Collaborative Demand-Led Design

A new way of managing demand in health and care

AUTHORS

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In this short paper, the NHS Horizons Team and Collaborate set out a new and exciting approach to managing demand in health and social care settings, bringing together leading-edge thinking and practice on demand management, data analysis and flow science in an experimental methodology that we are calling ‘collaborative demand-led design’.

Understanding and more effectively managing demand within the health and social care system is critical to its future sustainability. But keeping the system sustainable is not all. For our health and care system to be the transformative social and economic force that we believe it can be, we need to think and act radically. Our approach flips the starting point and encourages demand-led design thinking that can harness the assets of citizens and the creativity of practitioners.

As NHS England has recently noted, the health service faces ‘unprecedented levels of demand’, exemplified by an estimated ‘1.5 million patients referred for elective consultant-led treatment each month’. Modelling from the Local Government Association meanwhile estimates a funding gap of £5.8 billion by 2020 as a result of increases in demand, cost and inflation.

The operating context for health and social care organisations adds big challenges and real opportunities:

• Sustainability and Transformation Plans (STPs) are being rolled out as a way of managing health for population and place. They incentivise collaboration across local systems that have hitherto been notable for fragmentation between care settings and across purchasers and providers. They will not work without credible ways of managing system demand and flow: yet the emerging picture is patchy, and there is a need to support the implementation process.

• New models of collaborative out-of-hospital care are emerging, exemplified by the Van-guards and set out in the recently published Multispeciality Community Provider (MCP) Framework. They are built on a conviction in the value and cost-effectiveness of a different mix of clinical and social skills within local practice hubs. Making them work will require more demand-side and behavioural insight, and a much better understanding of how working across disciplines itself is a cause of failure demand.

• The financial crisis faced by the acute sector is forcing NHS trusts to radically reassess the way they manage patient flow within their organisations, and improve the way they collaborate with others to manage demand more effectively.

• Interest is growing in how the health and social care can harness the broader social and economic determinants of health. Within the NHS, initiatives like NHS Change Day demonstrate the power of social pressure and behaviour change at scale. NHS England investment in research on ‘health as a social movement’ follows high-profile commissions on Place Based Health and city-regional devolution - offering the potential to drive a different and more preventative model.
Introducing a New Approach

Our goal is to support the development of smarter, more human and more collaborative ways of unpicking and re-wiring the system blocks to address the fragmentation that undermines the delivery of seamless and responsive services to the public. We build on insight from our respective work in NHS, local government and cross-public service settings, which suggests to us that none of the opportunities above can be truly grasped without a fundamentally more demand-led model of change.

We take a whole system approach that draws on our experience of understanding and re-shaping relationships between citizens and public services in places, but apply our demand management framework in granular detail to specific settings, pathways or demand problems. Our methodology is rooted in techniques and frameworks tried and tested by NHS Horizons and Collaborate that we are hugely excited to be bringing together.

Our approach is being tested and will be applicable to areas such as:

- Managing demand in acute settings, such as endoscopy and elective services
- Understanding & managing patterns of demand to support primary care sustainability
- Creating effective partnerships to manage demand across health and social care

Below we set out the conceptual framework for this model and include a worked example to show how it can be applied in relation to emerging challenges in endoscopy services. We believe there is a significant opportunity to use this methodology as a way of making practical inroads into established system problems, and we are looking to work with partners who would like to test this out in practice through 2016/17.

Stages in the Collaborative Demand-Led Design Model

Diagnostic Stages

Stage 1
Understanding Drivers & Types Of Demand

Stage 2
Benchmarking & Innovation

Stage 3
Understanding & Mapping System Levers

Stage 4
‘Demand-Led’ Co-Design

Stage 5
Prototyping & Learning

Co-Designing the system
Stage 1 - Understanding Drivers & Types Of Demand

This stage generates a deep understanding of the drivers of demand, how it is experienced and presents, its root causes and its implications across a set of stakeholders from citizens through services and systems. Our diagnostic process builds a picture from qualitative and quantitative analysis and the wider clinical evidence base and draws from the framework in Fig.2 below. In particular we look at services from the perspective of service users - patients, family and carers - and also staff involved in the process.

Stage 2 – Benchmarking & Innovation

This stage grounds our analysis of demand and system norms within a comparative analysis. We bring together qualitative analysis of similar transformation cases (from across the spectrum of public services and across the globe), relevant academic and policy/practice literature, and conduct a deep-dive into relevant datasets to produce indicative visual models of current and future demand. We work with you and your data and, where possible, other customers who want to collaborate to accelerate learning.

Stage 3 - Understanding & Mapping System Levers

The corollary of identifying demand types is an understanding of the levers available to manage or shape it. At this stage we systematically set out a whole spectrum of levers from ‘soft’ (e.g. behaviour or culture change or new forms of collaboration) to hard (e.g. market mechanisms or targets) that are currently being used, that could be deployed, and – critically – that might require stakeholders to work more collaboratively.

Stage 4 - ‘Demand-Led’ Co-Design

This stage marks a shift from diagnostic to co-design phase. At this point we use design methods and our ‘shared space’ methodology to iterate new clinical models and system incentives (including flow science and supply-and-demand matching techniques) that could support tangibly different ways of working. Co-designing means that the process will be collaborative and multi-disciplinary, and that the insights of end users (patients) will be the focal point. We also want to make work fun so if there are easier and better ways of doing things we want to support making these happen.

Stage 5 Prototyping & Learning

This stage is about doing it for real - taking a new model into practical implementation, driven by a prototyping ethos that values momentum and ‘learning by doing’ over finessing a perfect model. Our commitment is that our methodology will build the capacity of existing staff and stakeholders through the process, and that our evaluation will draw on SQUIRE principles and the emerging approach of NHS England’s Vanguard evaluation programme.
The Demand Management Framework

Our work builds on Collaborate’s demand management framework which presents a typology of demand types and a means of addressing the interdependencies between them. This in turn has been developed through partnership with organisations like the Local Government Association, the RSA and Impower, and references pioneers of this approach such as John Seddon.

<table>
<thead>
<tr>
<th>Understanding demand</th>
<th>Is demand arising because of poor service design?</th>
<th>Is service demand arising from certain behaviours that could be changed?</th>
<th>Is the state providing more than is needed, or inadvertently creating demand through dependency?</th>
<th>To what extent is demand arising from causes that could have been addressed earlier?</th>
<th>To what extent is demand unintentionally reinforced by service dependence?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure Demand</td>
<td>X</td>
<td></td>
<td>Are there opportunities to provide services that fit better with what’s needed by citizens?</td>
<td>Are citizens accessing services they don’t strictly need?</td>
<td></td>
</tr>
<tr>
<td>Avoidable Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventable Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-dependent Demand</td>
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</table>
We use this to break down and understand the constituent elements of demand within different complex settings, using this as a basis for co-design with our partners. For example:

**Worked Example: Demand Management in Endoscopy Services**

Today the average trust provides 5000 upper GI diagnostic endoscopies per year and spends £3 million on this activity. Average waits are around 28 days but this hides huge variation with the best trusts achieving 14 days and the worst offering treatment in over 100 days. There is also significant variation in intervention rates across the country, suggesting great opportunities for collaborative learning and development. The table below gives an example of how this might break down into different patterns of demand:

### How would Collaborative Demand-Led Design support reshaped endoscopy path-ways/services?

By way of worked example, early workshops held by the Horizons team with a major acute trust on re-shaping endoscopy services suggested the following priorities:

- Work with CCGs and primary care to understand demand and agree solutions, including exploring the emergency / elective split, specialist / routine, diagnostic / therapeutic and day case / overnight procedures.
- Look explicitly at where ‘failure demand’ is occurring through poor service design or matching with patient and practitioner needs, and where ‘avoidable demand’ is created through referral behaviours and norms e.g. from primary care.
- Deploy flow science principles to investigate process flow (and identify supply-demand variation and process bottlenecks) for different specialist procedures, lists and segmented patient groups, as well as bringing in longitudinal analysis of demand patterns over time.
- Ensure a multi-stakeholder dialogue rooted by citizen engagement with patient voice core to the co-design process and built on data about all the patients who get referred into endoscopy services.

If we just apply a flow science lens to demand, we make a lot of assumptions about the nature of the demand and miss upstream opportunities for improvement. This demand management approach opens new opportunities to meet needs within available resources.

<table>
<thead>
<tr>
<th>Presenting categories of people</th>
<th>Source of referral</th>
<th>Volume of patients in this category</th>
<th>Type of demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inpatients:</strong> People who are in a bed in the hospital who require endoscopy</td>
<td>Internal</td>
<td>Low</td>
<td>Failure demand Avoidable</td>
</tr>
<tr>
<td><strong>“Two week wait”:</strong> People presenting to their GP’s with symptoms suggestive of cancer get rapid access to endoscopy</td>
<td>GP</td>
<td>High</td>
<td>Failure demand Avoidable Preventable Excess</td>
</tr>
<tr>
<td><strong>“Six week wait”:</strong> The NHS Constitution pledges that patients should not be required to wait 6 weeks of longer for a diagnostic test</td>
<td>GP</td>
<td>High</td>
<td>Failure demand Avoidable Excess</td>
</tr>
<tr>
<td><strong>Direct access endoscopy:</strong> GP can refer a patient with specific accepted indications direct to a test without an outpatient consultation first</td>
<td>GP</td>
<td>Varies</td>
<td>Avoidable Excess</td>
</tr>
<tr>
<td><strong>Surveillance endoscopy:</strong> for people with a moderate or high risk of developing cancer or a recurrence of cancer</td>
<td>Screening Historical previous</td>
<td>Low</td>
<td>Preventable Excess</td>
</tr>
</tbody>
</table>
Why this matters

The collaborative demand-led design approach we have developed is part of a growing movement across the globe that seeks to change the way we approach health and social care delivery. It draws on Scotland’s “realistic medicine”, “prudent healthcare” in Wales, Italy’s “slow medicine” and the “choosing wisely” movement in Canada, the U.S. and the U.K. All of these approaches are about building on new kinds of conversations between patients and clinicians, based on evidence, to understand the drivers and mitigate the risks of over testing and over treatment.

In local government and social care, we draw on a clutch of approaches that seek to develop a more granular understanding of what makes citizens and communities tick; and how systems and behaviours can be re-shaped through thinking about demand over supply as the starting point for reform.

None of these approaches are about rationing care as a means of shifting patterns of demand, rather, they are about matching testing and treatment to need and level of risk, taking account of the evidence. In addition, all of them seek to improve care whilst doing no harm.

How to get involved

Collaborate and the NHS Horizons team are looking for local partners who want to explore collaborative approaches to demand management in their own services and systems. For more information and to get involved, contact Henry Kippin at Collaborate on henry@collaboratei.com, or Helen Bevan at NHS Horizons at helen.bevan2@nhs.net.

Who we are

Dr Helen Bevan is Chief Transformation Officer of the NHS England Horizons team, Helen was the originator of “The Productive Ward; Releasing time to care” which was piloted in CMFT in 2007 and became the most successful improvement toolkit in the history of the NHS, spreading to 44 countries and territories across the globe.

Sasha Karakusevic started his career as a maxilla-facial surgeon. He has been a Senior Fellow at the Nuffield Trust, working on health systems, with a particular interest in new technology, diagnostics, big data, flow science and system design. He has recently joined the NHS Horizons team and his previous roles include Chief Operating Officer and Director of Strategy at NHS University Teaching Hospitals.

Dr Henry Kippin is Chief Executive of Collaborate, leading its work on public service innovation and collaborative models of health and social care delivery. He is a visiting fellow at Newcastle University Business School, and at the UNDP Global Centre for Public Service Excellence.

Anna Randle is Director of Public Services at Collaborate, leading the organisation’s work on managing demand and place-based system change. She was previously Head of Policy at Lambeth Council and has worked as a researcher, consultant and special advisor in the previous Labour government.

Further reading & references

BMJ (2015) Choosing Wisely in the UK: the Academy of Medical Royal Colleges’ initiative to reduce the harms of too much medicine

Collaborate and New Local Government Network (2016) Get Well Soon: final report of the Place Based Health Commission


Health Foundation (2013) Improving patient flow

Kippin, H. et al (2015) Demand management and behaviour change (Collaborate & Leadership Centre)


