate new ways of using technology within care was perceived to be a real challenge. Beyond this, various stakeholders suggested that people across the systems are struggling to think about aspirational care concepts and technology in combination, and that support is much needed. Our own experience in interviewing around these two areas supported this hypothesis.

While our aim was to understand where technology could improve the circumstances of receiving care, interviewees made it clear that support for the systems to think about, experiment and evaluate is just as important a priority.

## 1. Background

In early 2022, the Health Foundation engaged PUBLIC to support consideration around where and how it can make the greatest impact in supporting the progression and embeddedness of technology-enabled care, across health and social care. The Foundation wanted a particular orientation towards improving and maintaining independence of the person receiving different forms of care, with a view to driving a future funding programme.

Given the scale and complexity of care, and the anticipated breadth of technological application within these domains, PUBLIC worked to support the Health Foundation's programme team to refine the focus to ensure that research could achieve a good level of specificity. This would allow the Foundation to have actionable and tangible outputs with which to design the anticipated funding programme. Consequently, the research question (or brief - [see Appendix A for reference](#)) was as follows:

**We want to look for opportunities where technology could enable proactive,<sup>1</sup> relational<sup>2</sup> models of care<sup>3</sup> so people can be supported to maintain, or improve, their own health and independence for as long as possible.**

The primary deliverable, and remit, of this research was to produce greater definition around the problems (or problem statements) that exist against the

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<sup>1</sup> **Proactive** - stopping things happening or focusing more on underlying causes or factors rather than health events or symptoms.

<sup>2</sup> **Relational** - developing and nurturing a care recipient's relationships and multidirectional community of support.

<sup>3</sup> **Models of care** - the configuration, structure or design of how care or a part of care can be delivered.

first diamond of the 'design thinking' methodology. Therefore, this document will seek to provide a high-level analysis of the engagement that took place, and what we learnt across our engagement cohorts. It will then provide a series of recommendations to help recontextualise the research work back into the Health Foundation's initial aim of delivering a funding programme of around £2m.<sup>4</sup>

Please note this document builds upon a huge amount of supporting information, including a literature review and desk research report (for the second formative phase of the project), and a stakeholder engagement report (closely detailing the engagement phase summarised in this report).

## 1.1 What we were looking to understand through engagement

With the brief focused on proactive, relational care research ambitions and desk research undertaken to support the question composition, we developed:

1. a series of question areas to consider the landscape that currently exists around technology and health and social care - in provision, locally and nationally (such as markets and policy).
2. a series of hypothesis problem statements to help test whether the experiences of people providing and receiving care are relationally or proactively oriented, and, more generally, whether the experience is positively supporting independence.

The combination of these two question prisms was designed to support the Health Foundation's ambitions around **how** the funding programme's design can drive the greatest impact, and **what** the greatest opportunity could be to address in the resulting programme.

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<sup>4</sup> Note that recommendations will not go as far as explicitly designing the programme (or solution). This second diamond exercise around the solution is due to be undertaken by the internal Health Foundation programme team. Our orientation will be to explicitly raise relevant and useful insights to be used as inputs or ingredients for this next phase.



Both the question areas and problem statements can be found in Appendix B. For more detail on the process and rationale behind this approach, see the stakeholder engagement report referenced in Appendix A.

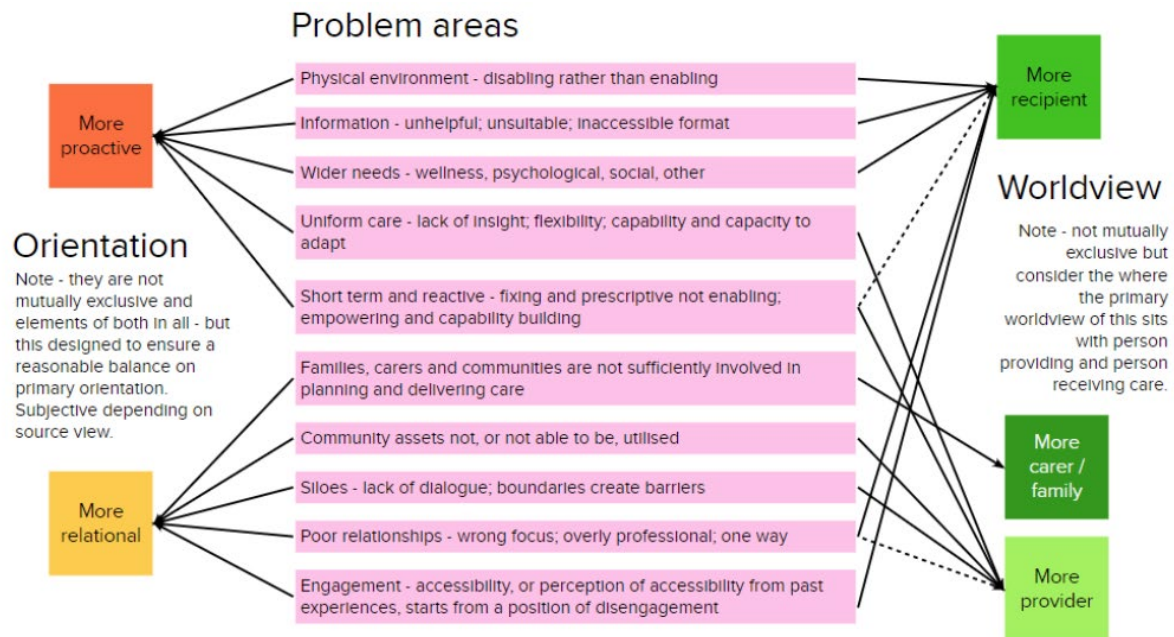
To gain the best possible understanding of the research questions and to gain insight around the problem statements, we identified 15 interview cohorts (detailed in [Appendix C](#)). These ranged from those receiving care, to those providing it in health or social care services, to decision makers around technology in social care settings, in local bodies, technology providers and national policymakers. Across these different cohorts we designed separate question sets, aligned with the strategic questions and problem statements, based on what their experience and worldview could tell us, through semi-structured interviews and via workshops for the four health care professional cohorts.<sup>5</sup>

For the 10 problem areas relating to levels of relational care and proactivity we sought to test as widely as possible. In some cases this was aligned with where that experience was more or less likely to exist<sup>6</sup> and therefore where we could obtain a valuable and meaningful answer, illustrated below (and in [Appendix B](#)).

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<sup>5</sup> The full set of statements used in the workshop can be found in [Appendix B](#).

<sup>6</sup> This was largely because it would not be possible or in some cases appropriate to test certain problem statements and other areas of interest, such as technological capability, within 45 minutes of interviewing during an hour-long slot. This approach was felt to be the most practicable.



In most cases we sought to test problem statements with at least two different cohort groups (across A-G). This was achieved and surpassed in most cases (ranging up to four groups).

However, one of the original problem statements<sup>7</sup> could not be fully and authentically satisfied during the engagement phase. This will be highlighted in the problem statement breakdown.

A detailed question matrix and the full list of interview questions has been made available to the Health Foundation programme team, referenced in [Appendix A](#).

## 1.2 What this analysis (document) will cover

This document will seek to draw together what we learned across the interview groups as a high-level analysis, relating to the problems and experiences where a solution (or solutions) may be needed and the system-level considerations that could relate to problems, opportunities or programme design elements.

<sup>7</sup> PS2: Engagement - accessibility, or perception of accessibility from past experiences, starts from a position of disengagement.

Note that this will not provide a detailed group-by-group breakdown, but instead seek to extrapolate themes and key messages.

The first section will consider the experience of care, and whether it is proactive or reactive, relational or non-relational. It will include how care recipients, informal carers and social care professionals feel about technology, what they have available to use or offer, and what they are capable and not capable of doing.

We will then consider perspectives of the market environment around technology, with a focus on challenges faced from the tech provider and prospective buyer, before considering what people would like to see addressed or supported in a Health Foundation programme, and how.

This will then be concluded in a summary analysis with recommendations.

## **2. What we learned from engagement**

### **2.1 The experience of care – and is it proactive or reactive, relational or non-relational?**

Across those receiving different forms of care or providing the care formally or informally, there was often a positive sentiment generally about their own care, or the care that they provide directly (within their team or service). But when broken down into the various specific topics covered within the problem statements, or when considering other parts of, or settings within, the system there was validation around the levels of problems that occurred.

While views on components of proactive care varied, especially across different health care practitioners, largely the sentiment was that the 'system of care' is reactive but with more proactivity depending on the individual services and teams.

Relational care was often more dependent on who was involved, understandably with greater correlation between the levels of family involvement in different tiers

of social care. Unsurprisingly, informal carers were consistently high in supporting relational care, then family supporting those with domiciliary care, and then less so in care homes.

Future expectations on the direction of travel saw positive sentiment from professional groups and stakeholders around care being more proactive and relational, citing the establishment of Integrated Care Systems (ICSs), growth of technology, lessons from COVID-19, and the national direction of travel, going *'in the right direction'*. However, funding and workforce challenges along with growing care demands were frequently raised.

Below we will explore perceptions around the problem statements and experiences as seen by those receiving and providing care.

## 2.2 What did we learn about the hypothesised problem statements?

### PS1: Community assets (including social capital) are not fully utilised in care provision (relational)

Interviewees receiving care and their family members both said this would be of great interest, but examples where this was taking place were few and far between. The main examples of specific groups were religious groups, social clubs and initiatives brought into the care home. Declining engagement usually referenced budget cuts in the community, and inability to access as mobility and health declined. Care recipients confirmed this is a valid problem.

Conversely, views from health care professionals were mixed. However, it should be noted that positive responses were supported by statements that this was less due to an intention within the systems (planned), but rather the absence of parts of the system due to budget challenges in social care: *'social care is incredibly underfunded at the moment, and because of that, they absolutely have to make use of all of the voluntary sectors because they haven't got any choice'*.

For other positive responses, individuals cited their own proactivity within their service, and that COVID-19 had had a positive impact on community asset utilisation.

Informal carers interviewed, however, mostly felt that they were unaware what community assets existed for them or those they supported to use, and whether they existed at all. In the exceptions to the majority view, the role of the community was seen as important.

Overall, and in considering the reasoning behind health care professional views, we would suggest this is a valid problem to address.

### **PS2: Engagement – accessibility, or perception of accessibility from past experiences, starts from a position of disengagement**

Whilst our desk research around relational care suggests that this is an area worthy of further testing, this was not possible to authentically test during engagement without achieving selection bias. Those electing to be interviewed for such a broad piece of research would be naturally more engaged, and so it would have been challenging to get valid care recipient experiences.

### **PS3: Families, carers and communities are not sufficiently involved in planning and delivering care (relational)**

In interviewing informal carers and social care professions, the foremost point that emerged was the beneficial yet sometimes complex role that families play for people receiving care across different tiers. The benefit of greater (mostly relational) involvement was seen in the comments, especially for those where families were playing a significant or informal role.

However, it was also suggested that as people progressed to receiving greater levels of formal care it was less likely that families would be involved, and that it was more challenging for them to play an active part, particularly for those residing in care homes. On multiple occasions access to, or accuracy of, care

information for families was seen as a challenge, along with collaboration and ethics around those with greater needs or in more distressing circumstances.

Surprisingly we received limited intelligence around the role of carers in other parts of care through this question, although this was later raised in PS8 below.

While the benefits and challenges that relate to family involvement suggest the value of this as an opportunity, as a problem statement it is complex and varied. However, the absence of good examples of community involvement in formal care could suggest the limited presence from this group. This problem could arguably be broken down into sub-problem statements for each area when thinking about further validation.

#### **PS4: Information in care is unhelpful, unsuitable or in an inaccessible format (proactive)**

Most care recipients expressed that they were not often given information outside what medications to take or at-home methods of pain management and had generally not been asked to do anything differently to improve their health. There was a general sentiment that there is a lack of provision and signposting to information that might be useful, particularly around community resources and groups (assets).

Among health care professionals there was a mix of views. Allied health professionals concurred that this is problematic, yet pharmacists felt this was less of an issue (for medicines). Nurses and GPs were largely in the middle. Across multiple groups, comments suggested there was visible improvement happening with digital routes referenced.

While both groups agreed this is a problem, evidently care recipients and (health) care professionals had different worldviews on how significant this was. Given the patient experience represents the most important view as the 'user', the author would suggest this is an area where further exploration may uncover some important lessons.

## **PS5: People's physical environments are disabling rather than enabling independence and wellbeing (proactive)**

In interviews with both care recipients and informal carers, the ability to independently achieve day-to-day tasks and self-care (such as washing) in the physical environment, including accessing local amenities outside the home, was an area of great importance (and frustration when it was not possible).

There was a real difference in how people perceived their levels of independence, often depending on the availability or absence of support and solutions. It was clear that when home modifications were unavailable the individual was dependent on others to do day-to-day tasks and self-care for them, often at times and in ways that did not suit their personal needs and ambitions. For family and informal carers this represented extra care requirements for them to undertake.

One social care professional interviewed reflected on how they would like to see the concept of Dementia Villages<sup>8</sup> adopted and expanded. This is where the residential setting can promote independence by safely replicating local services such as shops so people can feel like they are still able to live a normal life.

This problem, when unsolved, played a significant role in reducing independence. While some had a new lease of life when it was solved, many interviewees raised that it was difficult to know how to get support with these adaptations taking place, and what was available. Arguably, while there is a dovetail with PS1 and PS4 above, knowledge of and access to solutions represent an important additional factor in the problem statement.

## **PS6: There are poor care relationships – wrongly focused; overly professional; one-way (relational)**

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<sup>8</sup> Implemented in Denmark and the UK - according to interviewee

In this question we considered whether the care relationships are focusing on different things to what people need, are too professional and impersonal, and solely communicating in one direction (such as prescriptive or paternalistic language).

This question was only posed to care professionals,<sup>9</sup> however, for three cohorts<sup>10</sup> of care professionals in health, it received the strongest confirmation as a problem statement and was where people 'strongly agreed' the most out of any areas.

Community nurses were the sole group that had any disagreement, which could be due to the regular and home-based nature of this role. One participant claimed, *'Loads of community nurses [are] developing mutually supportive relationships, and that is the absolute joy of community nursing.'*

However, when interviewing social care professionals, the majority disagreed that this is a problem in their work with care recipients. They argued that this is a core part of their job and that building relationships is important to them, giving examples of the benefits of mutually supportive relationships. While there were numerous quotes to this effect the following summarised the views well. *'The times that I have been able to try and advocate for more independence, it has been when I've built up relationships with the client where we both get along very well.'*

However, for the above group, this was often seen as more of a personal choice rather than driven by their employers or standard practices. Except for one organisation, it appeared that there was not enough emphasis placed on relationship building coming from their organisations due to time and budget constraints.

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<sup>9</sup> As noted previously the range of problem statements meant that we were unable to include all problem statements in the care recipient interviews.

<sup>10</sup> Pharmacists ran out of time due to discussion and this question could not be covered.



While care recipients were not directly asked this question, there were comments that supported the above when describing the personal levels of care received from social care professionals.

In conclusion, health care professionals felt this was the most valid problem statement, whereas social care practitioners disagreed. That said, the disagreement was rooted more in personal drivers than systematised ones. There is arguably a correlation between where the care is provided, particularly if it's in the care recipient's own environment, plus the regularity of care in the quality of care relationships.

### **PS7: Care is short term and reactive – prescriptive and prioritising fixing things, not enabling, empowering and capability building**

When talking to care recipients there was an apparent difference in the experience of those receiving care formally vs informally. Formal care was seen as being reactive, with respondents citing resourcing of care staff leading to time constraints. They expressed that they would like to see an improvement in how they are enabled and encouraged to play a role in managing their care (more generally) as it would help with their overall wellbeing.

Informal care appeared to take a more proactive approach, potentially due to the more personal nature of relationship between the carer and the recipient, and other factors such as advocacy and proactivity. These views were echoed by those receiving informal care and in the observations of informal carers.

However, it is worth recording some exceptions to the above points. A few interviewees felt that formal carers did focus on forming relationships and seeking proactive solutions. Others expressed differing perceptions of the levels of care from formal carers generally.

Across the four health care professional cohorts the vast majority agreed or strongly agreed that this is a problem, with only one neutral (balanced) response,

resulting in the second highest confirmatory score. While some felt positive that the right conversations were happening to address this in the future, workforce capacity and the inability to identify and risk stratify less obvious groups were cited as the biggest drivers.

This problem statement was unequivocally confirmed across all interview cohorts when considering formal care provision.

**PS8: Care operates in silos – lack of dialogue; boundaries create barriers between different areas of support (including formal and informal care) (relational)**

When asked, most care recipients were unaware or unsure of whether the different forms of care were joined up, though felt that the most important information relating to care needs, such as medication changes, were known. However, some did provide examples that suggested disconnects between professionals in health and in social care, particularly relating to transitions of care from hospital into the community<sup>11</sup>.

Informal carers largely concurred with the above views, though from this cohort there was more focus on silos, particularly informational ones, between formal and informal carers.

Among health care professionals however there was very strong agreement that this is a problem, with an equal distribution of strong agreement and agreement, and a couple of neutral responses. Of all problem statements this was the highest scoring confirmation of the group. In particular, the barriers between health and social care and the time taken to deal with them were raised frequently. Again there was hope that this will be addressed with the emergence of ICSs.

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<sup>11</sup> Including primary care.

Observationally, the tech providers raised this as a real challenge in trying to implement their products, with different systems not working together towards common objectives.

While care recipients and informal carers were largely unsure, care professionals strongly confirmed the existence and extent of this problem.

### **PS9: Care is uniform in nature – lacking insight, flexibility, and capability and capacity to adapt approaches (proactive/relational)**

When considering whether care was tailored or adapted to their health and social care needs, many were unsure to what degree this was the case or what else would be available or possible. However, when considering their social care provision they felt that this was tailored to their individual needs.

Regarding health care provision, there were a few examples where individuals had been asked to do something that did not match their personal circumstances and were not supported with alternatives. Most care recipients took this question to relate to support with their medicines, feeling that in most cases the interactions with health care professionals and support with administration by those in social care was good.

When asking the health care professionals the majority (62%) agreed or strongly agreed, though with an equal distribution of neutral (18%) and disagreement (18%). Many views suggested that this is beginning to change in a positive way, though a GP commented (followed by group agreement), *'As we see increasing digital innovation in the patient-clinician encounter, I increasingly find that the computer often says no and I find that we have lost a lot of our flexibility in how we can direct or steer patients. So on that side, I find that sometimes technology can become a barrier. If you have a patient that doesn't quite fit the box they lose out or you have to work harder to advocate for them.'* This highlights a useful example where digital technology could lead to greater uniformity if not properly considered.

While views were mixed, with social care being largely seen as less uniform and positive examples (medicines) in health care, it is pertinent to note that health care recipients may not be aware of what adaptability would be possible, and that all health care professional groups validated this as a problem.

### **PS10: Wider needs, including wellness, psychological, social, are unaddressed or ignored (proactive)**

Informal carers were largely of the view that wider needs are not addressed by the formal care system. However, they felt that their (informal) care addresses many of these wider needs with a focus beyond just physical health. Interviewees suggested that mental health was an example where there was limited consideration, citing that it may be due to time constraints and other priorities.

Except for the pharmacist cohort, most health care professionals felt that the three elements of physical health, mental health and social needs were important features in the care they saw. Most disagreement appeared to stem from whether they believed that silos or specialties prevented all three elements from being addressed. Some thought that most care was holistic and others that it was focused primarily on only one element. Lastly, of the three elements, most believed that physical health needs were prioritised. Overall this statement scored exactly in the middle of agreement and disagreement (50%) so was neither validated nor discredited. It is, however, worth noting that when asked where they would like to see investment on improvements, this rated in the top three areas for each group.

Many of the social care professionals interviewed believed that care recipients' wider needs are being addressed – especially when they have family nearby willing to contribute to their care – with others saying consideration of holistic needs is improving generally. However, some of the professionals believed that the focus was mainly on essential needs rather than these wider ones or felt constrained and unable to act fully independently to address needs.

Of all the problem statements this was decidedly neutral or mixed across the groups.

### **2.3 Summary of the experience of care – and is it proactive or reactive, relational or non-relational?**

Given the broad nature of this research and the relative spread of questions and interview groups, it would be wrong to position this part of the research as definitive. What we can conclude is that these problem statements are interconnected and complex, and individually represent elements of reactive and non-relational care. But none of the problem statements were discredited or seen as areas of no or limited value to tackle,<sup>12</sup> and it would be fair to say that in the detail there were numerous stories across all groups that exemplified that formal care, as a whole, is not proactive enough or relational enough.

From talking to formal care groups and considering the wider interview groups (E-G), there is a feeling that we are moving in the right direction, particularly with the establishment of ICSs. However, existing workforce challenges and the levels of funding in social care were regularly referenced as significant blockers and challenging ones to overcome.

When considering trends and key insights from the interviews and workshops, there were four areas of a practical nature that resonated with the research team.

- The role of the family being highly linked to levels of relational care – yet this being impeded when more formal or intensive levels of care were present, such as care homes or health care interactions. Access to information or ability to participate regularly came up as an area to address.

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<sup>12</sup> Noting that PS2 was not possible to test within the interviews – and was neither validated nor discredited.

- People not knowing what was available to them – for addressing challenges in their physical environment, for knowing how to use community assets, and, more generally, for finding ways to independently improve their own circumstances.
- Systems of support, capability building and effective care, for those informally providing care for others, appeared to be very sparse. Navigating barriers, particularly informational ones such as those mentioned previously, appeared to be an unnecessary burden for informal carers.
- There was a high correlation between levels of relational care and whether the care takes place in or close to the care recipient’s residence, as demonstrated by examples in informal care (as would be expected), domiciliary and residential care, and community nursing.

### **3. People and technology**

This section relates to a group of questions around technology asking the following: **How do care recipients, informal carers and social care professionals feel about technology, what do they have available to use or offer and what are they capable and not capable of doing?**

Firstly, it is worth beginning the analysis of this question by suggesting there is a strong risk of organic selection bias for these groups. While efforts were made to ensure non-digital options for interviews were available, most interviewees elected to participate on virtual meeting platforms with a few taking place over the phone, suggesting a baseline level of technological capability for most. The author would suggest that other more comprehensive, targeted research on this topic should supersede these findings, but below we will summarise the insights extrapolated from our engagements with people receiving formal and informal care, those providing informal care, and social care professionals.

### 3.1 How much technology is currently deployed and used by those receiving care? Is it used in an enabling or disabling way?

There were numerous examples across the three groups of technology being used by those who receive and provide care. However, few of the examples given could be attributed to supporting or enabling direct care provision by health and social care services.

One of the most frequent examples was the use of digital communication technology (such as video calls), in many cases driven by family members, and often in response to the necessities of the COVID-19 pandemic, but also with reference to engagement with GPs. Other examples were given where using smart devices was physically challenging but where other technological options (such as Alexa) were used to meet needs. In most cases there was a positive feeling about the role it was playing in having more human, relational interactions.

The above statements were supported by informal carers, where technology was positively helping them to communicate and provide support.

*'My mum can't answer her phone, she can't hold anything. So we got her an [Amazon] Alexa with a camera on and we connect with that and she doesn't have to do anything. We can just say "Alexa, drop in on Mom" and it will just connect straight away.' [...] 'She can't physically answer it, so we needed a way of us contacting her and her contacting us using just her voice.'*

Interviewees also positively described how technology was providing more convenience and accessibility within care logistics, particularly in health care. This included such as repeat prescriptions, appointment booking and getting information from the hospital that would have previously happened via letters.

Interviewees who provide formal social care described wide use of digital technology in their roles, supporting people in their home and in residential

settings. In most cases however this was operationally oriented rather than tech being used in direct care provision.

The sentiment was generally positive and seen as something formal care givers rely on to support care. Examples included valuable care information to support continuity, WhatsApp for communication among distributed carers and other forms of productivity while mobile. However, there were also areas of concern where tracking and monitoring of formal carers was not always seen as a positive. Another interviewee raised concerns that data input systems (such as care planning) can encroach on human (relational) interactions, especially with older care recipients who may have negative feelings when a carer *'pulls a phone out'*. The balance of time pressures and efficiency, and the need for record keeping were seen as contrary to our definition of relational objectives.

### **3.2 What is the level of confidence in using technology among recipients and those providing care?**

Across those receiving care, levels of confidence in technology varied significantly, citing varying levels of perceived technological literacy and how well the technologies they had experienced had adapted to their own needs and circumstances. In a few examples, the inadequate way the technology had been deployed, supported or monitored had presented issues for them.

In some cases the imposition of a requirement to use technology for health care interactions, such as booking appointments or accessing specific services, served as a barrier to access, only circumvented through the support of more technologically literate family or friends.

Informal carers stated that those they were supporting often had low levels of literacy, offering numerous examples. They also often felt that they lacked the confidence and capability to support with technology, often having to then rely on other more capable family members where this was available.



Across the social care professionals interviewed, levels of confidence in the technologies they used were generally high, with most having received some form of training to use the specific software or tech tool. Many reported that it was a priority of their management, and that positive experiences had helped to spread this sentiment. *'I've very rarely had any issues with [the technology] and it's only really been beneficial because it's reduced the amount of time I've had to spend writing a report.'*

When asked to consider what they would like to see in the future around technology, social care professionals mostly focused on streamlining the process for engaging with devices or software, requesting that these be designed with the caregivers' and care recipients' needs at the forefront.

### **3.2 What proactive and relational objectives did tech companies feel they could best or better serve?**

As part of our interviews with a range of technology solution providers, we asked them to consider to what degree their technology could specifically, or feasibly, play a role in enabling. While the range of companies selected was intended to be representative, the wider group differs greatly and wider engagement would therefore provide greater intelligence.<sup>13</sup>

**Prevention and proactivity (PS7).** Nearly all companies felt this was the primary focus of what they did or offered, though referencing that they were the enabler for care professionals, particularly through better intelligence and insight. Some noted that shifting the current system mindset or priorities would help drive demand for tech supporting these objectives.

**Improving education, information and embeddedness in care recipients (PS4).** Nearly all providers felt this was a core focus of what they did, with some stressing

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<sup>13</sup> This of course may be a feature when considering early stages of the eventual programme as will be covered later in the recommendations section.

the benefits of tech facilitating patient-generated and held data. *'We are informing them and giving them an evidence base on which to make decisions about their lives.'* On numerous occasions the shift towards better co-production with care recipients, and the system's prioritisation of this, was critical.

**Supporting the wider needs of the individual receiving care** (PS10). Companies gave a range of contextual examples that suggested they are building the architecture to better enable this, through better and more qualitative and quantitative data capture, and to break through existing silos between providers (formal and informal).

**Improving relationships between care providers and recipients** (PS6), **and between different kinds of providers** (PS8). While the above point on breaking down silos is clearly adjacent to this one, companies felt this is something they wanted to focus on but perceived their customers were still more rooted in paternalistic models rather than fostering human relationships (demand).

**Improving independence within the physical environment** (PS5). This was not an area where the companies felt they were contributing, although one challenged that addressing other wider factors, which are a priority for them, could play a role in the person's perception of their own environment and ability to interact with it.

**Supporting the individual's capability to change or improve their health or independence** (PS7). Many interviewees were positive about the benefits, needs and the role of technology (presumably based on their perception of their own) in enabling this. Realistically, it was felt there was limited tangible evidence in this area to build on and the onus was on them to build their own, which in some cases was underway. One interviewee felt that there was a lack of understanding by senior NHS officials<sup>14</sup> on what connective technologies could do (regarding this objective) right now, never mind in 5 years.

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<sup>14</sup> From the transcript we did not receive greater detail on who and where this specifically referred to.

Further detail from this cohort around a number of these comments, particularly perceptions of demand, system mindset, and relating to wider problems and opportunity will be detailed further on in this analysis.

## 4. Emerging technologies and forming markets

This section relates to a group of questions around market progression and new areas of emerging technology, asking the following: **To what degree are technologies emerging, and tech markets forming, to help people receiving care maintain their own health and independence?**

Under this more strategic heading we sought to consider a range of factors that could indicate whether problems or opportunities in care are managing to lead through to, where appropriate, the ideation and application of technology, followed by testing, evidencing and finally proliferation<sup>15</sup>. In parallel with evidence generation and proliferation (or scale), we were seeking to understand whether more mature markets, and market components (definition, frameworks for consideration and comparison) for technology, were forming.

To understand these considerations we interviewed a range of stakeholders or actors ([see Appendix C](#) for breakdown) who would either be involved in or possibly responsible for different pieces of this jigsaw puzzle. This included leaders responsible for tech decisions in private sector social care organisations;<sup>16</sup> health and social care leaders with system-level responsibility;<sup>17</sup> relevant leaders within UK health systems and at a government level; known thought leaders and innovators relating to the focus of the brief; and of course, representatives from a selection of technology solution providers.

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<sup>15</sup> Scale within existing markets, however, was agreed to be a secondary consideration.

<sup>16</sup> Note that while this was achieved for care home decision makers, we were unable to recruit people in these roles from domiciliary care providers within the agreed time window due to low interest or other pressing priorities.

<sup>17</sup> Acknowledging that interviews took place during the transition to ICSs and these roles and priorities were in the inceptive stage of shifting.

In contrast to the previous section (with questions factoring the specific problem statements), a number of these discussions were deliberately broader, although all recipients were informed in advance of the project brief, and in several cases verbally at the beginning of the interviews.

#### **4.1 What examples of technology exist, or are emerging, to help people receiving care maintain their own health and independence?**

Firstly, this question is solely oriented to what emerged from interview questions, rather than any of our earlier desk research (where numerous examples have been produced). Therefore answers relate to what interviewees felt was the case.

Interviewees at a local or provider (organisation) level felt that technology was increasingly playing a role in supporting care recipients, but examples predominantly referred to operational management technology such as care planning and rostering. A couple of interviewees also cited technology supporting those with levels of impairment that limit their ability to interact physically or verbally. Finally there were references to the internet of things and smart sensors, but very few interviewees had seen or been involved in using these.

In the health care professional workshops, particularly GPs, there was reference to where technology is becoming embedded and emerging: *'innovations in that space of chatbots, symptom checkers, online algorithms have accelerated more empowerment or ownership of one's health care, [although] probably in a younger demographic.'* Another GP raised that they are starting to feel the benefits of digital therapeutics in transforming the delivery of information away from the traditional patient information leaflets.

As detailed in the previous section, both people receiving care and those providing informal care largely referenced their experience in new digital communication mediums and digital ways to manage their health care logistics.

For national leaders much of the focus across interviews was on specific and pre-existing areas of work, or existing areas to build on, such as virtual wards, musculoskeletal (MSK) service models,<sup>18</sup> falls prevention and population health management.

In more emergent technologies relating to proactive and relational activities or models, there was limited knowledge of or reference to technologies outside the areas mentioned above. While non-specific, there was a consistently positive and interested view: i) of pursuing proactive, relational elements, ii) that technology could play a role, iii) they would be very keen to see any outcomes and evidence in this area to support their efforts. One leader felt that there are pockets of innovation out there, but that national systems tend to be behind the curve on innovation vs local systems.

## **4.2 What markets or routes to market currently exist? What role are they playing?**

To answer both questions: very little. When asking national stakeholders there was reference to support for improving decision making at local and provider level. However, even in the newer streams of technology that have much focus and are arguably more established, such as virtual wards, one leader stated that those considering suppliers had few if any places to properly evaluate them, and went as far as suggesting this could be a useful output from this programme (along the lines of 'Tripadvisor').

Providers of tech solutions, who within our interpretation defined market in a different way to other interview groups (see footnote),<sup>19</sup> referenced that the relative informality of, and lack of any structure in, the market led to continued

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<sup>18</sup> An area that was referenced to have been well transformed in offering choice, digital avenues and online patient support, largely by independent sector providers already established within this space.

<sup>19</sup> In the context of their answers most of the tech companies would define 'market' as a group of customers, or prospective customers, they or similar providers can address or sell to. Whereas the national and system-level view was more oriented towards system defined activities such as procurement frameworks etc. There is likely lots of crossover and areas where the system view might define the health tech view as 'informal'.

dominance by larger tech incumbents offering substandard tech for very little or free, and it being driven by those suppliers who shout the loudest (which may reference the same organisations).

While within health care there was reference to technical compliance frameworks (such as Digital Technology Assessment Criteria), and procurement portals, as a process, the situation was very different for technology in social care, exemplified in one interview: *'It's very fragmented and the [...] current tech scene in relation to social care, [while there are] lots of tangents and people doing different things [...] which is good, they are not exactly joined up.'* Another interviewee stated *'there's no specific [marketplace] I'm aware of'.*

In addition to the absence of formal market mechanisms, both the tech providers and those at a system and provider level making the decisions cited a number of challenges impeding purchasing decisions, including skills, knowledge of technology, funding, and system pressures.

In relation to the NHS in Scotland, one interviewee raised that as a smaller system, there was less need for them to think of markets and they were more oriented towards being a launchpad, creating the conditions to help technology prepare for introduction into larger markets such as England. However, nearly all examples given related to health care.<sup>20</sup>

Finally, while there were some examples of system entities working together, for example a local authority and an education provider, there were no clear examples given of health and social care working together to co-commission technology with common objectives and specifications.<sup>21</sup>

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<sup>20</sup> Further discussion and investigation would need to be undertaken to establish whether this was due to the orientation of the interviewee's role and expertise in health, or whether the focus is predominantly on health care.

<sup>21</sup> Outside of interviews there are a few examples that we are aware of from our research and knowledge in this area, but that information is outside the purview of the analysis of our engagements. We would also comment that in our view it is still incredibly rare, so do not believe this point is incorrect, just not absolute.

From these interviews there is a strong narrative that markets for emergent technology, especially in more proactive and relational areas, are informal, subject to several challenges and fragmented. From these discussions there is no combined health and social care market; health is largely informal, and social care is very informal and arguably ill-defined.

### **4.3 What are the challenges for solution providers in the development, testing and adoption of these technologies?**

Understandably the responses to the previous question will have a bearing on, and in some cases be duplicated in this section, in particular around the skills, knowledge of technology, funding, and system pressures by their customer base or market.

Perhaps due to, or in addition to, the above many cited engagement with prospective partners and customers as being a standing challenge during their phases growing the company and the solution. In the author's view engagement challenges from their examples could be classified as follows.

- **General engagement:** being able to meet them and discuss their solution, particularly when it is not clear who is responsible for the tech procurement itself. (In multiple examples prospective buyers felt it was another party who was responsible for buying tech, with this same sentiment being echoed by the other party.)
- **Strategic alignment (engagement):** being able to discuss and align objectives where the buyer may have very different, traditional and specific views of what they want; limited knowledge of how technology can transform; or feel that technology may adversely affect their own contractual position.
- **Commercial engagement:** being able to engage with procurement tenders that may be oriented towards service with no provision for the possibility of combined tech and non-tech.

In relation to the prospect of driving more innovative ideas, possibilities and service models, providers suggested they were doing what they could, but that, in the author's paraphrasing, they could not directly solve the challenges in the system that ultimately led to demand for the innovation they could provide.

#### **4.4 What are the challenges for care systems and providers in finding, adopting and making the most of technology?**

While again the comments in the previous question around markets and routes to market have a bearing on this one, when asking the one target group this question directly, interviewees highlighted several different areas.

In furthering comments around finding, evaluating and purchasing solutions, one interviewee from social care strongly stated the challenge as they see it. *'I think some of the stakeholders in social care are acting like it's a mature market. [...] we don't know what half of them [technologies in the market] are. We don't know which ones apply to us. [...] it's almost a fundamental education around what's relevant.'*

With regard to adoption and making the most of technology, one interviewee stressed the importance of realistic views around adoption in the social care workforce. *'We are pushing for a couple of technology projects and, [...] I've been [trying] to really bring the social workers on board. [...] at the moment you bring in a piece of tech as part of the care planning [...] they need to feel comfortable from a care [...] perspective that it's not adding risk, it's solving a genuine problem, and it's worth using.'*

In other examples, the complexity of adoption taking place among multiple partners and providers was raised as a challenge. This was especially the case when considering the nature of perceived responsibilities, contractual terms, and relationships between local authorities and private sector care providers in social care.



## 5. What would people like to see addressed or supported within a Health Foundation programme, and how?

For health care professionals this question was oriented towards the problem statement areas that they would most like to see addressed, rather than more generally. Across the groups, there was a majority view that they would see value in improving the following:

- A shift in care focus to improving overall individual wellness and prevention.
- Development of more mutual, supportive relationships between those providing and receiving care.
- Greater focus on people's physical health, mental health and social needs in the round.
- Improvement in adaptiveness and individualisation of care approaches.

From the sample of interviews with national and thought leaders, there was a consistent and strong trend relating to capability building, driving evidence and how-to guides (or 'playbooks') for national colleagues to prioritise and local colleagues to replicate or adapt. While there were some tentative ideas on specific areas, the high level takeaway was that **what** tech (or even what area) seemed less important than **how**, if the orientation was beneficial.

One participant suggested that focusing on *'going with what is already happening'* and then *'take it to the next level'* was the best approach and could arguably yield better results than focusing on entirely new things. Furthermore, they suggested that it should be less specific and bottom-up rather than directive and top-down.

There were suggestions that in many local areas there was a lack of skills to innovate and then evidence new approaches, and that this was something that needs to be addressed<sup>22</sup> or represents a risk to transformation. One comment

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<sup>22</sup> Although when discussing national activities, basic digital skills development was an area that was referenced numerous times.

suggested that capacity building and peer learning should be factored into funding programmes

The technology solution providers, by and large, suggested three areas where they would like to see furtherance, focusing more on the environment than the technology itself: **new funding models, evidence base** and **influence**.

Multiple respondents cited the need for **collaborative funding models** working with multiple partners. This would mean facilitating greater collaboration between social care and health care to enable a holistic approach, focusing on pathway transformation and delivering integrated care to help address the shortage in funding. Other funding models were cited (including invest to save and outcomes-based funding), suggesting that the system needs support in innovation around funding (re)configuration.

Support on evaluating the benefits and measuring the impact in a consistent manner across all funded projects would be welcome to grow a comparable **evidence base**. In more specific examples, evidencing the benefits of integrating care, including but not limited to technology, was seen as something that is currently sorely missing, and that their propositions were often based on. Also one respondent felt there was a need *'to prove the effectiveness of technology-enabled care as a whole, so that it becomes a no-brainer for people to say, this is the thing we're going to invest in.'* In the author's view this pairs with the wider Health Foundation programme objective, but given how huge this objective is, this would likely be a longer term ambition, and arguably in the shorter term pertains to influencing remaining cultures of tech scepticism.

Respondents also suggested a variety of areas of influence, presumably leading to access, that they would like to see the Health Foundation facilitate. A number of specific groups, stakeholders and national influencing bodies were referenced but have not been included here as we perceive them to relate to specific market offerings and technologies rather than in general.

To summarise, the majority sought positive influence to drive greater understanding, knowledge and demand by those organisations that represent the base of demand for technology. One example was the suggestion of a 5-10-year look ahead to help influence longer term thinking around technology.

## 6. Summary of analysis and problem statements

Throughout this phase of research, and in the composition of this report, we have sought to gain insight around two high level paradigms:

- **what** problems in direct care provision could be addressed to help drive greater independence for those receiving forms of health and social care, supported by technology, and
- **how** in the context of the care system could this be oriented, and what factors (posed as problem statements) would need to be considered to maximise the likelihood of successful outcomes.

Again, for clarity and the convenience of readers, we would remind that all commentary in this report has been solely based on the insight within the interviews and workshops undertaken, to preserve the integrity of this work. When considering the statements produced we would encourage the reader to bear this in mind.

We would also repeat the earlier caveat that while we feel the research offers insight from a valid range of interview cohorts, and that sufficient interviewees in each cohort were involved,<sup>23</sup> the focus of this research and range of strategic questions is broad in nature.

Caveats in mind, below we will list a series of high-level problem statements, where we believe the confidence level is high enough for the Health Foundation to

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<sup>23</sup> In accordance with research good practice we worked to a minimum of five engagements per cohort to ensure we could have sufficient confidence in the summary insights.

integrate into its decision making within the context of the proposed funding programme around tech-enabled care.

## 6.1 Problems relating to the experience of care

Of the 10 proposed problem statements tested across a variety of individuals providing and receiving care, the author and supporting team do not believe that any were sufficiently disproven or discredited. In the details of interviews and workshops, the lowest were neutral, and in most cases there were caveats raised around the complexity of the care systems. Given the reputed sources of the problems themselves, this was not necessarily expected, but we did believe that prioritisation and further insight would shed light on where the greatest need would emerge from the 10 statements.

Given, as will be covered shortly, the strategic recommendations that directive or targeted areas of focus may be less valuable than how the Health Foundation provides support, it may not be necessary to condense or focus this list on fewer areas. However, below we have split the statements into areas where there was strong support and confidence, and areas where this was less so ([with author commentary in blue](#)).

### **Problem statements – strongly or fully validated**

- **PS1:** Community assets (including social capital) are not fully utilised in care provision (relational) – [well validated in terms of need and value](#).
- **PS3:** Families, carers and communities are not sufficiently involved in planning and delivering care (relational) – [validated well overall and the role of the family was highly linked to levels of relational care, though this was impeded in more formal or intensive levels of care, such as care homes or health care interactions. As a more specific problem or sub-problem statement, access to information or ability to participate is significant](#).

- **PS6:** There are poor care relationships – wrongly focused; overly professional; one-way (relational) – validated by health care professionals and rated as one of the areas they would most like to see addressed. However, in the detail there was a high correlation between levels of relational care and whether the care takes place in or close to the care recipient’s residence, as demonstrated by examples in informal care, domiciliary and residential care, and community nursing. Consequently the problem statement would likely apply to care outside of the person’s home to be most validated.
- **PS7:** Care is short term and reactive – prescriptive and prioritising fixing things, not enabling, empowering and capability building (proactive) – unequivocally validated across all cohorts.

### **Problem statements – partially or more neutrally validated**

- **PS4:** Information in care is unhelpful, unsuitable or in an inaccessible format (proactive) – well validated by care recipients but not care professionals. In theory more neutral, but the care recipient narrative suggests this should be considered as well validated.
- **PS5:** People’s physical environments are disabling rather than enabling independence and wellbeing – variable care recipient experiences around how significant or unaddressed the problem is, but an area of significant importance in relation to the person’s feeling of independence and quality of life.
- **PS8:** Care operates in silos – lack of dialogue; boundaries create barriers between different areas of support (including formal and informal care) – care recipients and informal carers were largely unsure; care professionals strongly confirmed the existence and extent of this problem.
- **PS9:** Care is uniform in nature – lacking insight, flexibility, and capability and capacity to adapt approaches – social care was seen as less uniform, with a few positive examples in health care. However, all health care professional groups validated this as a problem.

- **PS10:** Wider needs, including wellness, psychological, social, are unaddressed or ignored – of all the problem statements this was decidedly neutral or mixed across the groups, however health care professionals voted this as one of the top areas for investment in terms of perceived value.

### **Not possible to confidently validate (or not) within the process**

- **PS2:** Engagement – accessibility, or perception of accessibility from past experiences, starts from a position of disengagement.

### **Other key problems that can't be directly integrated into the above**

These statements could arguably be related to, and impact on, a range of the problem statements. They cannot be integrated into specific ones yet are worth profiling.

- People not knowing what was available to them – for addressing challenges in their physical environment, for knowing how to utilise community assets, and, more generally, for finding ways to independently improve their own circumstances.
- Systems of support, capability building and care, for those informally providing care for others, appeared to be very sparse. Navigating barriers, particularly informational ones such as the previous, appeared to be an unnecessary burden for those freely providing care.
- The technological capability of those receiving care, and those informally providing it, varies and is an area where there is not yet clear support or capability building available. Many have had positive experiences in recent years but in limited areas, and with some examples of extra barriers occurring through imposition of digital routes.
- There are concerns, and emerging examples, that contemporary technology is unintentionally creating conditions that inhibit the ability of those providing care to provide more proactive, relational care.

## 6.2 Problem statements on factors in supporting improvement

In this second paradigm we consider what factors (predominantly derived from three stakeholder groups, E-G<sup>24</sup>) would need to be considered to maximise the likelihood of successful outcomes. Or to pose them as problem statements, what may cause a funding programme focusing on the right areas to fail or not reach its potential.

These 10 statements have been assigned XS codes to support organisation and reference in Part 2 of this report, which provides interpretations and recommendations.

The author is mindful that some of these may or may not be addressable within the context of programme design, but consideration of this falls outside the scope of the analysis in this section.

**XS1.** Few within the system are able or confident to provide examples of, or specifically envisage, combining technology with emergent themes around care improvement (for example relational and proactive care). Support is needed around the combination of both, particularly at a local ICB/ICS level.

- a. Nationally these operate within, or have until recently operated in, very separate policy areas, arguably leading to policy silos.

**XS2.** There are few, if any, places or mechanisms to properly compare and consider technology suppliers and solutions, significantly in social care, but also in emergent or non-infrastructural areas within health care. There appear to be limited national activities to significantly address this.

- a. There are also few if any mechanisms for system peers to rate and review existing implementations, again within health and social care.

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<sup>24</sup> See Appendix C for detail.

- XS3.** There is no existing formal market, marketplace or market in development for technology that relates to areas that span both health and social care. There appear to be limited national activities to significantly address this.
- XS4.** Those providing tech solutions struggle with engagement with, and consideration by, prospective customers. They are subject to informal market dynamics where incumbency and ‘those who shout the loudest’ unequally and unfairly dominate consideration.
- XS5.** Commercial procurement mechanisms can hamper the integration of technology at a supply-side, hindering combined service and tech models or more appropriate, non-traditional commercial models suitable for technology provision.
- XS6.** Strategic misalignment between those buying and providing technology can hinder demand, or consideration, of tech solutions, particularly when informing new service models.
- XS7.** There is a lack of evidence around the benefits of technology in care provision, particularly around the wider case for integrating technology. It often relies on anecdotes, even if from national priorities.
- XS8.** The generation of high-quality evidence within implementations is hindered by skills, time and not being considered a priority. This hampers case development at all levels from supplier to peer learning, to developing national cases for prioritisation and funding.
- a. This is not sufficiently mandated or significantly supported within national investment mechanisms.
- XS9.** Evaluating longer term multi-year benefits can be challenging and incompatible with single-year budgets and budgetary configurations. Longer term thinking around technology is arguably logistically and systematically hindered.
- XS10.** Commissioner and provider dynamics in social care suffer from confusion around responsibilities, funding challenges, workforce challenges, and limited skills and knowledge around technology.



From the range of interviews there are arguably more problem statements that could be defined within this category. These represent the ones that were referenced more than once and were pertinent to how technology could be supported to improve care within the remit of the project brief.

In concluding the analysis of the engagement phase, we would like to thank all those who candidly offered their time, energy and ideas from within the UK health and social care system, and those who offered insight into their experience of it as care recipients and informal providers of care.

In the next part of this report we will switch from analysis to advisory, considering how the Health Foundation can recontextualise these findings into the remit of the proposed funding programme.

**Part 1 analysis composed by** Liam Cahill, with supporting interview analysis from David Altabev, Tom Stocker, Ned Burns, Tami Bamidele, Fernando García Albero, Alexa Sheldon and Jemima Kola-Abodunde.

## Part 2: Recommendations for contextualising the research in programme design

### 7. Scope and considerations for our recommendations

In this second part of the report we switch our orientation from direct methodical analysis of the interviews and workshops<sup>25</sup> to advisory, where the author will seek to bring other factors into consideration. These include the research undertaken in earlier stages, factors relating to the role of the Health Foundation and its proposed programme, and the knowledge and experience of the author and supporting team in the subject areas.

In Part 1 of this report, we effectively concluded the ‘first diamond’ of the design thinking process,<sup>26</sup> producing a series of emergent problem statements and the levels of relative confidence that we were able to give them from interviewee statements. In the next ‘second diamond’ the Health Foundation will seek to switch its orientation and activities to defining ‘the solution’, seeking to understand whether and how the problem statements can be solved in the context of what the Health Foundation has the power to do.

As readers will no doubt be aware, the Health Foundation is not a front-line provider of health or social care or national policymaking body. It does not build or sell technology and does not have the power to enforce or actively direct any form of change. The role and remit of the Health Foundation is in funding, convening, thought leadership, and other forms of **enabling activities**.

At the same time, as an independently funded arm’s-length charity not directly subject to the governance and funding flows that may often dictate what can

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<sup>25</sup> All work prior to this point was solely within the remit of preserving the analysis of these engagements, with any commentary and organisation strictly based on the interviews, and with confidence levels solely based on the answers received from the participants.

<sup>26</sup> See [Appendix E](#) for a short user guide on the approach undertaken.

and can't be done in the public sector, this offers myriad opportunities to support value-add within the system, as is well recognised in the wider health and social care community.

Therefore, when we begin to consider how to build the solution, we must recognise that in seeking to help solve the emergent problem statements the solution has two parts:

1. The solutions that the Health Foundation can provide to enable others to solve the problems.
2. The solutions to the problems themselves by those delivering or directing care and those building tech solutions.

As a result of the above, what we are seeking to influence at this phase is **not** what the solutions themselves should be, but instead **what is the best possible solution that the Health Foundation can provide to enable others to solve those problems in the best way possible?**

The Health Foundation obviously understands this role well and at the beginning of the programme we started with its hypothesis of a programme that would likely provide funding, with a suggested initial package of £2m<sup>27</sup>. The team also expressed openness about how and where that funding could be allocated, seeking to understand where the best impact could be achieved and through what mechanisms. Given the Health Foundation has a wider existing role than the proposed programme, such as providing thought leadership around care models (including around the topics of relational and proactive care), supporting the improvement community (Q), and joint activities with national bodies, the author assumes that some of these could be considered as components when designing the solution (programme).

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<sup>27</sup> Although it was clear this didn't necessarily need to be issued in one go or within a specific time period.

These questions and considerations, along with the outputs of the research, will act as ingredients for the Health Foundation to begin to ideate then seek to configure the resulting programme as an enabling solution.

With the above in mind, the remainder of this report will seek to take what we have learned so far in our research and to provide assets, and recommendations, for how a process can be undertaken to develop a pragmatic and impactful solution to support the programme's overall mission.

## **8. What lessons from the research should be factored into the context of programme design?**

This section is composed of three considerations: i) relating to the problems in care, ii) relating to wider orientation around the care problem statements, and iii) relating to supporting the wider systems to improve care. While arguably there are two considerations, the second relating to orientation has been created to act as a bridge, given it spans both areas.

### **8.1 Considerations relating to addressing problems in care**

At the beginning of the process there was a focus on what the problem is that most needs to be addressed, and where technology could play a clear and defined role in addressing it. We hypothesised several viewpoints with which to drive this research, such as a specific setting with high need, a clear determinant of health and/or life outcomes, or a service that could be reconfigured to greatly impact individuals' lives. As covered at the beginning of the report, the agreed focus was around where technology could make it more possible to bring about some of the biggest ambitions defined within the system, specifically a shift to more proactive and relational care models.

In the desk research and interviews, and in testing and exploring the nine<sup>28</sup> problem statements, an ideal scenario would have been something located in direct care provision, clearly defined, viable to be changed, and where logically technology could play a functional role; often called the low-hanging fruit. Unfortunately, while there may be problem areas where this is the case that may later emerge through the programme, this was not what we heard from interviewees.

When considering the nine care-oriented problem statements, the responses were complex and multifaceted, with many different worldviews within interview cohorts. They also reflected the uncertainty of a forming system; immediate system challenges around money, workforce, COVID-19 recovery and high demand; experiences within their own profession or service; and what good could look like vs their existing experiences.

This is important in relation to validating the problem statements because all of these could factor into whether a statement is perceived to be valid or not. For example, there were many occurrences where respondents felt that they were doing the best they could in the current circumstances, such as in considering people's wider needs and wellbeing, but also felt that at a system or organisation level there was nothing to support this ambition actively or functionally. In these cases many people responded neutrally, but in further and more focused engagement this could arguably come out as valid.

Furthermore, in discussions with wider stakeholders such as national and thought leaders, local leaders and tech companies, there was much interest in the focus of this work more widely, especially given that several of the concepts within problem statements relate to existing concepts and ambitions.

Consequently, the author would argue that since none of the statements were discredited many came through as valid, and since many of the statements were

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<sup>28</sup> There were 10 but one was not possible to authentically explore within the research configuration.

interrelated, especially the more relational areas, there is a strong case for not reducing the list but instead continuing to explore the areas as overarching themes for the wider context.

If the programme does seek to select among the group, this could possibly be maintained as primary objectives for a programme, but with support and possibly ongoing consideration of where further benefits could be, or naturally would be, achieved within programme design as a secondary objective. This would serve to better understand the functional relationships between the statements.

If the Health Foundation seeks to prioritise a smaller cohort (perhaps four to five) of areas then the opportunities (ie problems reversed) supported in the research would be:

- PS1: **Making better use of community assets** (including social capital) through both providers and recipients of care knowing what is available and how to make use of them.
- PS3: **Supporting families and others providing informal support** to be informed and sufficiently involved in planning and delivering care, particularly relating to information, advocacy and two-way communication.
- PS6: **Embedding multidirectional and human relationships** in interactions between formal care services and their recipients.
- PS7: Increasing the focus of care interactions and pathways on **enabling, empowering and supporting capability in people.**
  - The author would also argue that from research and interviews PS7 is intrinsically linked to PS4: **Providing information and support in formats that are more helpful, suitable and accessible based on the person's needs.**

However, while based on the research these stand out, the author is mindful of a few other factors that could also affect selection:

1. Some of these are more functional in nature than others, eg PS1 community assets vs multidirectional human relationships. The former could logically<sup>29</sup> be a function tech could provide whereas while the latter could theoretically be a stand-alone function it would more likely be a design feature or sub-function within other technologies.
2. This does not include consideration of the technical or commercial viability for solution providers and whether they would want to build a solution.
3. How straightforward evidencing the benefits would be.
4. How this would align with other system pressures and priorities.
5. That the orientation sought to consider both health and social care, and that a problem that is perceived as valid in one but not the other could still have a material impact on the care recipient.

Answering the above questions in shortlisting would be almost impossible to do without presupposing the solutions and would likely undermine the research, which is the intended influencer for any decisions.

**Summary of consideration:** For many reasons, while the confidence levels of the nine validated problem statements vary from neutral or mixed to good confidence, there is a case for progressing all of them in some form, whether as direct or supporting areas of focus. If a smaller selection were to progress then PS1, PS3, PS4, PS6 and PS7 would be the most viable based on the interviews. Most of this group are more aligned to relational aims rather than proactive although no statements are solely one or the other.

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<sup>29</sup> Acknowledging that in making this point it is hard not to presuppose a solution to this problem, so please consider it as a hypothesis.



## **8.2 Considerations relating to how the programme can orient around the wider care statements**

One of the points raised in the desk research, and in examples provided by care providers and recipients, is that technology in care does not directly equate to better care or care aligned with relational and proactive care objectives.

As will be covered in greater depth further on, when interviewing national and thought leaders, local leaders and provider-level decision makers there were myriad comments that support is needed around thinking about how 'next horizon' care models (such as our focus areas) can be designed, and beyond this how and where technology can directly enable them to be successful.

Following the desk research and literature reviews that helped us to design the interviews, one area that strongly resonated from the literature around relational care was that the problem is not solely a functional problem, but one also based on design principles. In other words, the function of connecting person A to service X can be an enabling, empowering and human experience or a disabling, disempowering and inhuman experience if designed in the wrong way. This was clearly identified when one informal carer referenced how an arguably more convenient, accessible digital front-end to a service represented the exact opposite for someone who did not have the skills and capability to interact with it. This is arguably a problem that could occur when designing a service model, designing technology for a service, or designing both in combination.

Another example of this came from interviews with technology providers, who were keen to build in product features that addressed specific problem statements. However, they also challenged that there was insufficient demand from their customers in the system of care and that compatibility with existing (possibly reactive or non-relational) models of care was something they need to be mindful of.

While thinking around proactive ambitions may be more developed (such as population health management, risk stratification, self-management tools etc) as

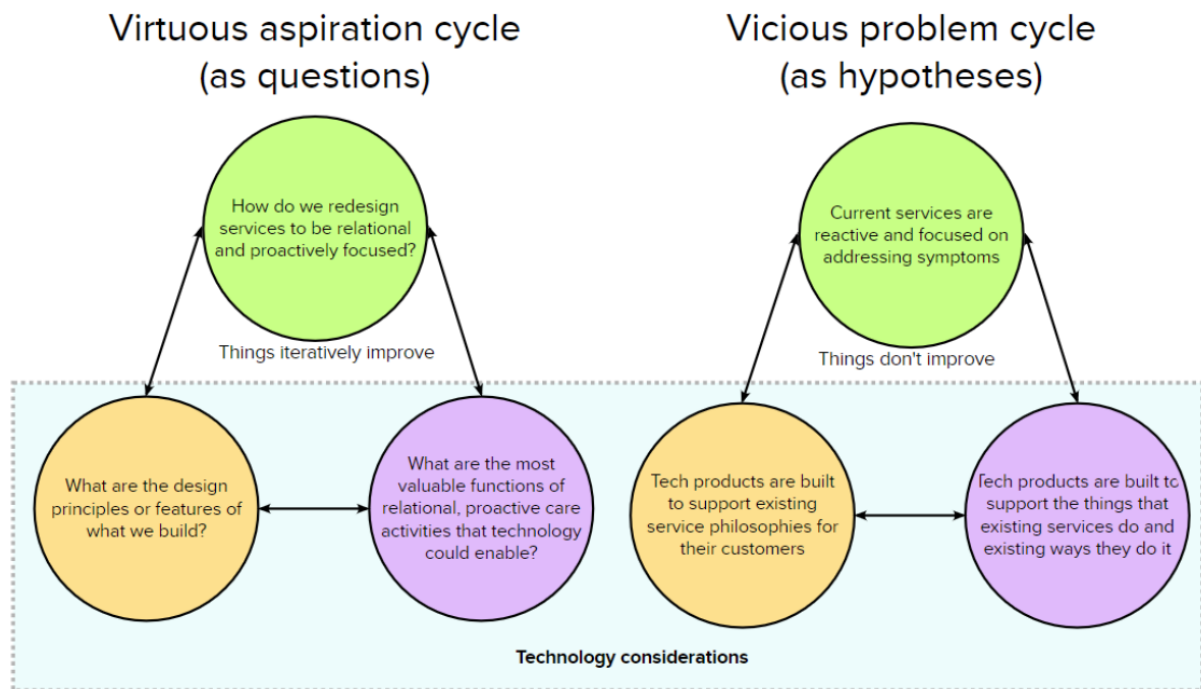
technology oriented concepts, those of a more relational nature felt less so. In the conclusions from our desk research<sup>30</sup> it was clear that frameworks for relational care were primarily based on (design) principles, with some emergent functions, and that there was limited consideration of how and where emergent technology could play a greater role.

This led to a secondary hypothesis that there were two prisms of view (illustrated below as both aspirations and problems) that could be applied to thinking about both the application of technology and the design of service models. These could be described as:

- **System functions (what)** – relating to a specific activity, action or function that is enacted. Examples include sending a communication, updating a record, booking or arranging something, convening people in a physical or virtual place.
- **Design features (how)** – relating to the principles or features that would be desirable within those activities, actions or functions. Examples include formality, accessibility and tone of language, standards for different learning needs and education levels, levels of inclusion and decision making.

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<sup>30</sup> Mostly grey matter rather than academic literature.



From the stages of research and engagement, and regular internal discussions around the Health Foundation’s role in helping technology to drive better care, it is the author’s view that supporting thinking (perhaps through a framework) around how to address the wider (or a condensed) group of the problems would help yield better solutions, evaluation and possibly impact from the programme.

While this has not been fully fleshed out, and doing so is outside the scope of our engagement, the author would recommend a thinking framework to include a matrix of the following two components<sup>31</sup>:

1. What **functions** (and sub-functions<sup>32</sup>) could help fulfil relational or proactive ambitions within a combined view of technology and service.
2. What **design principles** (and sub-functions<sup>31</sup>) could help fulfil relational or proactive ambitions in a combined view of technology and service.

<sup>31</sup> Likely derived from the problem statements.

<sup>32</sup> Many of the problem statements were a combination of different parts (e.g. PS6: There are poor care relationships could include the focus of the relationship, the tone and orientation of the relationship and whether it was bi-directional or not). Arguably different kinds of tech features or principles within design could make up a mix of these sub-functions and principles.

In addition, as an internal or national thinking tool, something with these features could offer a way to support consideration around market definition for areas that emerge through or in proximity to the Health Foundation programme work.

**Summary of consideration:** The research and interviews suggest a need to support combined thinking around the concepts of both proactive and relational care, and the application of technology. This consideration proposes an emergent thinking framework to support technology and care, against the functions and design principles that would need to underpin them.

### **8.3 Considerations relating to supporting the wider systems to improve care**

While much of the focus of the research has been on areas where technology could potentially enable more relational and proactive care, any change in care, including through technology, is dependent on the health and social care system's ability to bring about that change. At many levels of stakeholder engagement, a strong narrative emerged that solely providing funding for projects is not desirable, and arguably is not currently working in existing investments around technology.

Particularly at a national and thought leadership level there was a strong and consistent view that a successful programme would ideally address common design and delivery challenges to avoid them happening in the Health Foundation programme. These recommendations have been organised into a series of sequential themes, and for the purposes of idea generation 'how might we'<sup>33</sup> statements have been produced. However, an overarching 'how might we' statement could be considered as: **How might we support the right groups to imagine, test and evaluate how technology can enable the functions and principles of proactive and relational care concepts.**

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<sup>33</sup> 'How might we' is a common ideation question to support idea generation around proactively oriented problems.

The following ‘how might we’ statements have also been supplemented, where applicable, by **XS** tags which link to the [problem statements covered in the Part 1 analysis of system \(or improvement\)](#) factors that emerged. Given that this part (2) of the report is advisory, the intention is not to solely provide 1-1 translation of the Part 1 statements and some ‘how might we’ statements are not directly linked.

## Convening

From the stakeholder interviews it was clear in direct comments, and indirectly<sup>34</sup> in the worldviews of different stakeholder groups (such as health care professionals and national units), that different groups are working and thinking in silos.

There were common examples of lacking knowledge or uncertainty relating to care concepts vs technology, health care vs social care, depending on the groups, yet a recognition that these thinking territories are starting to come together and more support is needed to help this accelerate. Yet if we want to combine these areas of thinking then we need to convene the people who know these domains to think and experiment together:

- How might we attract those groups most relevant to solving the problem, and not just those who actively pursue Health Foundation funding opportunities? **XS1 XS6**
- How might we convene health and social care actors to imagine and propose solutions to the care problems? **XS1**
- How might we convene care and tech system leaders to bring these concepts together and ideate and propose solutions? **XS1**
- How might we support early relationship building and ideation between interested systems and viable tech providers to generate solutions?<sup>35</sup> **XS4**

<sup>34</sup> Author’s opinion from observing discussions and reading the range of transcripts.

<sup>35</sup> This relates to the suggestion from national leaders and tech companies that the ‘loudest’ or most familiar incumbent technology providers are blocking other, possibly more suitable or innovative, technology companies from collaborating with local systems. This could also relate to poor and informal quality of markets that were cited.

## Thinking

In selecting proactive and relational care progression as an area to pursue, while the Health Foundation has selected an ambitious and exciting area of focus which garnered much interest and support, the problem<sup>36</sup> statements are multifaceted and complex areas for local health and social care systems to consider. This would be especially so with the known system pressures but may also be very timely to support thinking within new local structures around operational and digital integration and transformation.

As detailed above in the recommendations around assets to frame thinking (ie frameworks), if the Health Foundation wishes to provoke and challenge systems to drive care models forward with technology, then interviewees directly and indirectly told us that they will need support with thinking to avoid limited ambition in the projects proposed for funding (and possibly support). There are a few 'how might we' statements that could arguably address different parts of this problem:

- How might we frame thinking around these care concepts<sup>37</sup> in a way that is pragmatic and addressable, but not oversimplified and reductionist? **XS1**
- How might we support thinking about new activities or functions with design principles in tandem? **XS1**
- How might we support proposal design that seeks to consider and combine wider relational, proactive care ambitions and concepts, instead of solely focusing on specifics? **XS1**
- How might we profile and present our emergent thinking around tech-enabled care to drive a wider community of thought and practice beyond the sole scope of the programme? **XS1 XS1a XS7**

## Evaluating and evidencing

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<sup>36</sup> Or opportunity, as presented in this part of the report.

<sup>37</sup> By care concepts we mean the proactive and relational care concepts as problems, opportunities or intelligence.

When it comes to technology, and investment in it, national systems, local systems and tech providers stated they want more evidence to support decision making in their respective domains. Interviewees were clear that this is not happening enough, and when it does happen there are limited mechanisms to get it to others who may benefit from or build on it.

Specifically, the technology companies recognised the difficulties in obtaining high-quality evidence that supports development of health economic evaluation, which can often be the desired standard that customers (especially commissioners) will seek to support their decision making.<sup>38</sup> There was less reference to the need for or consideration of economic elements, but the emergence of ICSs and the ambition for combined objectives would suggest a growing future requirement for combined economic case development across the wider care sectors.

Since economic, or more general, evaluation for tech pilots and initiatives cannot happen in isolation, the capability and capacity to successfully undertake evaluation was cited as a problem, which would translate into a challenge or risk for this programme. This could present different 'how might we' considerations for the first programme, and longer term consideration of future programmes.

- How might we drive high-quality evaluation where capability and skills may be lacking within the groups? XS8
- How might we support capability building to help care systems improve how they evidence technology applied in enabling care provision?<sup>39</sup> XS8
- How might we support economic ( health and social care) case development for successful initiatives? XS3 XS4
- How might we support groups to evidence the benefits of longer term care concepts that may result from proposed solutions?<sup>40</sup> XS9 XS7

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<sup>38</sup> Having worked with many such tech solution companies the author stresses that this problem is a known and frequently referenced challenge for tech companies selling to care systems or providers.

<sup>39</sup> Ideally but not exclusive to solely the existing care concepts - this was seen as a general issue.

<sup>40</sup> When systems may be subject to the challenges of shorter term thinking within restricted financial windows.

## Influencing – policy, proliferation<sup>41</sup> and market development

In the [Part 1 questions that addressed markets](#) there were a range of issues that could clearly impact the learning, adoption and adaptation of the work undertaken in a proposed Health Foundation programme. The term ‘market’ and its inherent levels of maturity is defined by multiple factors that affect people seeking to address problems knowing: what’s available, what’s good, what’s proven or evidenced and for what, what others think, and for what different scenarios would certain solutions be more or less appropriate.

While there are no certainties in funding programmes that proposed solutions will lead to valuable outcomes, the level of impact will be limited if those successful solutions, or learning around the unsuccessful ones, cannot proliferate among peers.

Given interviewees across both health care and social care described varying levels of clear immaturity across these functions, particularly in social care, this could be a necessary area to consider in programme design.

While it is not the Health Foundation’s responsibility or natural role to create markets, since the orientation of this work is to possibly create new market categories then as an output, influencing national market activities could represent a valuable area where interviewees felt they would like to see the Health Foundation play a role.

- How might we build in an approach to help prime markets (or sub-markets) for technology? **XS3 XS4**
- How might we support the generation of valuable classifications and categories<sup>42</sup> across the different problem areas and solutions to help support those buying and building, and better market definition. **XS1 XS5**

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<sup>41</sup> Including learning around success and also failure.

<sup>42</sup> To further this point, often there will be details around the features of functions of technology that will be used in tenders or buying decisions that tech providers will seek to offer. Given there are such varying needs across



- How might we support spread and influence across different local areas and provider types? **XS3 XS4**
- How might we influence and support national bodies to use the evidence<sup>43</sup> to drive proliferation? **XS3 XS4**

**Summary of consideration:** The success or failure of the proposed programme may depend less on the care areas selected than on what the programme does to support four areas where support is needed by those groups who would need to come together to solve care problems with technology. These have been defined as **convening; thinking; evaluating and evidencing;** and **influencing** (policy, proliferation and market development), with 16 ‘how might we’ statements for the purpose of ideation in the next stage of solution design.

## 9. Summary of considerations and recommended next steps

Against the backdrop of integrating systems working to reform how care operates, to address current and anticipated future challenges, and with digital technology playing a significant role there are real needs in care delivery and in delivering technology that have emerged from our various forms of research.

In the very early discussions with the Health Foundation there was a duality of questions around tech-enabled care: where are the problems to address, and in what way could the Health Foundation fulfil a valuable role that isn’t already being fulfilled.

This report and the research that underpins it have sought to help provide a series of validated ingredients to continue to shape the answering of these questions in the next phase of programme design.

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health and social care, and the cited lack of understanding on buying decisions, this detail could help foster better buying decisions and more mature markets.

<sup>43</sup> If it’s compelling.

What is clear to the author and the supporting team is that there are many interlinked problems that exist and a system facing numerous challenges that would benefit from support. Can we confidently say that the Health Foundation can play a role in supporting the care system to explore how technology can positively transform and enable care? The stories we heard, and levels of engagement, would suggest a resounding yes.

However, the devil may be in the detail of programme design, and how the programme orients itself towards a range of problem (or opportunity) statements that are both complex and codependent.

To address this, and to support the next phase of ideation around programme design, as part of the [continued design thinking approach](#) recommendations have been presented that relate to: how to consider organising or selecting among the care-oriented problem statements, and what ‘how might we’ problems could be factored in programme design to support thinking, convening, evaluating, and proliferation and market development.

We hope, and believe, that the above considerations and suggestions will create the best possible chance of success in supporting the wider care system to address the problems and opportunities that emerged.

## **Part 2 recommendations by Liam Cahill, Health Advisor at PUBLIC**

# Appendices

## **Appendix A: Documents referenced within the process**

## **Appendix B: Questions and problem hypotheses**

Strategic questions posed within the research brief

10 problem statement (hypotheses) categories to be tested within the questions about experience of support

Problem statements in relation to proactive/reactive and to where the problem is likely to exist

## **Appendix C: Who we engaged with**

## **Appendix D: Exclusion criteria**

## **Appendix E: Design thinking project approach – readers' user guide**

## **Appendix F: Problem statements posed as opportunity statements following Part 2 recommendations**

## **Appendix A: Documents referenced within the process**

Below we reference the four main assets that have been drawn on for this report and are held by the Health Foundation's programme team.

Sub-report 1: Hypothesis testing and final research brief

Sub-report 2: Rapid literature review on relational care and technology

Sub-report 3: Advisory note: literature review to stakeholder engagement

Sub-report 4: Stakeholder engagement process, synthesis and emerging findings

## Appendix B: Questions and problem hypotheses

### AB1. Strategic questions posed in the research brief

- What is the experience that people receiving care are having in seeking to maintain their own health and independence?
  - a. What factors are the most important in where they live and their immediate environment and community?
  - b. How do they feel about technology, what do they have available and what are they capable and not capable of doing?
- What is the experience that people providing care are having in seeking to support others with their health and independence?
  - a. How do they feel about technology, what do they have available, and what are they capable and not capable of doing?
- What public and private sector organisations provide support for people to live at home or in the community?
  - a. What role are they playing in helping people maintain their own health and independence? How much is technology playing a role?
- To what degree are technologies emerging that help people receiving care maintain their own health and independence?
  - a. What examples of technology exist that could do this?
  - b. What markets or routes to market currently exist? What role are they playing?
  - c. What are the challenges for solution providers in the development, testing and adoption of these technologies?
  - d. What are the challenges for care providers in making the most of technology?

### AB2. 10 problem statement (hypotheses) categories to be tested within the questions about experience of support

**PS1:** Community assets (including social capital) are not fully utilised in care provision (relational)

**PS2:** Engagement – accessibility, or perception of accessibility from past experiences, starts from a position of disengagement (both)

**PS3:** Families, carers and communities are not sufficiently involved in planning and delivering care (relational)

**PS4:** Information in care is unhelpful, unsuitable or in an inaccessible format (proactive)

**PS5:** People’s physical environments are disabling rather than enabling independence and wellbeing (proactive)

**PS6:** There are poor care relationships – wrongly focused; overly professional; one-way (relational)

**PS7:** Care is short term and reactive – prescriptive and prioritising fixing things, not enabling, empowering and capability building (proactive)

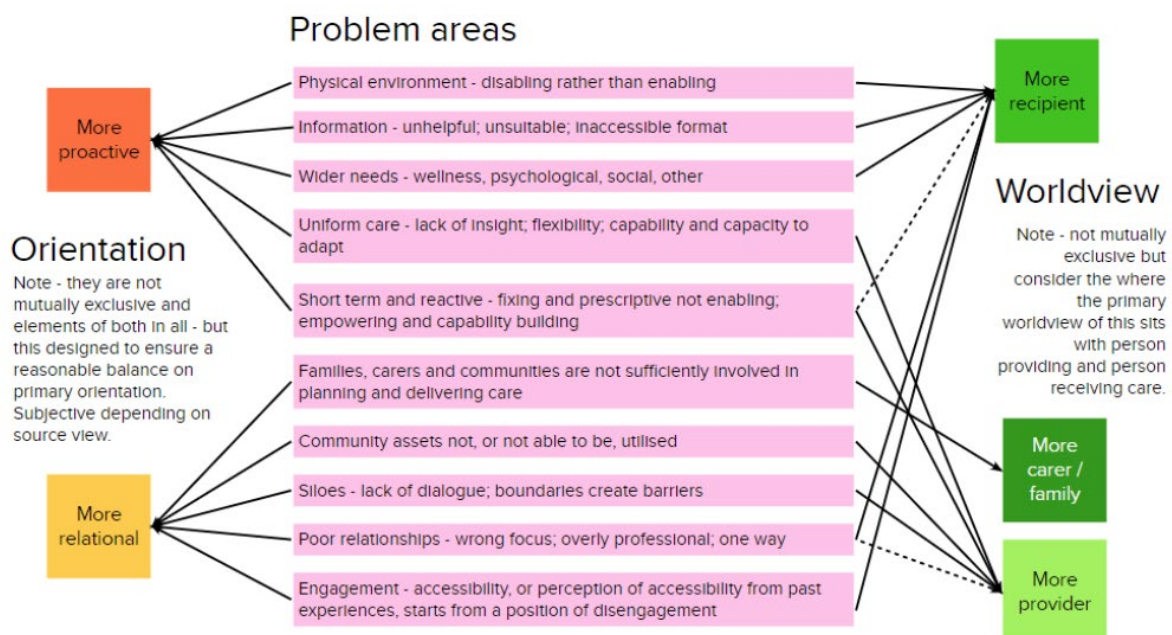
**PS8:** Care operates in silos – there is a lack of dialogue and boundaries create barriers between different areas of support (including formal and informal care) (relational)

**PS9:** Care is uniform in nature – lacking insight, flexibility, and capability and capacity to adapt approaches (proactive/relational)

**PS10:** Wider needs, including wellness, psychological, social, are unaddressed or ignored (proactive)

### AB3. Problem statements in relation to proactive/reactive and to where the problem is likely to exist

The image below illustrates how the problem statements were mapped to support interview and workshop question design.



## **AB4. Problem statements as presented in the group C workshop**

This has been added for context to support understanding where health care practitioners stated levels of agreement or disagreement around statements. Please note that these were posed as both negative and positive for the sake of accessibility, with positive statements [highlighted below in blue](#). Also note that for the purpose of comparable analysis all positive statements were reverted to negative orientation (ie problem statement).

- Care provision is overly focused on dealing with care events, transactions and issues that happen rather than preventing them or improving overall wellness. (PS7)
- Care provision can often be uniform in nature, and not set up to adapt approaches based on the individual's circumstances. (PS9)
- [Care provision fully utilises community assets and social capital to support people receiving care to improve their circumstances.](#) (PS1)
- Different forms of care operate in silos rather than around people's needs, and it is challenging or manual to coordinate this. (PS8)
- [Care provision focuses well on responding to people's physical health, mental health and social needs in the round.](#) (PS10)
- [Care recipients get the right kinds of support or information on how they can improve their own circumstances.](#) (PS4)
- Care provision overemphasises one-directional, professional and prescriptive interactions rather than developing mutual, supportive relationships. (PS6)

Opportunity statements are also [available in Appendix F](#), as an output from Part 2.

## Appendix C: Who we engaged with

- Group A – Individuals who receive or require care.
  - A1 – At home<sup>44</sup> receiving some form of informal care
  - A2 – At home<sup>5</sup> receiving some form of continuous formal care
  - A3 – Close family of a person situated in a residential care home or facility<sup>45</sup>
- Group B – Individuals who provide informal care
  - B1 – For an over 65+ adult
- Front-line care professionals and providers
  - Group C – Health care professionals
    - C1 – GPs and doctors in the wider community
    - C2 – Care home pharmacists
    - C3 – District or community nurses
    - C4 – Allied health professionals
  - Group D – Social care professionals
    - D1 – Domiciliary carer
    - D2 – Residential carer
- Group E – Care provider decision makers (about care models and tech decisions)
  - E1 – Local system decision makers
  - E2 – Domiciliary care agency owner/lead or manager (s)
  - E3 – Care home owner/lead or manager (s)
- Group F – Tech/solution companies or start-ups in care
- Group G – Relevant national leaders or stakeholders

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<sup>44</sup> Which could include retirement or independent living villages.

<sup>45</sup> On the advice of our research recruitment partner who advised that many care homes have policies around no interviews of people in their care.



## Appendix D: Exclusion criteria

Please find below a list of exclusions from the project along with the agreed rationale for this. This was contained in the hypothesis testing and final research brief which laid out the research scope in the first sprint.

- **Acute or episodic care** – while long-term conditions that may emerge from significant health episodes would be factored in after acute or hospital care, the primary objective will be in helping people to avoid or prevent these occurring. This area of care also received significant focus and funding from national bodies.
  - Specifically, given this is currently a high interest area, we will retain a focus on remote monitoring, relating to prevention and post-discharge (ie pathways), but not on the acute provision of this through **‘virtual wards’**. This currently has significant national focus and funding.
- **Traditional care provider setting improvements** – such as improvements to a general practice, community hospital or acute hospital, as the focus of this work will not seek to relate to existing ‘bricks and mortar’ provision in traditional care interventions settings. However, an exception could be if these settings are providing or able to provide different forms of non-traditional or interventional services (such as a local community/primary health care setting hosting a specific community group).
- **Palliative and intensive nursing care** – again the intention of the work is to help enable people to live healthier and more independent lives. Coverage of those who already have a great dependency or significant health needs, such as more advanced Alzheimer’s or end-of-life care, would likely not be suitable for this scope. However, we recognise that this could logically lead to improvements in care for these individuals.
- **Other non-specific care outside of primary and community** – specifically including dentistry, optometry, cancer treatment etc as they are more focused on specific, and often shorter term, health requirements. However, we recognise they could indirectly factor into interviewee answers and possible future solutions.
- **Very condition or symptom specific provision** – while these could absolutely be included in the wider system, the Health Foundation does not wish to understand specific public health needs, such as identifying the specific determinants of health outcomes (eg medicines adherence or exercise) in this research. There is a body of research elsewhere on this, including in other parts of the Health Foundation.

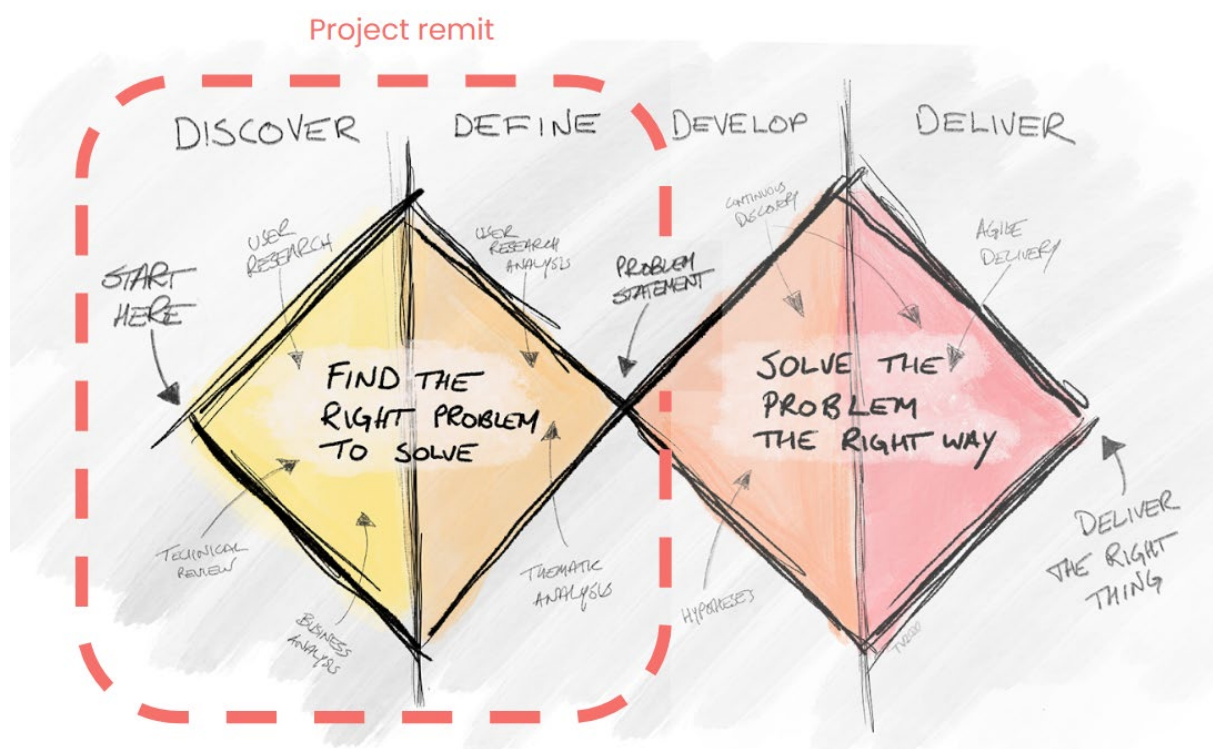
- **Non-digital technologies (eg standard stair lifts)** – the definition of technology within scope is in the domain of digital and data-producing technologies. This could include (but is not limited to) apps and software, smart devices, AI, digital sensors, IoT, big data, robotics etc.
- **Specific challenges around scaling care technology groups** – ie where there is an existing and arguably healthy market for specific kinds of technology, but that has not achieved complete scale and adoption. An example of this could be in the completion of digital pull cord alarms already being driven by existing policy. The focus of this work is earlier in the lifecycle.
- **Service redesign or transformation models** – while the design and composition of care models (or services) is of great interest to the Health Foundation, this will feature as a longer term question for the programme and related areas of work, rather than as the central question. It is understood that by looking at where technology can potentially improve an experience or enable an improvement, that this would then naturally lead to inspiration for new models. Inspiration derived from the research will be captured for later consideration.
- **Those without a form of formal or informal care need** – as the scope of this work considers care provision. Arguably this could exclude, for example, a 55-year-old working age male who was admitted to hospital with a stroke and then is receiving some post-discharge support from the health system, and family, on an anticipated limited-term basis, even if medicines may be then taken long term.
- **Private health care** – while some people may independently find private health care (or insurance) for their health needs, much of this would relate to specific health events, and not usually long-term condition management. Furthermore, those funding private health care provision represent a smaller proportion of the population and are less likely to represent those with the greatest care needs overall.
- **Children with care needs** – it would be challenging to align the objectives of this work within the parameters of children and young people who are subject to different rules, processes and legislation around decision making that may be inconsistent with the learnings for adults. However, we recognise it could impact indirectly.
- **People receiving care for physical or learning disabilities (18–65)** – given the specific needs and circumstances of individuals in this group, we felt that there was an ethical risk of this group being included as a subheading, and the risk of conclusions from other interview groups being indirectly applied to this cohort. Our recommendation was that this would be best served as a stand-alone but parallel activity, which was not possible within the project scope.

## Appendix E: Design thinking project approach – readers’ user guide

The approach commissioned by the Health Foundation, and undertaken for research by PUBLIC, was based on the **design thinking methodology**. While this is outlined in detail in the supporting documents supplied to the commissioning team, we have added a short guide to add context to our approach and remit on this project.

### Approach

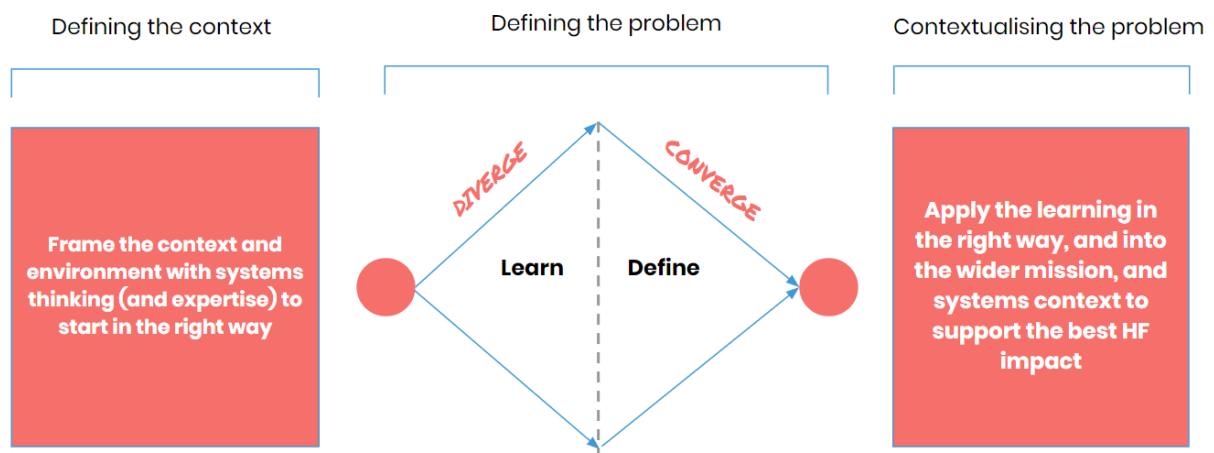
Design thinking is commonly broken down into two separate considerations, starting with the problem and then solution. The work we were commissioned to deliver in partnership with the Health Foundation team, as illustrated below,<sup>46</sup> was in ‘finding the right problem(s) to solve’ within the first ‘diamond’.



<sup>46</sup> Originating image source: Design is the strategy - NHS Digital, 2020 (<https://digital.nhs.uk/blog/design-matters/2020/design-is-the-strategy>).

While the detail of what we did vs the process is detailed in the internal write-up for the Health Foundation, our work was divided into four sprints which also provided contextual support on either side of the work, but without straying into the second diamond:

- Sprint 1.** Supporting the Health Foundation team to explore the context and finalise the research brief, hypotheses and questions.
- Sprint 2.** Desk research and rapid literature review to support interview and engagement design.
- Sprint 3.** Engagement using interviews and workshops across defined group of relevant stakeholders. Followed by coding, synthesis and analysis of independent groups as part of user research analysis.<sup>47</sup>
- Sprint 4.** Thematic analysis and generation of problem statements ([Part 1 of this report](#)), and then recontextualisation in the context of the Health Foundation’s mission of developing a programme ([Part 2 of this report](#)).



## Remit

In this report there is reference to not going beyond the remit of our work. When following the design thinking process, and within the Health Foundation’s plans for work after this report, the next phase would be expansive ideation around solving the defined problem statements. While a little of this has been undertaken

<sup>47</sup> This latter part started to converge and define what we heard.

sensitively when producing the recommendations in Part 2 of the report, the emphasis has been on organising the problem statements in the context of supporting ideation, in order to act as ingredients.

## Appendix F: Problem statements posed as opportunity statements following Part 2 recommendations

Under design thinking the next phase should be oriented towards considering the problem and different approaches to solve it, and our recommendation would be to use a problem orientation at the beginning of the second diamond. However, it may be convenient or appropriate to ‘flip’ the statements in internal discussions and future activities, so this has been provided below.

**PS1:** Connecting people with community assets, and building social capital, within and beyond formal care provision.

*PS2: Improving accessibility to meet the needs of those who are most disengaged, and shift perceptions of care.<sup>48</sup>*

**PS3: Supporting families, and others providing informal support** to be informed and sufficiently involved in planning and delivering care, particularly relating to information, advocacy and two-way communication.

**PS4:** Providing information and support in formats and places that are more helpful, suitable and accessible based on the person’s needs.

**PS5:** Empowering people to augment and supplement their own residence, and interaction with their local environment, for improved independence and wellbeing.

**PS6:** Embedding multidirectional and human relationships in interactions between formal care services and their recipients.

**PS7:** Increasing the focus of care interactions and pathways on enabling, empowering and supporting capability in people.

**PS8:** Facilitating connections and two-way collaboration between different areas of support (including formal and informal care).

**PS9:** Enabling adaptive and flexible approaches in formal care, and the ability for those providing care to enact them.

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<sup>48</sup> This was not covered in research so is solely a linguistic change.

**PS10:** Combining wider wellness, psychological and social factors into formal care provision.