King's College Hospital **NHS**

NHS Foundation Trust

# Value Based Reporting and Management

## Final Report for Shared Purpose

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**12/30/2015**

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# Contents

# Final Report

| Final report for Shared Purpose | |
|---|---|
| Project title | **Value-based Reporting and Management at King's College Hospital** |
| Lead organisation | **King's College Hospital NHS Foundation Trust** |
| Partner organisations | King's Health Partners Academic Health Sciences Centre: Guy's and St Thomas's NHS Foundation Trust <br> South London and Maudsley NHS Foundation Trust <br> King's College, London |
| Core team members (name, role and organisation) | **Trudi Kemp, Director of Strategy[*] (Executive Sponsor)** <br> **David Dawson, Deputy Director of Strategy[*] (Project Director)** <br> **Gavin Hardman, Business Information Analyst** <br><br><br> **All King's College Hospital NHS Foundation Trust** |

# Abstract

**1. Please provide a brief overview of our project**

In 2012, some of us went to hear a Harvard Professor, Michael Porter speak at County Hall, London. His suggestion, which he had outlined in the important New England Journal of Medicine, was for health services to measure and report the holistic "value" of what they do - defined as health outcomes divided by cost - rather than focussing serially on stand-alone process, financial and quality targets. His belief was that this would be a more useful indicator of how well health systems were doing their job. He also suggested that it would establish a common language for clinicians, managers and finance staff, so they could talk more effectively with each other about their common goal – providing value to the patient.

We came away very excited about this "big" and clever idea, but also at a loss to know how one could actually make the theory a reality in the world in which we worked – where results and change needed to be delivered quickly and with few resources.

When the "Shared Purpose" invitation was made, we saw an opportunity to try to put the theory of Value in Healthcare into practice. Our proposed way of doing this was to develop and implement a new system of 'value-based reporting'. The key components would be:
- a new method of value ***data capture***
- a set of new value-based ***reporting tool***
- a value-based ***management system***

What we hoped would result would be a set of joined-up clinical and managerial teams, who would be able to better relate to one another around a shared vision of value. Three clinical teams emerged to take up the work of the project – Hepatitis, Endocarditis and Stroke.

We hoped that together they would create the value data set that worked for them and then use it in a process of generative dialogue to develop innovative ideas for care models that would increase the value of the services provided, and do it in a way that mattered to patients.



| AIM | KEY DRIVERS | IMPROVEMENT INTERVENTION |
|---|---|---|
| **Increase the Value of Healthcare to Patients**<br><br>$Value = \dfrac{Outcomes}{Cost}$ | Data Capture & Reporting Tools | • Measure across whole pathway<br>• Improve outcome measures (clinical + patient defined)<br>• Measure over time |
| | Management System | • Define ABC, service line reporting<br>• Develop visual/IT visual display of value information<br>• Updated performance measurement process |
| | Corporate Structural Change | • Redesign function and application of finance, quality and IT department<br>• Develop skills and competencies for new roles<br>• Facilitate cultural change that places patient outcomes first |

## 2. What was the problem that you were seeking to address?

At KCH, the Change Leaders Team has been active in change management projects in clinical, administrative and cultural spheres for about 10-years. Efficiency was always a key driver and we had a track-record of success and savings. We'd used a Lean-based philosophy for our work with teams from the frontline, and analysed and quantified processes and improvement potentials.

But, we always had quite a few nagging questions. Was it enough? Could we do more? Why was it often so difficult to get everyone on the same page when it comes to change projects?

We were only too aware of the pressures facing the NHS to save a great deal of money, change models of care and restructure systems and join-up the services we provide. These challenges are gathering pace and getting bigger and bigger. But, the NHS (providers, commissioners and policy makers) arguably focus more on process targets and financial measures than care outcomes. This approach doesn't get the best results for patients, doesn't engage clinicians and spawns organisational target confusion and gaming. Our organisational strategy was to increase quality to patients, improve financial efficiency and to lead health system redesign in a way that breaks down silo barriers and improves integrated working.

The academic theory we'd looked at from Michael Porter and Richard Bohmer, suggested that the unrelated patchwork of information and measures about acute services (mostly financial and process based) causes distorted cost/quality trade-offs. This confuses and

alienates clinicians, leads to territorial target culture, gaming of the system, and fails to adequately account for clinical and patient specified outcomes. In the Transformation Programme we'd noticed that, although doctors, nurses, clinical teams, managers, finance staff and data crunchers, all recognised these pressures, it wasn't clear we all shared common goals. We all seemed to have different approaches. Often, we each claimed exclusive ownership of certain areas of work and thought and maintained that ours and only ours was the only "right way". Clinicians jealously guarded "quality", finance staff confined themselves to the "bottom line" and managers dabbled in "process improvement". It didn't seem that we all had a common direction of travel! Most obviously we didn't really understand how to link all of our efforts to the goal of direct benefit to the patient - which after all, is the reason we are all here!

At a Shared Purpose project level we recognised that, if we were to make the impressive Porter theory and equation workable at service level, there were several important things to tease out and test.

- Porter's suggested outcomes framework contains tiers of clinical impact. Our questions were: Is it possible to structure outcome measures in this way? Will clinicians be able to agree how to do this? What measures (from their currently available data sets) will teams include in the equation? Which will they leave out?

- A key plank of Porter's model is that some of the measures should be patient specified. How could you get patients to say what outcomes were important to them? How would clinicians react to this new input? Would it lead to more shared meaning across professional boundaries of what good care looks like?

- A central challenge of the financial component of Porter's value equation is that it requires that costs are calculated along the whole of the pathway for a clinical condition. Our internal accountancy methods are currently based on departments and functions. How would we be able to gather cost information from the various silos and then map it against a pathway for a condition? How would clinicians react and cope with the need to attribute costs at such a detailed level?

- Of central underpinning importance – could all of this data actually be collected, aggregated, analysed and reported?

- Across all the teams, the acid test would be to see if a different level of dialogue that involved all team members regardless of discipline would emerge? Would this translate into improvement actions that could be measured and deliver added value as defined by the Porter equation?

In choosing our clinical teams, we targeted real challenges and potential improvements:

- Hepatitis identified real strains to its model of care – with more and more patients presenting in outpatients for initial and on-going treatment, increasingly expensive drug interventions and a large drop-out rate from active care. The team wished to understand more about the patients presenting and to suggest a remodelling of care to the commissioners, so that more patients were treated early and effectively in

primary care and to reduce the burden on acute outpatient capacity.

- Endocarditis hypothesised that better information about their inpatients – the number of them, their pathways through the hospital and the variation in the care offered to them, could help them understand how to co-ordinate the treatment of these patients and achieve better value for them and for KCH.

- Stroke services had a welter of data about their patients as a result of the major service re-organisation and creation of Hyper Acute Stroke Centres and associated networks. They wanted to see if they could use the new type of data set to improve the patient centeredness of the care they offer and understand areas of high cost that they could intervene in to make improvements to overall service value.

We hoped at the inception of the project to gain input from clinicians in each of these areas from Guy's and St Thomas's as part of King's Health Partners.

## 3. What were the original aims of your project at the point of your proposal?

Our central proposition was that management based on value – the outcomes for patients delivered for each pound spent – drives faster, better innovation and unites the interests of payers, providers and patients.

We believed that to make value meaningful to clinical teams meant monitoring the costs and outcomes that matter to patients across a pathway and reporting them cohesively. It meant measuring what matters, not what's easy to measure. And it meant creating a data system that everyone is interested in – clinicians, managers and patients – to involve everyone in a rounded discussion about how the system's working, and how it could work better.

We wanted to use value as the key performance metric to:

- Show that value (defined as outcomes divided by cost) is a better unifying concept than segregated and tribally owned data; improved value means better efficiency and quality for all in a more sustainable healthcare system – the key NHS challenge.
- Test emerging theory about value in healthcare (Michael Porter "What is Value in Healthcare") and show it can be operationalized. We set out to develop a system of value-based reporting to fully engage clinicians in service innovation and lead to better patient outcomes.
- Deliver service improvements that matter to patients because elements of the outcome denominator are patient defined

To do this we set out some specific deliverables

### Data capture
- Performance and cost metrics for acute conditions calculated on the basis of Value - defined as Outcome / Cost.
- Multi-dimensional outcomes metrics – clinical outcome measures and patient defined

aspects of good care, risk-adjusted for co-present conditions.
- Activity-based costs calculated along the whole care pathway and inclusive of all stakeholders providing input to the care of the condition group.

### *Value-based Reporting tools*
- Unified graphical and tabular information available in easy-to-read visual display via ICT to all providers and commissioners
- Financial accounting methodologies changed from department-based cost centres to longitudinal calculation of total cost from all sources along the condition pathway

### *Value-based Management System*
Upgraded performance management and service line reporting tools and framework for MD teams to:
- Optimise system-wide team performance and accountability
- Identify innovation opportunities
- Design, implement and track PDSA-style improvements
- New measures, data capture and calculation for service value along the whole condition care pathway
- Linked ICT interfaces and a visual "dashboard" display of balanced scorecard information
- Tools and a codified implementation framework for the roll-out of value-based reporting and management across the NHS
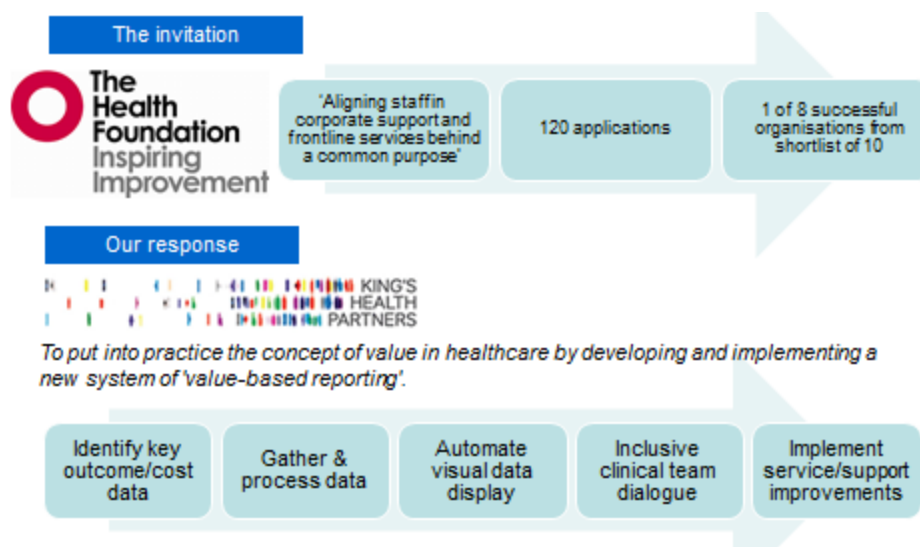
# Journey

**4. What changes have you made to the design of your project along the way?**

**5. What has happened throughout the lifetime of your project? (ANSWERS COMBINED)**

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**What changes have you made along the way?**

a) Some of the changes we've made along the way have been a result of the fact that we didn't have a pre-conceived method or detailed output. A good example would be the generation of the patient related outcomes measures. We started out not knowing how we might identify these or what they'd look like. So we experimented with various ways of involving patients in discussion about what is important in their care. We've then had to wrestle with the issue of how to collect and analyse this data. Grappling with these two issues unearthed two really rich departures from our original ideas.

- We spent longer than we had originally intended involving patients in discussion with the clinical teams about outcomes and engaging them in this project. Their insights proved to be among the most important points of discovery in the whole project. Our clinical teams came to appreciate the patient perspective on care in a way they hadn't done before. In turn, this led to them making changes to the provision of care that they would never have done otherwise and which, at the outset of the project they had not envisaged.

    *"I saw the humanness of patients, whereas when you're a doctor in a hospital, you see patients as a medical diagnosis, maybe as a bed number, or a length of stay, you see them as people in their own right."*

- The challenge of collecting the sort of information needed to measure these patient-defined outcomes led us to make connection to the IMPARTS project – which is collecting both mental and physical information from patients by a process of interview and recording on iPads. This opened up the possibility of capturing invaluable data about things that are important to patients but that hospital data systems are currently not configured to collect, store and analyse.

    *"patients said they felt alone, they had anxiety, and when we started working with IMPARTS I thought, this is amazing, to holistically approach the individual"*

b) Other changes just happened because people involved didn't think that the initial project plan or method worked for them. At a project level, this was a key learning, especially if you come from a positivist frame of project management and thinking like us in the central team. We found that when you are working with a long-term project with a set of devolved teams, changes to plans and approaches and even direction will occur. What's more, they happen unpredictably and emergently and are rooted in the context, dynamics and mind-sets of the various teams and individuals involved.

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# Journey

This is what Ralph Stacey would call a complex relational process of particularisation at local level. To us it has been a major anxiety. We've continually had to ask ourselves – Is this departure from our plan or method helpful or not? The only way we've been able to embrace it has been with courage and an increasing reliance on reflective practice. Tavistock Consulting have been helpful in exploring these issues with us and helping us challenge our own assumptions and predications.

*"Three years at the time, seemed a long time, I wasn't sure that I would even get that far, I was thinking 6 months to a year. You just don't know where things are going to go… I wanted to make as much impact as possible in a short space of time."*

A good example of this emerged early on in the set-up phase. In the project office, we had a neatly typed up PowerPoint slide detailing and diarising weekly team meetings and reporting sessions. For one of the teams this worked fine, but it was a cause of conflict with other teams. After several no-shows and a series of angst – ridden calls, a different and more flexible set of arrangements for teams to meet and report came about organically. In terms of a neat programme plan it didn't fit comfortably, but in terms of getting the team working effectively and energetically, listening to them, adapting the way we worked together was key. The larger meetings moved form a progress report-out model to more of a 'workshop' model with topic-specific sessions involving subject coaching, discussion and reflective practice.

c) Other adaptations to our plan emerged because we had wrongly assessed some of the tasks and challenges inherent in our work. For example, we had originally felt that the three elements of data capture, value-based reporting tools, and value-based management system were distinct project stages. What we found was that collecting and structuring the data for these phases was more difficult to gather than expected. Reasons included:

- Coding inaccuracies
- Problems using routine data to identify groups of patient conditions
- Variability in the way activity was recorded on the system
- Challenges in unbundling costs from their departments and combining it withother pathway costs
- Difficulties identifying and prioritising key outcomes – clinical and patient defined
- Linking IT systems and understanding data collection/processing issues
- Decentralisation of access, processing and analysis functions to the clinical team levels
- New legislation further restricting the linking of data across organisations

As a result the project was re-organised in to four phases in July 2013.

d) Another fundamental change that emerged was in the staffing of the project. To start with, we had wanted to devolve as much of the work of the project as possible to the clinical team level – especially the responsibility for data. It seemed to us that local ownership of data sources, access to systems and liaison with frontline staff was best handled in the divisional area.

However, despite best efforts, teams struggled to identify a reliable data resource in their area. Often people were too busy on other tasks and couldn't spare time for the

project, or when they tried to, they'd be called away to deal with day-to-day urgencies. What's more, people working at this level didn't have enough visibility of the wider Trust data agenda and couldn't liaise effectively with the central Business Intelligence function.

So, after some delay (during which time the lack of progress on data caused enthusiasm for the project to dip appreciably) we appointed a specialist full-time data analyst. It was a turning point for the project as the following stories will show.

e) In one team – Cardiac – we had to change the whole patient group from the one that we included in our original proposal and bid to the Health Foundation. Originally we were going to target cardiac surgery and had input in the pitch for the project from the Clinical Director. By the set-up phase, he had moved on and his replacement was loath to do the work in that area. We were enormously disappointed about this initially and spent some time agonising about whether just to drop the cardiac element of the project. However, we stuck to the principles of the project that we thought were important and advocated for participation with the new director and his clinicians at some length. Eventually, it was agreed that we would concentrate on Endocarditis. This involved a whole-scale adjustment of approach and work-up from first principles. The lesson we've learned here is that the principle of the project is the key issue at stake – not the individual condition. Furthermore, we learned that we had to work up the project brief for this condition from scratch and re-start engagement with the team. We had to understand the specifics of the condition now under review and work with the team to make connection to the overall aims of the project. In the event, this has proved to be one of the most energetic and impactful of areas in our work. The clinical lead for the cardiac workstream outlines his anxieties, *"because we were starting from nothing, I had doubts at some stages, is this the right disease to think about? It's more like a Cinderella in cardiology rather than anything else"*

**a) Set-up phase**

To start, our approach was pretty technical; identify team members, set up meeting and reporting schedules, draw-up project reporting templates, allocate roles and responsibilities, make Gantt charts etc. This wasn't quite as simple as we'd thought it would be. Teams were resistant to a centrally imposed one-size-fits-all model. It took a lot of hard work to understand the specific natures and context of each team and to co-create a working project management model that met both the needs of the local teams and the central project demands. The process of listening, gradual understanding, negotiation and mutual development was an important and time consuming process that we had underestimated. In the end we had a project infrastructure that was fit for purpose. It felt painful at the time, but in hindsight laid a valuable foundation of understanding that enabled more effective working and a sense of joint ownership.

We'd also initially felt that by circulating the application to the Health Foundation – which described the aims, objectives and suggested methodology of the project – it would be a simple process to start work. In fact each team really struggled to make sense of the "value" concept and of how the project would work for them. We spent 3-days at the first Health Foundation workshop, ran a couple of local workshops for all 3 teams at KCH and had many

conversations over coffee with team members about what it was we were all trying to do. From the point of view of the central team of initiators, this seemed laborious, puzzling, repetitive and worrying. Would the whole thing grind to a halt before we started? A lengthy and careful dialogue ensued. In retrospect this time and process, in which the teams grappled with the conceptual nature of the project initiation and made their own meaning of it for their particular circumstances was an essential building block of the project.

Reflections from our clinical leads capture this transition of thinking from feeling the *"project was a bit disconnected from clinical perspective"* through to a more appreciative and intriguing view of the project *"I got more excited when I learned more about value based healthcare as a way of assessing services, this changed my feeling for the project"*

**b) Implementation phase**

Our early work here was to work-up with the teams their version of the defined outcomes set as described in detail by Michael Porter. We had to sift through a plethora of already available clinical outcomes and prioritising those that were the best overall indicators of success. We then had to identify a set of outcomes that mattered to patients. This was all unknown territory.
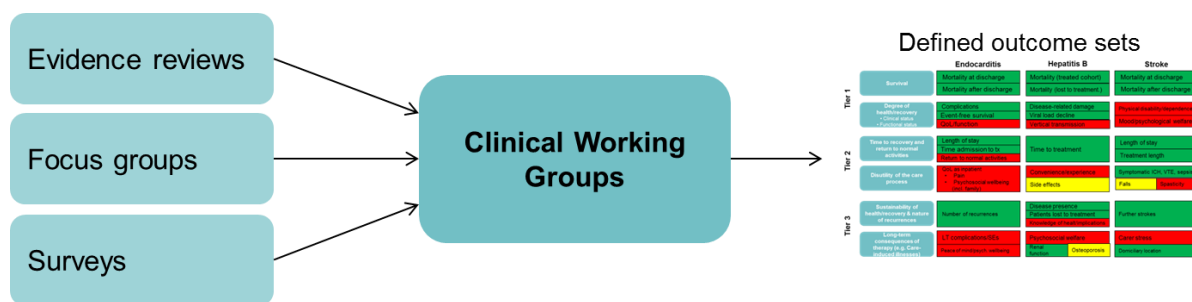


Our teams gathered information from a mixture of evidence reviews, surveys and, most tellingly, patient focus groups. This work took a long time. The clinical teams were apprehensive about involving patients in discussions about outcomes. Our Patient and Public Involvement experts helped design and facilitate this process. The conversations that ensued and the novelty of the measures that emerged were revelatory and exciting.

The next essential step was for the data analyst to identify the sources of the data we now required, gain access to it and to start to process it in a new combined database. The effort involved was prodigious and painstaking – not to say painful at times! However, when the first outputs arrived, the effects were dramatic. One clinical lead said, *"It's like my eyes are opened!"* We also had to stratify the resultant ideas about measures into the tiers of care that Porter suggested – another novelty. One doctor said *"This process has meant I've had to reflect on the way we provide care in ways I've never had to before. I found out things about my patients I never knew before!"* Another said, *"Value based healthcare empowers both the clinical team and the patient to prioritise care from a patient perspective"*.

The next stage of work was to identify the cost data that applied to the pathway of care for the condition. Michael Porter insisted that costs must be understood over a full 'cycle of care' and at the level of the 'particular medical condition'. Transparency and clinical participation are vital. What we found was that traditional finance data is about service lines. It is used by

service managers and accountants and not owned/ trusted by clinicians. So, what we did instead was to facilitate whole MDT (including a member of the finance team working on the project) co-creation of data through a process of rounded discussions that linked the pathway of care, the priority outcomes as well as costs. This new way of engaging with money led to our clinicians trusting data and the motives in its construction. The resultant information set was seen as clinically relevant. From there clinicians quickly started energetically hypothesising about potential cost improvement.

One of the primary tasks for the costing exercise was to re-attribute costs currently allocated to departments and spread them instead along the patient pathway. The whole way we collect and attribute patient activity data was a problem.  A patient makes several hospital visits for the same condition. We record each visit separately and mark it according to the patient, the department or the condition-code (for inpatients). We group visits according to department, service line or, occasionally condition-code. This was good for understanding departments, but bad for us as we wanted to understand conditions, systems or patients.
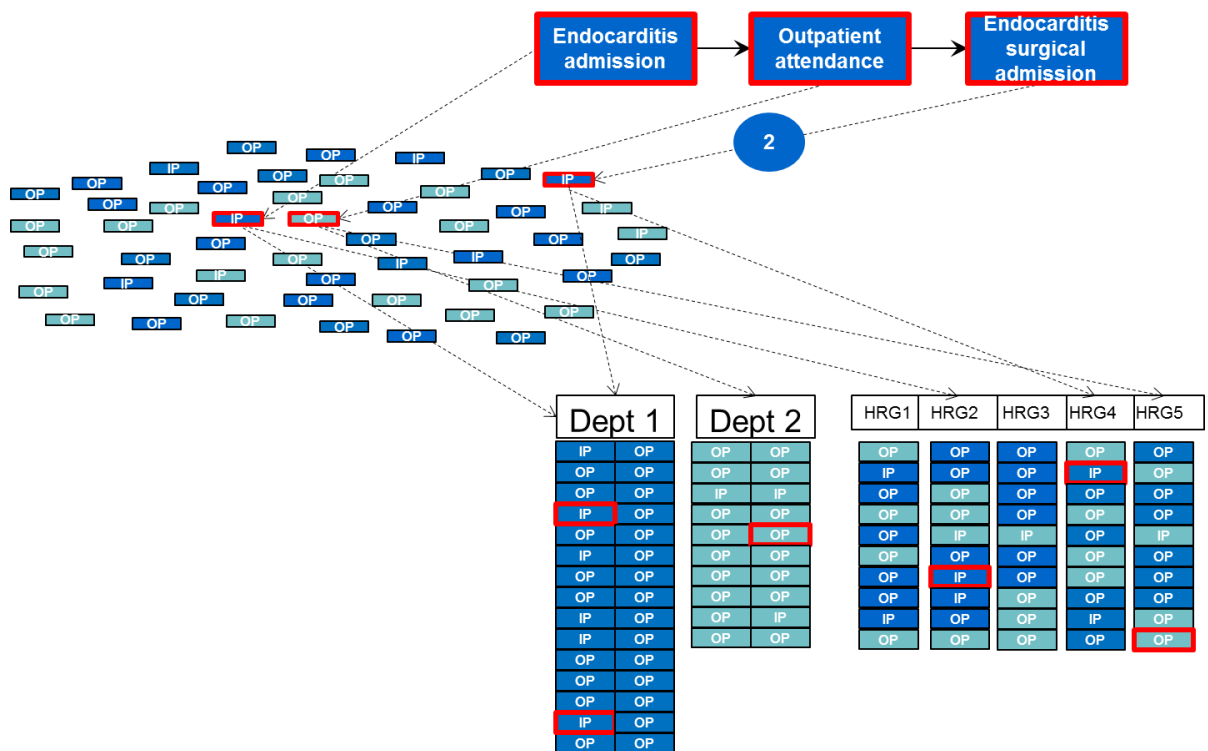


To make sense of the data in terms of the pathway for the condition and to be able to attribute costs to that, we had to take a radically different approach. We reassembled activity based on the pathway by looking at visits by the same patient over time. Then we combined this with other related patient journeys to tell us about conditions, pathways and systems.

The KCH endocarditis surgical pathway
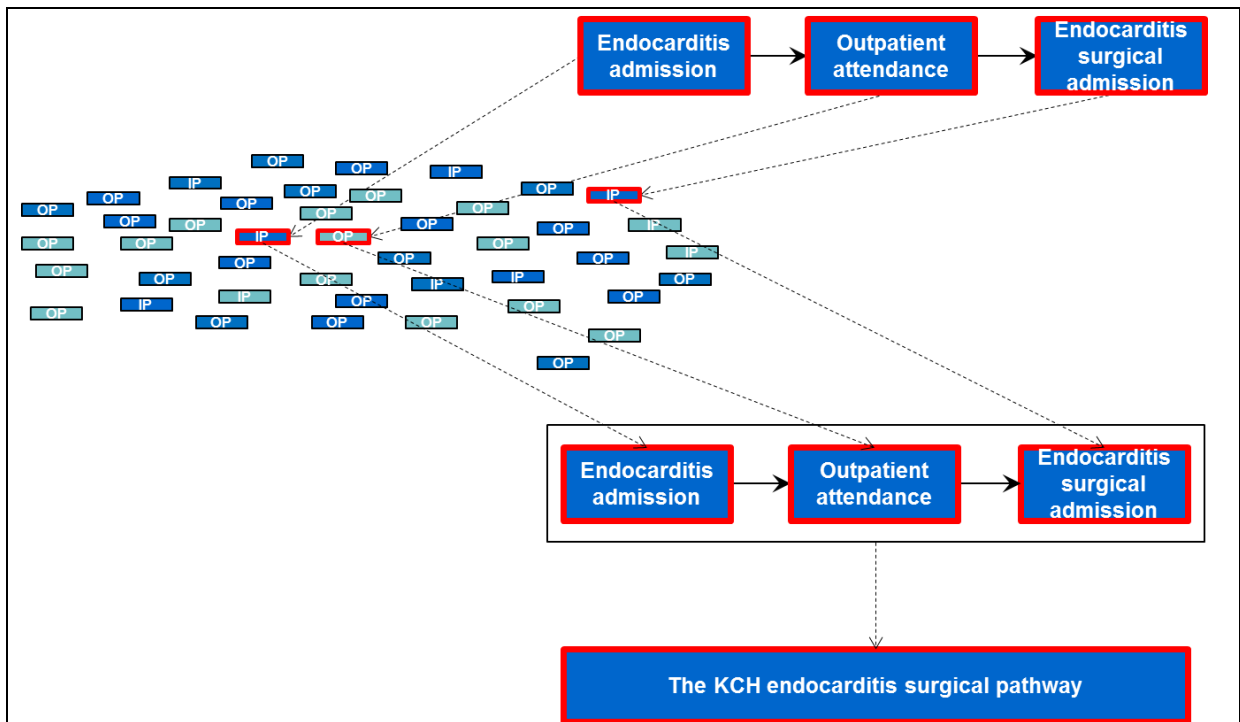
The data sources remained the same, but we were linking them together differently. In turn we were able to map the pathway diagrammatically.

**Example condition pathway map**



| | | | | | | |
|---|---|---|---|---|---|---|
| REFERRAL | PATHOLOGY | MONITORING | LIFESTYLE | DIAG PROC | OP CARE | RECOVERY |
| Count 1000 | Count 722 | Count 911 | Count 446 | Count 138 | Count 349 | Count 726 |
| Source: | Source: | Source: | Source: | Source: | Source: | Source: |
| GP 850 | GP 661 | Assessment 773 | Assessment 431 | Lifestyle 102 | Lifestyle 84 | OP Care 331 |
| Consultant 120 | Consultant 48 | Procedure 138 | Procedure 15 | Drug 29 | Drug 122 | Monitoring 395 |
| Re-referral 30 | Re-referral 13 | | | Surgical 7 | Surgical 143 | |

| | | | | |
|---|---|---|---|---|
| IMAGING | | DRUG | | MONITORING |
| Count 530 | | Count 247 | | Count 429 |
| Source: | | Source: | | Source: |
| GP 441 | | Assessment 223 | | Lifestyle 321 |
| Consultant 69 | | Procedure 24 | | Drug 108 |
| Re-referral 20 | | | | Surgical 0 |

| | | |
|---|---|---|
| CLINICAL | | SURGICAL |
| Count 963 | | Count 160 |
| Source: | | Source: |
| GP 825 | | Assessment 74 |
| Consultant 114 | | Procedure 86 |
| Re-referral 24 | | |

LTT 37 | LTT 190 | LTT 58 | LTT 2 | LTT 75 | LTT 52

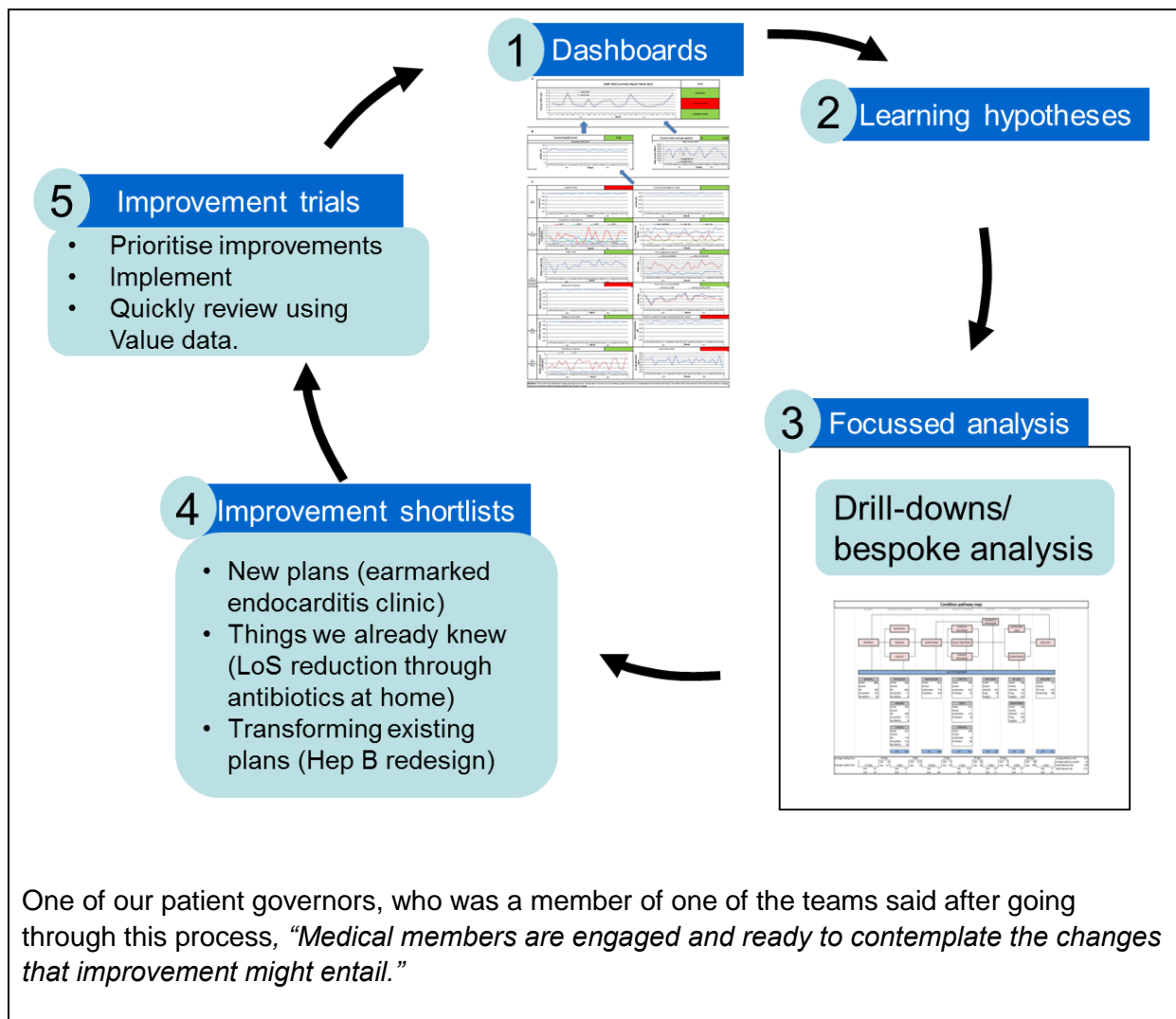| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Average waiting time | 46 days min 14 max 127 | 4 days min 0.25 max 14 | 22 days min 5 max 35 | 35 days min 28 max 40 | 40 days min 5 max 90 | 180 days min 90 max 365 | Average pathway wait 327 |
| Average contact time | 0.3 days min 0.2 max 0.5 | .5 days min 0.2 max 5 | 36 days min 5 max 150 | 5 days min 0.3 max 35 | .5 days min 0.3 max 0.7 | .6 days min 0.3 max 4 | .1 days min 0 max 0.5 / Average pathway contact 43 / Total pathway time 370 / Total referrals lost 274 |

Our next task was to combine the various outcome measures and the costs into a scorecard that teams could use to discuss and plan service improvement. The teams discussed how best to visualise the Porter equation. A key element of this these discussions was to explore with the teams the difference between data used for performance or pass / fail analysis and

data that can be used to inquire into improvement potential and to manage change. Teams adopted run-chart visualisation as a result of this different use of data. The outcomes and costs data were then aggregated as per the Porter suggestions and report made available to teams.
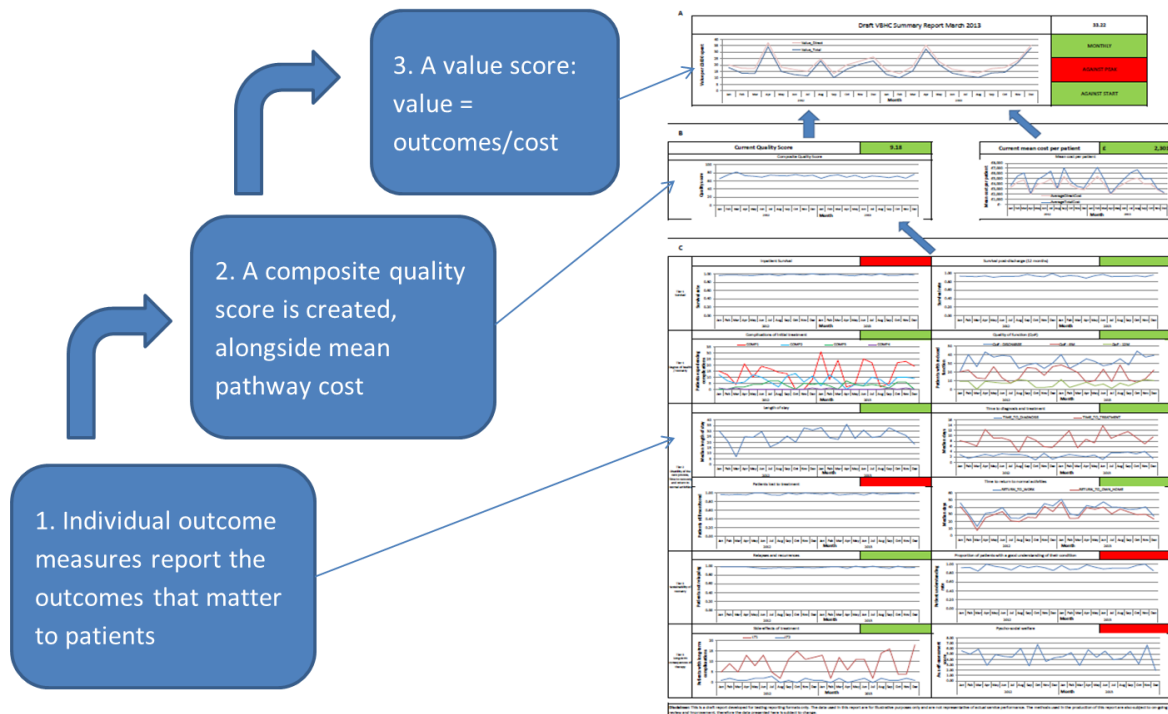


Now that this data set was available, we started to work with the teams to identify areas of potential improvement. We agreed together a structured approach. Using the dashboard information as a starting point, we worked together to articulate a shared learning hypothesis. This would usually lead to the need for more in-depth inquiry into the data, context or reality. This would then be discussed further and an improvement shortlist for the condition would be compiled. This would then be worked into an improvement plan that was put into action using Plan, Do, Study, Act cycles of small-scale change.

The cyclical improvement process diagram:
1. Dashboards
2. Learning hypotheses
3. Focussed analysis — Drill-downs/bespoke analysis
4. Improvement shortlists
   - New plans (earmarked endocarditis clinic)
   - Things we already knew (LoS reduction through antibiotics at home)
   - Transforming existing plans (Hep B redesign)
5. Improvement trials
   - Prioritise improvements
   - Implement
   - Quickly review using Value data.

One of our patient governors, who was a member of one of the teams said after going through this process, *"Medical members are engaged and ready to contemplate the changes that improvement might entail."*

## 6. Who was involved in the project and how were those relationships managed?

Though focussed on the three clinical teams, our project tried to bring a very different set of people together for the first time.

- Three clinical teams
- A core project team
- Corporate department personnel
- Patients and carers / voluntary and community stakeholders
- Primary Care and Commissioners
- The Health Foundation;
- King's Health Partners Academic Health Science Networks;
- Other Acute Trusts

In parallel to the core project methodology we tried to plan our involvement and engagement of these various groupings so that their work would co-ordinate and be mutually supporting.
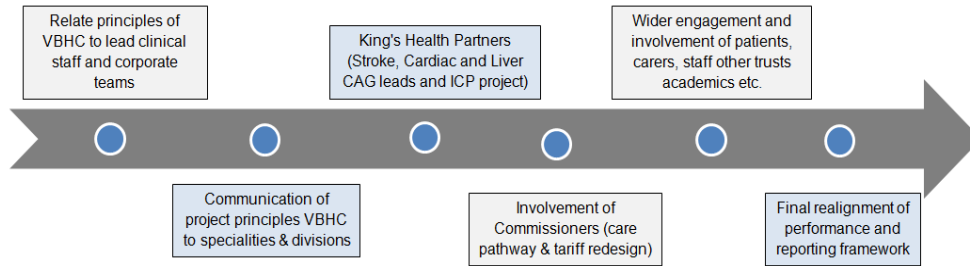
Our intention was to ensure that the clinical teams and the project as a whole reached out to important influencers, clients and decision takers at various levels, and made sure they were involved, informed and updated openly and transparently.

## a) The clinical teams

These formed the nucleus of our project, with one in each of the three pilot areas - Endocarditis, Hepatitis and Stroke. These were the central focus for all project activity. Each group had a clinical leader, clinical multi-disciplinary team members (nurses, physios etc.) and at least one manager from the relevant division. They were joined by a project manager and data analyst from the central team and representatives from finance and PPI when appropriate. Periodically members of the external evaluation team also attended meetings.

As described earlier, these teams discovered their own rhythm of work. At the start of the project, they met weekly and reported fortnightly to the central project group for coordination and monitoring. Increasingly, their meeting model changed and incorporated project management / reporting to avoid duplication and to reflect their personal context and working preferences.

## b) Project management team

The central project team comprised an overall project manager (part-time , 20 hours), a full time data analyst and x3 change leaders (part time, 20-hours). Their role was to manage and report the overall project progress, and to develop and articulate changes and progression of the project and its ideas. The data analyst became the data resource for all three clinical teams. Each change leader had lead responsibility for facilitation and service improvement expertise for one of the clinical groups. This team also liaised and co-ordinated the input from corporate departments such as finance and patient involvement.

The core team has acted as the connectivity and lubrication of the system – crucial in assisting progress and negotiating periods when teams were confused or low in energy. It has been essential for this team to develop (under the guidance of the overall Project Director, David J Dawson, Deputy Director of Strategy) a reflective and coaching style methodology. The emergent ideas, problems and opportunities have had to be carefully considered and discussed before they were woven into the unfurling fabric of the project.

The quality and stability of the team directly affected progress – amplified considerably

during periodic changes in personnel and re-structuring of the change team at KCH. The departure of the overall project manager and the period in which we didn't have a data analyst coincided with periods of slower progress and lower energy. The need to bring people fully up-to-speed, to train them and attempt to give them organisational and project memory severely disrupted progress. Really thinking about how to manage and position the project for its life-span are essential for any project of this type – and very difficult.

### c) The corporate departmental inputs

In the initial phase of the project – understanding outcomes that matter to patients – staff from Patient and Public Involvement (PPI) worked with clinical teams. This proved pivotal. Teams were really nervous about inviting patients and carers to comment on outcomes and the care they received. There was a fear of criticism and worry that things would be unearthed for which there would be no "solution". PPI worked with the teams to reflect on what those fears were and what assumptions they were grounded in. This process reduced the feeling of threat significantly. They helped the teams to 'walk in the patients shoes' and understand the patient's and advocate's worries. They shared stories from previous involvement work and some of the probable outcomes. They also, crucially, explained and demonstrated the method that could be used to open up a new, different and non-judgemental discussion between hospital and patients. The use of appreciative inquiry techniques helped move the work from being stuck in fear of the negative to a curiosity about the positive.

The finance teams became members of the clinical teams from the start and have remained members through the set up and implementation phases. They have provided the financial data for the teams and worked closely with them to identify the sources of costs and the best ways to allocate them along the patient pathways. This has been a central point of discovery for both the clinical teams and the finance function. The process of working with clinical teams and the co-attribution of costs along pathways, has helped the finance costing team to refine its working. The lead finance project member says, *"We have understood what actually happens at a clinical level for the first time. By showing our original work with teams and looking at anomalies and mistakes, we've adapted our approach to how to work with clinicians across the Trust as we develop the Trust-wide costing model PLICS".*

### d) Patient representation

We identified a mix of patients to work as part of the clinical groups. For Stroke we had a patient representative from the Stroke Association; in Hepatitis we had patients who had been treated at KCH and for Endocarditis we involved one of KCH's patient governors – a former endocarditis patient at KCH – as a member of the team. We did a series of patient focus groups and also surveyed patients in all three areas.

Having patients in the room talking openly and undefensively about how they had experienced care and what mattered to them was a seminal influence on the project. Doctors felt connected to their patients and their work very strongly again – *"I was having the type of human conversation that I don't get to have as part of my normal day- to-day*

*work – it reminded me of why I do what I do". "We'd have made poorer decisions about what outcomes mattered without it. Data may have looked poor to start with, but it was very worth working with existing data sources & improving them. We now know a lot more about the quality of our service".*

### e) King's Health Partners

At a project and clinical team level, we failed in our intention to get involvement from partners in KHP. We reached out and had some initial meetings and invited participation, but this was not taken up. We'd put the project proposal together hastily without much involvement of the other Trust at the clinical team level. By the time the project application had been successful, colleagues felt left out. As we were also finding that the process of "particularisation" of the project aims and objectives with our KCH teams was so difficult, we found explaining to and energising others less involved and informed even more so.

However, as our work developed its ideas and work, we have regularly reported on progress and findings to the King's Health Partner's Value Based Healthcare Committee. There has been a burgeoning of interest in the project by the members – and the emerging spread includes clinical areas across KCH / GST; the South London and Maudsley are starting their own Value Based Healthcare project. KHP is devising a Value Based Health Care strategy, with representation from Lambeth and Southwark CCG. This will draw on the experience and learning from our project and inform practices at other member trusts.

### f) Commissioners

The Hepatitis project reached out to local commissioners and there were productive discussions about how we hoped to show how redesigning the extended pathway of care would be of systemic advantage. This was followed up with a proposal paper which was considered by them – but unfortunately rejected. Our reflection is that our project has had to be more concerned with internal issues than we had hoped. As explained the path from concept to having useable data through to service improvement took much more time and effort than we had hoped.

The issue of getting and linking data between ourselves in the hospital and with GPs and commissioners was fraught with data protection issues. It is pleasing to note that the painstaking progress that we made here has been used to develop data sharing ideas that are now bearing fruit in the local project for Integrated Care.

### g) Health Foundation and Tavistock Consulting

We have worked closely with both bodies and attended the workshops that have been arranged throughout the programme. These have been valuable in helping us to think about the project more reflectively and to be more adventurous in our approaches to the work. Members of the Health Foundation and Tavistock have attended some of our whole-project workshops and presentations to the KHP committee and Pan London Value-based Healthcare group. The support and space that has been possible because of the finance, the thought-development and support, has meant that the project has

been qualitatively different to a normal internal change project with which we have so much experience. The rigour of the work has been greater and the energy and feeling of ownership in the clinical teams has been much greater.

# Impact

**7. What has your project delivered - what difference has it made and in what ways?**

**a) Project-wide impact**

Something we've noted during our journey on this project has been the number of times that people have told us that it is "ambitious". At times that has been scary. At others inspiring. Here are some of the ways that our work has produced impact and results.

**i. Shared purpose**

It's easy to think of the project only in terms of our title – Value Based Management. But actually, the primary source for the concept and execution of our work has been the Health Foundation umbrella title for all the projects – 'Shared Purpose'.

Our clinical and departmental teams have brought to the project very clear individual motivations, interpretations and methodologies. However, the over-arching work associated with operationalising Porter's formula has fostered significantly different and remarkably effective collaborations between finance, management, and clinicians. By doing work together unhurriedly and without threat, they have all come to respect the viewpoints and knowledge of other professionals. They have pooled their expertise in respectful, curious and messy on-going processes of dialogue, discovered new and novel things about the work that they are all involved in (but sometimes didn't know) as a collective enterprise.

The design, population and use of the value equation has fostered a collaborative effort of real power in pursuit of a 'shared purpose' acting in pursuit of their newly appreciated common belief that we are here to collectively deliver the best care for the patient. The strength of the value equation went well beyond its primary function as a mathematical representation of a reality, as envisaged by Porter. The equation brought together different measures which previously had been variously privileged by differing professionals groups; doctors gave their attention to clinical outcomes; managers favoured process quality measures and finance staff looked at the money. As no one had really asked the patients about what mattered for them, no attention was placed on those aspects of care. By simple virtue of bring the various elements together in our model, and adding to it the things that mattered to patients, our project group members found themselves looking at something in which they could, on the one hand, all identify and advocate for "their" traditionally favoured measures, and on the other hand, they were confronted by the reality that these measures were not the sole way of looking at and attempting to quantify the working reality of the whole care process. They appreciated that others looked at and measured the care process differently and, critically, came to sense the limitation of their more restricted view of the world, and then to explore the interconnections that existed when a fuller more rounded view was taken. As our groups entered into discursive exploration of

these "interconnections" directly with other staff who knew these other measures and understood them, new insights, energy and curiosity emerged, and fuelled interest and provided focus for further inquiry. This process of collaborative inquiry was actually a new way of going on together for the participants – and this deepened and flourished as the project progressed. So, the equation (or model) didn't just produce a new KPI, it directly led to new working relationships.

Each professional group has developed knowledge and appreciation of others through the work – something that will continue to inform their work as individuals and as functions and which, in turn, will continue to ripple out through them in the work they do from now on.

Clinicians report a greatly enhanced appreciation for cost implications of clinical activities: *"it amazed me the data about the cost of treatment and the level of information is very accurate and dips in to every aspect"*

The finance team have a greater understanding of the actual processes that they are costing (for the conditions covered in the project). "*We're using this way of talking to clinicians as we refine and develop the implementation of the new costing system (PLICS) across all Trust sites.*

Initially, data presented to the clinical teams was received with scepticism and easily dismissed. Conversation initially obsessed about inaccuracies in the data itself or the methods with which interpretations were made. The finance team's amortised costs were poorly allocated due to lack of understanding about the actual clinical process. We learned how to facilitate a non-judgemental dialogue that focussed on being curious about what was there and avoid obsession with why the current situation had arisen and whose fault it was. In turn this allowed the team to imagine how something better could be co-created by this newly pooled resource that the team itself constituted. Because everyone was part of this process, had a "skin in the game", and were offered and received respect, the power of reliable data with respect to value, outcomes, and cost data emerged as a jointly owned resource and reference point for discussion and action for improvement.

## ii.    Value-based reporting tools

The centre (and continuous point of referral) of our project is the value equation. Our work has developed a systemised approach to constructing meaningful versions of the equation that are owned, appreciated and used by clinical teams in the real world of caring for patients and continuously improving that care.

As we intended, the work of the clinical teams and patients identified a fully-fledged set of outcomes that mattered most to those being cared for and those doing the caring. We learned how to use evidence reviews, discussion groups and surveys and combine them with the expertise of clinical working groups.

We have detailed methods for defining agreed (risk adjusted) outcomes and how these form the composite measures in the value dashboards. The data collection and presentation is automated where feasible and possible.

Through a continuous process of refinement, we now have validated cost data in all three pilot conditions for whole clinical condition pathways. This proved extremely revealing to clinicians and finance teams alike.

We have developed activity and value stream maps for each condition to understand how patients flow through the system and attached activity, outcome and cost data along it – breaking out of the departmental silo accountancy methods that restricted common analysis of the reality of different models of care.

### iii. Service improvement activity

The whole point of producing the value equation was to see if teams could use it to start generative discussions amongst themselves. We hoped this new type of dialogue would empower them to identify and act on service improvement ideas.

To start with it proved quite sticky. Teams were so pleased with their new shiny data; they wanted more and more of it. Containing this appetite and switching attention away from the acquisition of data, towards analysis of the information in it and the uses to which it could be put, took a lot of effort and support from the central project team. This required a radical reframing of dominant views about what data is for. Clinicians regarded data as proof or disproof of some scientifically provable truth and pined for research grade data; accountants looked at money in blocks – usually monthly financial reporting periods, and wanted to compare what was happening against budgets; managers looked at data in terms of pass or fail measures – and worried about consequences!

We had to help teams appreciate that information for improvement is different in content and needs to be considered differently too. We drew attention to variation over time; we pointed to patterns and connections; we sought ideas and hypotheses for service improvement; we contented ourselves with "good enough". This was initially extremely uncomfortable for teams. Eventually, we managed to interrogate the run-chart data for outcomes and cost and all clinical teams identified improvements they committed to. All service changes resulted from this inquiry process into the trends displayed in outcome set / equation.

## b) Team-based impact

Putting together the various elements of measurement together in the value equation was in some ways like putting together a collage. It wasn't like doing a jigsaw (which is an image often applied to problem solving) – which can only be put together one way and produces one "correct" answer. In this project, our teams were able to put together the elements of the equation in ways which made sense to themselves as disciplines, to compare the resulting image to the images that other disciplines created using their sense of the elements and, as the group started to collaborate and collectively inquire, finally to co-construct images that made sense from the holistic variety of their originating viewpoints. At this point, what is noticeable in our work, is how this made visible aspects of each service that previously had been invisible in the traditional representations and analyses used. There was an epistemological shift and much greater tangible appreciation of what had only been tacitly understood – if at all. These new perspectives and visions of the realities in which the teams worked, uncovered novel and innovative possibilities for improvement.

### i.   Stroke

The Denmark Hill Stroke Unit is the best performing in the country, scoring 95.8% in the Royal College of Physicians, 2014 Stroke Organisational Audit. So, as we started the work in this area the clinical lead reflected the challenge to the team: "*How do you shift a gold standard service?*"

We began by looking in-depth at length of stay for both Stroke Unit (SU) and Hyper Acute Stroke Unit (HASU) patients. We discovered that there were distinct streams of patients according to length of stay.

- Less than 21 days
- 21 – 40 days
- 41 – 60 days
- Greater than 60 days
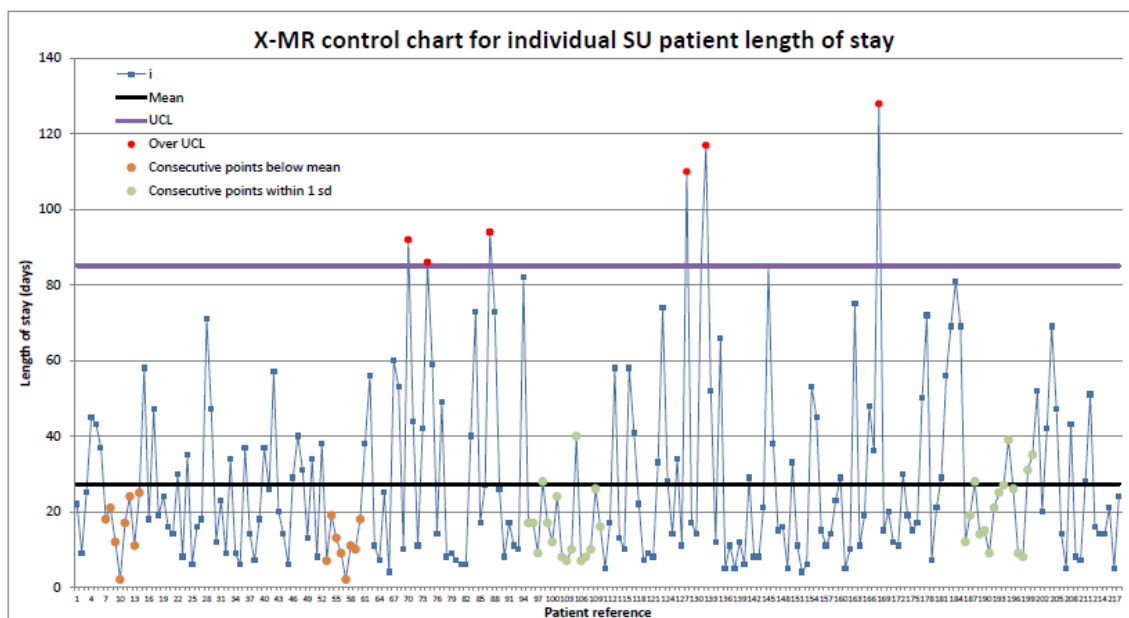


We sampled patient notes and found that patients with excessive lengths of stay had:

- Co-morbidities
- Complex social needs
- Complications

We actually found that approximately 1 in 5 patients were experiencing complications (falls, UTIs, pneumonia's). This then became the focus for improvements activities.

Screening the mental health state of stroke patients through IMPARTS unveiled a previously unknown level of anxiety amongst patients. Protocols for the use of this intervention were specifically developed for each workstream and referral pathways for those requiring mental health support instituted.

The table below provides some detail around the interventions developed.

| Issue | Improvement | Impact |
|---|---|---|
| The IMPARTS anxiety measure showed us that for those patients screened between March 2014 and December 2014 14% (n=93) exhibited generalized anxiety. | **Patient Q&A Forum (fortnightly), with consultant presence** Chaired by the Clinical Psychologist in Neuro rehabilitation and featuring a 20 minute timeslot for Consultant Q&A's. Attendees include patients and their relatives or carers, stroke survivors, and allied health professionals. To really engage the audience and provide the information that patients actually want. This forum also gives Clinicians the opportunity for immediate patient feedback. | "This has replaced a week of reading all the literature that is available on stroke" Patients and relatives highly value having their questions answered by a Consultant and feel very positive after attending. When patients are engaged in this nature other aspects of care also benefit. In a particular forum, patients were asked about common signs in use on the unit, actually highlighting how unintuitive they are. The same group also did not know that there were suggestions boxes on each bed. Action was then taken on both of these fronts. |
| Inpatient falls amongst stroke patients are ranked as the most frequently occurring complication on the stroke unit. They increase length of stay and cost. Looking at the falls data indicated a process that was highly variable which gave cause for concern. Most falls were low grade (Aug'13-Aug'14) . The Stroke Unit Lead Consultant and Consultant Nurse in Stroke Management confirmed that potentially all patients on the stroke unit were classed as a falls risk. This posed the issue of not knowing which patients to monitor. There is therefore a need to better differentiate and monitor patients who pose a falls risk. | **Falls Assessment – therapy aspects/seating plan** A new approach to managing falls risk patients. Assessing patients based on impulsivity and seating, transfers and mobility needs. Planning "seating out" (physiotherapist assisted seating/ transfer) in terms of frequency, duration, equipment aids required. Assessing patients' needs with respect to these when they arrive on the stroke unit (previously seating out was not assessed). Physiotherapy staff are engaging in greater dialogue with nursing and medicine to make this multi-disciplinary. | This approach has been live since December 2014. Data shows that in the 3 months Dec'14-Feb'15 there were 8 falls, compared to 11 in the 3 months Sep'14-Nov'14, and 14 in the 3 months Jun'14-Aug'14. The Consultant Nurse recalls a particular incident highlighting the need for this intervention. "Patient A is an example of one our more recent (and worst) falls but I don't think she would have been identified as a falls risk beforehand [using previous assessment] as she had reasonable sitting balance and able to call for help. How can ensure we capture these people? A seating out plan for Stroke unit patients, I think that Patient A would not have scored on the 'risk of falls assessment'. How likely was she to fall ? I suggest likely as it was her 1st week and she had not sat out much It's those patients we need to watch". |
| Pneumonias featured in the top 4 complications for stroke patients. Data suggested that if a swallow screen wasn't done in 4 hours, the patient was more prone to pneumonia. An audit of patient notes confirmed | **Standard Operating Procedure (SOP) for Swallow assessment training** Train ED nursing staff in swallow screening and encourage rotation through the stroke unit. SLT In-reach in to ED for suspected stroke patients. | The SOP has led to Speech and Language Therapy (SLT) being trained and inducted in a more consistent and formal way. Rates of pneumonia remain unchanged, this was likely a false positive. |

| | | |
|---|---|---|
| that swallow screens were indeed being performed appropriately, however recording of *performed and subsequently failed* screens and *unable to perform* screen to be somewhat unclear. | Also a clearer pro-forma is being devised. | |
| Stroke patients with a length of stay of 40-60 days there were delays or incomplete information regarding their social care needs. Patients with a length of stay of less than 21 days typically had an early plan for discharge and an EDD documented with a senior grade of staff – decisions were made quickly, documented and actioned faster. | **Multi-Disciplinary Team (MDT) meeting between hospital and community stroke teams** For community stroke team to cross-liaison with respect to the quality of referrals/discharges and the accuracy of Estimated Discharge Dates (EDDs). HASU and SU teams can learn from positive and negative experiences through case reviews reflected by the stroke community team. | MDT meeting commenced in March 2015. Cases presented so far have included a patient being discharged from the Stroke Unit as a known falls risk, there was a two-week delay in installing falls alarms within which time the patient had a fall and injured their arm. Another had known erratic blood sugars that were monitored daily in hospital. Upon discharge there was no plan in place for these to be checked. They later presented in ED. |
| Data regarding the mental health state of stroke unit patients (collected through IMPARTS) showed that 20% had signs of depression and anxiety (n=50, March-August 2014). | **Mood assessments and onward referral protocols** This information was fed in to consultations to allow clinicians to target specific concerns. | There is increased dialogue between Neuropsychologists and Stroke Consultants regarding treatment. IMPARTS data is reviewed to better tailor the service to patient needs. Clinical staff are trained in the use of screening tools and onward referral mechanisms, we are picking up more patients in need of support (28%, n=80, September 2014-February 2015 exhibiting signs of depression and anxiety ). |

### ii. Endocarditis

At the start, the endocarditis team had little available data and few established ways of working together beyond informal professional relationships. So, the team had a freedom to explore how the service was and might be delivered. Our first finding from the data was that a) we discovered many more patients than first thought, b) many had long lengths of stay and c) typical admission costs of £35-40k each were much higher than anyone had appreciated. The team focussed attention on three main areas:

- Length of stay:  As the team worked with finance to present and understand the cost data as part of the value metric, they became aware of the extent to which extended patient stays in hospital correlated with high costs to the hospital. The discussions with patients about outcomes revealed to the team how keen patients were to get home. The team used the data to pick away at the things that contributed to high costs by looking carefully at the patient pathway map and the costs at various points

along it. They then considered ways in which it might be possible to safely reduce the length of hospital stay for endocarditis treatment. *The clinical lead observes, "we have more of an idea of what the numbers are, and the cost was a surprise for everyone, how expensive it is to treat a patient with endocarditis."*

- Communication between clinicians:  as a relatively new team, some aspects of the MDT process were informally understood and did not work optimally. The value data highlighted significant variation in the timeliness of care provided to patients – with delays common and significant. The group quickly established a view that many cases could be treated better and more quickly by more effective communication between clinicians; several improvements looked to address this.

- Patient anxiety post discharge: the endocarditis team was greatly affected by patient input in the early stages of the project. This highlighted the ongoing anxiety patients felt about their condition and the lack of continued support after treatment. The clinicians professionally regarded endocarditis as an acute condition, in which they diagnosed, treated and discharged the patient fit to live normally. What they discovered was that patients reported high levels of anxiety about their condition which they carried with them after their hospital stay. These ongoing psychological effects were not deeply considered and weren't specifically addressed routinely. The team sought to identify ways to help patients' manage their concerns more effectively at all stages of the pathway.

The table below provides some detail around the interventions developed.

| Issue | Improvement | Impact |
|---|---|---|
| Difficulties in identifying our initial patient cohort – and correctly establishing and tracing which patients were being treated for endocarditis meant there was a need for systematically keeping track of patients | **Database of endocarditis patients:** To ensure information specific to the treatment of endocarditis is documented in a consistent way, and collated in a single place | Systematic approach to ward rounds now possible. Report for listing all current patients ensures all patients can be reviewed at MDT meetings, minimising the risk of patients being omitted. Database of confirmed endocarditis patients has provided a powerful research tool, with two research publications already submitted and others in production. |
| The value data on time to treatment highlighted peaks in the number of patients waiting over 5 days to begin treatment. This was attributed to patients being managed independently by either the surgical or medical teams prior to discussion at the Monday MDT. | **Format of MDT meetings changed:** Frequency increased from 1 to 2 per week Attendees changed to include surgeons Prioritisation of newly admitted patients to ensure surgical team awareness of incoming cases. | Monday and Friday MDT meetings mean patients are never more than 3 days from a clinical review. Year-on-year fall from 152 to 136 total days before surgery (40 patients each year) shown (but not statistically significant). There is more surgical involvement at MDT meetings, but attendance is still not consistent, and surgical team |

| | | members still require direct prompting to attend. |
|---|---|---|
| Our initial discussion groups with patients highlighted the anxiety endocarditis patients often feel in the months following their discharge. This was considered to be an important outcome to improve and an area where a small amount of expert clinical input could have a large benefit to patients | **OP follow-up of non-surgically treated patients:** To provide consistent aftercare for all endocarditis patients and provide appropriate post discharge support | Due to the small patient volumes for endocarditis, it is still too early to demonstrate a quantitative impact, but our 2nd focus groups with endocarditis patients provide anecdotal evidence that the additional support post-discharge improved patient experience. |
| As above | **Named contact for patients on discharge:** To provide patients with a direct, informal link for queries about their condition post discharge. Intended to manage patient anxiety post discharge. | Too soon to demonstrate a quantitative impact, but patients commented on the benefits at the 2nd focus group: *"That don't trouble me, because I know I've got a telephone number here, and an email address and if I want to phone someone I just call up and ask them to get MG to phone me and you can't better than that, when someone is at the end of the phone."* |
| Following the patient involvement sessions, the extent to which patient mood was not understood was made clear. To address this, it was decided to that new data, specifically seeking to understand patients' mental health needs needed to be gathered. | **Mood assessment and onward referral protocols:** To identify patients in need of additional support and establish the appropriate referral routes for providing this support. | 46 patients assessed since November 2013, 11 identified as needing additional support, with this being highlighted to GPs. |
| The value data indicated that the long expected length of stay for endocarditis patients was a significant driver of cost, and that finding ways to reduce this could improve value. Patients also indicated that they found the long hospital stay frustrating. The main reason for the long hospital stay is the delivery of IV antibiotics, so identifying ways of delivering this outside KCH were investigated. | **@Home service use:** Support appropriate earlier discharge of patients from hospital via delivery of IV antibiotics in patients home (where appropriate). | Average length of stay reduced by 7 days over the last 9 months of project, which is largely driven by increased uptake of @Home service use. Monitoring of patients by clinical team continues throughout this time. So far there has been no deterioration in other outcome measures. |
| As part of the drive to improve the time to treatment outcome, an automated internal referral form was created. This outlined the information the endocarditis team would need to make an informed decision on treatment and aimed to ensure that all necessary tests had been completed when the referral form was submitted. All members of the endocarditis team (importantly, | **Automated (via EPR) internal referral process:** More effective triage of potential endocarditis cases, to improve timeliness of care Ensure all relevant clinicians are informed of newly referred patients – to improve communication between those providing care | The form has only recently been introduced, so it is too early to assess the impact it has had. Expected benefits are around timeliness of diagnosis for patients and more efficient utilisation of staff time (particularly in ruling out suspected endocarditis in patients). |

iii.     Hepatitis

The in-going hypothesis of the Hepatitis team was that overall value of care for Hepatitis patients would increase if the service moved towards a more preventative, community based model. To test and validate this approach, and engage commissioners and primary care partners, they wanted to use value metrics to show benefits at various points of the pathway. To start they used the data to really understand the pathway of care for Hepatitis patients. They were also concerned with their pattern of attendance; Hepatitis B is a chronic condition and on-going outpatient care is the norm with high follow-up rates. The coding protocols used at KCH (and in the wider NHS) obscured the various types of Hepatitis that were being treated – so initially understanding the various distinct patient groups under the catch-all coding was an important starting point. The initial data also revealed a large drop-out rate -  those who fail to attend and those lost to treatment (initially attend appointments, commence treatment, then fail to subsequently attend). This data exercise was revelatory for the team and gave them a wholly new and informed view of the totality of their practice. The clinical lead commented, *"without the data, you don't really know what you are doing…for the first time we were able to have solid numbers and know who our patients were"*

| Issue | Improvement | Impact |
|---|---|---|
| We have analysed patient streams and categorised patients as low level carriers (who could potentially be seen in a community setting), on treatment (who must be seen by a specialist at KCH), and a vigilant assessment stream (to be seen by a specialist at KCH). Each of the patient streams identified each constitute approximately 1/3 of HBV patients | **Joint primary-secondary care HBV service** **In order to improve adherence/attendance  and relieve service pressure** For low level carriers to be steered towards this newly established community HBV service. | A bid was proposed to local commissioners but failed due to insufficient numbers to make this financially viable. The team are working on investigating a revised proposal |
| DNA rates for HBV patients stand at 18% at KCH. With HBV being an asymptomatic condition, and given the DNA rate of HBV clinic patients, we conducted a patient satisfaction survey to determine how we could better communicate the need to attend their appointment | **New 'Your Appointment' patient literature** To explain any investigative procedures, results, who patients will see, and treatment. To target a reduction in DNA rates and ease patient anxiety. | Increased clarity for patients on what to expect from their hospital visit and to relieve anxieties around treatment |

| Focus groups indicated a real anxiety amongst patients around the stigma attached to Hepatitis B. | **New 'Living with Hepatitis' patient literature** To guide patient's on managing and living with HBV with information tailored specifically to their needs and according to their patient stream | Patient's feel reassured that their condition can be controlled and they can lead normal lives. |
|---|---|---|
| Following the patient involvement sessions, the extent to which patient mood was not understood was made clear. To address this, it was decided to that new data, specifically seeking to understand patients' mental health needs needed to be gathered. | **Mood assessments and onward referral protocols** **HBQoL, SoD, and GAD assessments** | A protocol for screening has been developed and a position created to allow screening to commence in new patient clinics. |
| Following discussion with BIU, it was clear that costs were poorly understood. Tests were being wrongly charged e.g. radiology billing for fibroscan, and staff costs had not been updated to reflect growth in the department. | **New ABC Cost Model** We have refined the cost model though several iterations and have provided an activity based cost model, for each specific patient stream | This helps us to understand the impact of future growth on our service and provides us with data for a future revised community bid |

## 8. What outcomes have you seen, including any wider evidence of impact?

Our project has shown how clinical teams working alongside hospital corporate staff and patients can come together and construct a viable and informative Porter-based value dashboard. From this wider and collaborative range of perspectives, teams have identified and enacted novel improvements to their services.

*Impact on clinical teams*
The patient engagement process influenced all teams to develop a better understanding not only their service, but of who their patients are, and how best to communicate with them. All teams have developed new patient literature to provide better information to patients and introduced new mental health screening (with defined referral routes) to help identify patients who need additional support.

We have been able to offer an additional dimension to team member's work, providing experience of different working methods, *"workshops and brainstorming sessions are not ways in which clinicians usually work, so these modalities deepened my thinking"* – cardiac workstream lead;

Perhaps most importantly, project team members are continuing to identify opportunities for change outside the formal VBM framework, *"I had a management meeting the other day about how stroke had overspent, and not one person tried to talk about how we could change that, but I knew that you could do things to change"*

*Increased data availability and confidence*
When we started data was instinctively mistrusted, clinical activities were not understood

by those costing services, and current clinical practice not questioned. We are now at a point where teams are using trusted outcomes and cost data to question longstanding assumptions about practice and, where appropriate, act on it.

We have developed data systems for reporting outcomes and finance data to teams; *"for the first time we were able to see who our patients were"* – Hepatitis workstream lead.

We report on the endocarditis cohort of patients regularly and accurately. This has allowed the teams to gain a quantitative understanding of how their service behaves, to complement the qualitative information from patients and they can monitor any the impact of implemented service changes.

*Improved financial understanding*
The hospital's administrative functions can be perceived as, and feel distant from, patient care and frontline services. For the finance team, we have helped close that gap by involving them directly in discussions with clinical teams on the validation and improvement of our cost data. The finance team's senior cost accountant reflected that these conversations have brought the finance data to life *"rather than it being 2D"*, and influenced the cost accounting team's method for engaging with clinical teams, *"This has changed how we do things. Before the value based healthcare project, once we got down to a certain level of costing we just treated everything like a black box. We don't try to understand differences in costs for the same thing, just copy across from other examples that we consider more accurate. Now we investigate, feel more informed, and approach clinicians. It's just something that we wouldn't have done before"*

Clinicians have improved understanding of the cost data which helps improve their clinical practice. The stroke workstream cited this example of how the value-based approach has changed her behaviours, *"When I looked at patient level costing, I realised that I was prescribing a laxative that was far more expensive than ones that other clinicians were using. When I looked in to it further, the cheaper one also had fewer side effects… I learned that some drugs cost more than others… I learned to stop and pause when I prescribe"*

*Understanding "Value"*
The concepts involved in Porter's value equation were initially difficult for all teams to grasp. In particular, the question of what is – and what is not – an outcome was challenging. The idea of whole pathway costing, in an organisation where teams territorially define the boundaries of their services, also challenged deeply held thinking paradigms.

The strength of the value equation is that it provides a mechanism to surmount these limiting assumptions. For example, looking at outcomes **that matter to patients** offers a structure that requires thinking about the end result of the provided care, which helped clarify the sometimes elusive concept of "outcomes" for the teams. Asking team members to consider why proposed outcomes would matter to patients allowed the re-framing of several important process measures as outcomes by thinking about the intention underpinning the processes.

The value equation develops a shared objective for all stakeholders (patients, clinicians,

hospital management) by taking a more holistic view of a service. The genuinely multi-disciplinary team with a range of perspectives allows current working practices and assumptions to be inquired into in a way that may not otherwise occur. This experience of collaborative understanding and shared purpose has profoundly affected the mindsets of all participants. We believe they will carry this with them wherever they work. Our cardiac workstream lead, when asked if intervention was important or whether the same results could have been achieved by other methods answered, *"I don't think so. The thing about the value equation is that it requires you to think about the patient experience and the money… and we wouldn't normally think of those things together."*

**Return on Investment**

The service improvement phase of our project concentrated on using the idea of improving value to generate improvement ideas. Whilst aware of both components of the value equation, clinical teams tended to focus on ideas that improved value by driving up outcomes for the same cost. We've To consider the return on investment in four main ways:

a) **Shortening hospital stays** – The endocarditis team looked for ways in which patients could be safely discharged earlier to complete their treatment at home. Other ideas included improving the communication between clinicians during the early phase of admission, increasing the frequency with which cases were discussed to bi-weekly were also intended to improve the timeliness of care to patients.

b) **Reducing complications of treatment** – The stroke team focussed on reducing complications experienced by patients during their hospital stay. Value data showed that contracting pneumonia or urinary tract infections significantly extended patient stay, worsening outcomes and increasing cost. A similar pattern was seen with patients experiencing a fall. Therefore, reducing the incidence of these events aimed to realise a cost benefit in addition to the clear quality and patient experience benefit**.**

c) **Avoiding unnecessary admissions** – The work of all three teams sought to reduce the number of avoidable admissions / readmissions. In endocarditis a consistent follow-up clinic and a designated post-discharge point of contact for patients in order to address patient thisanxiety and to provide a clear alternative path to access care without visiting A&E. In hepatitis, one of their main concerns was keeping patients engaged with their treatment. An intended benefit of this is to prevent the need for any emergency admissions for acute hepatitis flare-ups through successful condition management.

d) **Improving use of clinician time** – Within hepatitis B, an additional benefit of having a more engaged patient cohort was the expectation that this would lead to fewer missed appointments. This reduction in DNAs would then ensure that clinician time is better utilised. The greater involvement of surgical teams in endocarditis MDTs also offers the potential for clinicians to make more informed decisions more quickly, without having to wait for input from surgical teams.

**Quantitative return**

| Navigation bar: | How To Guide | Benefits | Cost | Dividend | Evidence | |
|---|---|---|---|---|---|---|
| Ongoing Annual benefit from **Benefit** sheet | | £1,193,755 | £1,193,755 | £1,193,755 | £1,193,755 | £1,193,755 |
| % of total benefit achieved each year | | 25% | 20% | 15% | 10% | 5% |
| | | | | | | |
| Benefit achieved each year | | £294,786 | £235,098 | £175,410 | £115,722 | £56,034 | £877,050 |
| One Off Benefits | | £45,139 | | | | | £45,139 |
| **Total benefits achieved** | | **£339,925** | **£235,098** | **£175,410** | **£115,722** | **£56,034** | **£922,189** |

| Cost | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|---|---|---|---|---|---|---|
| Cost of implementation | £361,319 | | | | | £361,319 |
| Cost of Maintaining Change | £58,681 | £58,681 | £58,681 | £58,681 | £58,681 | £293,404 |
| **Total costs** | **£420,000** | **£58,681** | **£58,681** | **£58,681** | **£58,681** | **£654,723** |

| Dividend | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|---|---|---|---|---|---|---|
| **Annual Return on Investment £** | **-£80,075** | **£176,417** | **£116,729** | **£57,042** | **-£2,646** | **£267,466** |

| Discount Factor/Time Adjustment | 3.50% | The percentage by which the annual return depreciates per year |
|---|---|---|
| **Net Present Value £** | **£240,083** | The cumulative return expressed at today's value |

| **Return on investment** | **37%** |
|---|---|

Using the cost criteria described above, we calculated the return on investment over a 5 year period, (where the lifetime of the project so far is condensed into year 1). The full ROI statement and the supporting evidence used to drive our calculations are available in the ROI appendix.

We calculated the potential benefits that could be delivered by the service changes we have implemented so far:

- Bed day savings were calculated as the cost of treating a patient for a given condition (based on the KCH PLICS data) scaled by the reduction we hope to achieve.
- Reduced complications were calculated as the marginal extra cost incurred by treating a given complication (based on the KCH PLICS data) scaled by the number of complications we hope to avoid.
- Savings from avoided DNAs were calculated as the staff costs of an average outpatient appointment (based on the KCH PLICS data) scaled by the number of DNAs we hope to avoid.

The sum of these gave us our potential total saving if all of our service improvements yielded everything we expected. The value for these quantities is shown in the table below. We then calculate what percentage of this potential saving has been achieved so far. Based on the savings realised up to September 2014 (the most recent available financial data), our service improvements had attained 24.7% of the identified total. Given that many service improvements were only implemented after March 2014, we would expect not to see a full impact at this point. The most significant impact at September 2014 was in endocarditis, which is consistent with this service being the earliest implementers of service changes (and thus having the greatest opportunity to see

results), and having implemented changes most directly targeted at reducing length of stay.

A reduction in average length of stay of 7 days was seen in endocarditis, yielding a projected full year saving of £238,047. There was also a slight reduction in the number of falls amongst stroke patients equating to £36,000 and a reduction in the number of hepatitis B patients missing appointments (although much smaller than hoped) worth around £20,000.

## Return on Investment: Value based management & Reporting
### Calculate the benefits

**NHS Institute for Innovation and Improvement**

**Navigation bar:** | How To Guide | Benefits | Cost | Dividend | Evidence |

**Part One: Ongoing benefits**

| Benefits By Patient | Patient Value before change | Patient Value after change | Difference Per Patient | How Many Patients Per Year | Total Difference Per Year | Cost per unit | Total Benefit |
|---|---|---|---|---|---|---|---|
| 1 Reduction in length of stay (Endocarditis) | 32.0 | 25.0 | 7.0 | 40 | 280.0 | £850 | £238,047 |
| 2 Reduction in length of stay (Stroke) | 8.1 | 7.2 | 0.9 | 845 | 760.5 | £650 | £494,645 |
| 3 Reduction in critical care length of stay due to reduced complications (Endocarditis) | 4.4 | 3.5 | 0.9 | 40 | 35.2 | £906 | £31,883 |
| 4 | | | | | | | |
| 5 | | | | | | | |

| Benefits By Incident or Event | No of Incidents per year before change | No of Incidents per year after change | | | Total Difference Per Year | Incident Cost | Total Benefit |
|---|---|---|---|---|---|---|---|
| 1 Reduction in re-admitting patients (Endocarditis) | 1 | 0 | | | 1 | £35,539 | £35,539 |
| 2 Reduction in re-admitting patients (Stroke) | 20 | 15 | | | 5 | £6,899 | £34,497 |
| 3 Reduction in falls by patients (Stroke) | 30 | 18 | | | 12 | £9,004 | £108,051 |
| 4 Reduction in UTIs in patients (Stroke) | 92 | 80 | | | 12 | £5,892 | £70,700 |
| 5 Reduction in Pneumonia in patients (Stroke) | 101 | 89 | | | 12 | £4,524 | £54,283 |
| 6 Recution in acute emergency admissions (hepatitis B) | 5 | 2 | | | 3 | £1,780 | £1,780 |
| 7 Reduction in DNAs (hepatitis B) | 1350 | 1000 | | | 350 | £355 | £124,330 |

| Benefits for Staff | Value Before in Hours per month | Value After in Hours per month | Difference In Hours Per month | Number of Staff affected | Total Difference Per Year | Salary Hourly Rate | Total Benefit |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |

| Total Ongoing Benefits | | | | | | | £1,193,755 |
|---|---|---|---|---|---|---|---|

**Part Two: One-off benefits**

| Description | Value |
|---|---|
| 1 VBHC data infrastructure | £45,139 |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| Total One-off Benefit | £45,139 |

Forecasting forward, we make the conservative assumption that proportion of the potential saving we achieve reduces each year as support to the teams is withdrawn.

Our costs are calculated as the value of the original health foundation grant, plus the onward staffing costs for the remaining years. The intention of the project was to embed the methods into business as usual, building it into job plans and therefore require little additional onward funding. The onward funding shown here represents the one new post created by the project (a dedicated specialist cardiac nurse for the endocarditis team for day-to-day patient management and leading follow-up clinics) and a small amount of additional funding to cover the cost of maintaining IT systems that support the project teams.

Based on these assumptions, the project would expect to cover its costs by the end of

next year and deliver a 37% return on investment over 5 years.

**Direct and indirect treatment costs**

When looking at cost data we have, throughout the project, considered two categories – direct and indirect costs: direct costs are costs that can be immediately attributed to the treatment of the condition in question.

For Endocarditis and Stroke these would include the cost of the initial hospital admission, the cost of any readmissions for that condition and the cost of any outpatient or inpatient elective care provided by the team or related teams (the list of these was developed and defined with the relevant clinical working group) within a defined period of the initial event. Indirect costs are then the costs of other care provided by King's within that defined period that cannot be definitively shown to be unrelated to the patient's VBHC pathway. Unrelated care was defined as continuation of treatment that predated the initial hospital admission or treatment by teams not medically associated with either endocarditis or stroke (this list was also developed with the relevant clinical working group).

The Hepatitis team considered that they would be directly co-ordinating all related care for their patient cohort and any care provided by other teams should be regarded as unrelated, so only direct treatment costs are shown here.

**Qualitative return**

The project has produced many qualitative benefits to changes to practice and working methods; but it is more difficult to quantify the direct financial benefits.

*VBHC Project Team*
The residual central value-based healthcare team (now in Strategic Development), developed an understanding and tacit feel for a range of methods and approaches that can start to implement value-based management in varying areas of the trust. Most particularly, we learned that using the value proposition, and our improved understanding of how to work with the trust's internal data systems to deliver value information, is invaluable as we seek to inspire teams to think creatively and collaboratively about improvements and efficiency. This knowledge and skill has been retained, and is now being deployed to underpin strategic financial recovery planning and longer-term strategic changes that are required given the enormous financial challenge we face at King's and across our local health economy. This practical use of data to inform strategic and operational transformation has been welcomed by Monitor.

*Corporate Teams*
Other corporate functions, most notably finance, have adopted new models of engagement with clinicians. These now form the basis of their interactions with clinical and managerial teams. Clinicians, managers and finance staff see the benefits of closer working on the financial data and the improvements in financial data quality that result. The work we have done on analysing our cost data, which started with the Shared Purpose project, was deployed as we worked on the strategic data analysis on service profitability. This appreciation of where we are and are not profitable, has focussed attention on planning transformational interventions at scale across the Trust. A wider

programme of clinical engagement, based on the approach developed during the value-based management project, will be rolled-out more widely across the trust as part of the working methodology of the new Transformation Programme, resulting in a significantly improved cost model to help inform service management decision making.

*Endocarditis*
The endocarditis team are established in the cardiac division with a focus and understanding of the condition that is entirely novel at King's. The consistent collection of data on endocarditis and the regular MDT meetings continues and provides the basis for ongoing service monitoring and research publications. Recent focus groups suggested that the quality of care and information provided to patients, treated by the endocarditis team, exceeded other areas.

*"I really do feel that the endocarditis team provided the most informative, caring, listening, spending time with the patients out of all the departments. I was very impressed."*

The team understand that for them, an essential aspect of value is to constantly take steps to reduce length of stay for endocarditis admissions – the key cost driver. Results over the life of the project (up to September 2015 – the date of the most recently available financial information) are shown below. These indicate a period of consistently lower length of stay with a recent peak. The reasons for this spike in length of stay have not yet been explored, but the peak coincides with both a reduction in the support provided by the central project team and a period of consistently higher patient numbers. During 2015, the team have been routinely treating 6-9 patients at any given time, relative to historical demand of 3-5 patients at once. This raises questions about the suitability of the existing process when faced with larger patient numbers. The team will investigate apply a continuous improvement approach to check and adapt care processes as appropriate.
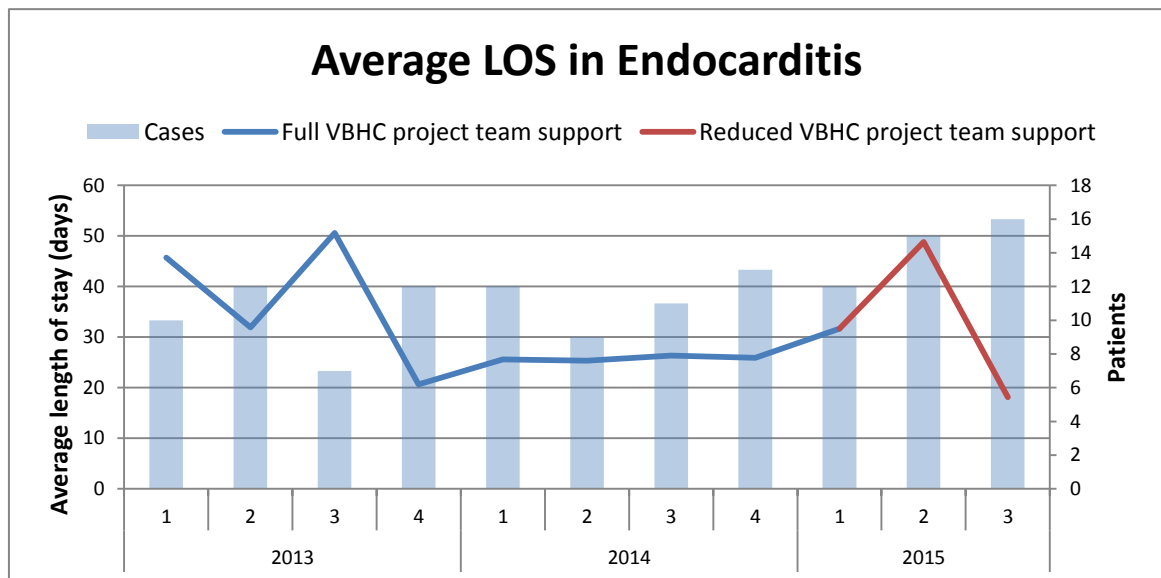


The median cost of treating endocarditis decreased over 2013 and 2014, but has started to track back up during 2015. This follows the length of stay pattern – which is as we would expect.

## Average Endocarditis Costs
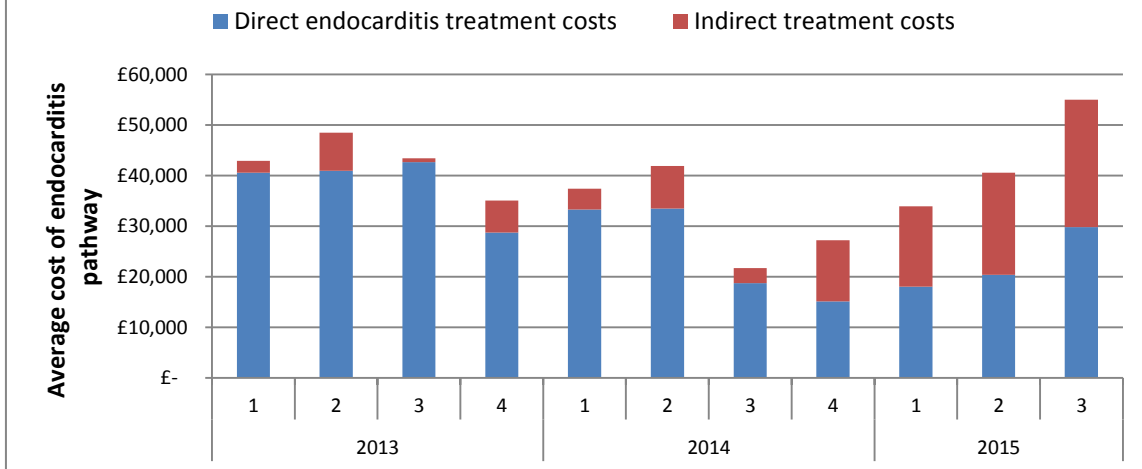


Separating the direct and indirect treatment costs, the trend from January 2013 to September 2015 is still downward, but the overall costs of treating these patients has increased rapidly since the start of 2015, driven by significant indirect treatment costs rises. This may indicate an increase in the number of patients with complex comorbidities being treated for endocarditis, and asks questions about whether the joint management of this cohort of patients could be more effective.

## Average Endocarditis Costs Trend
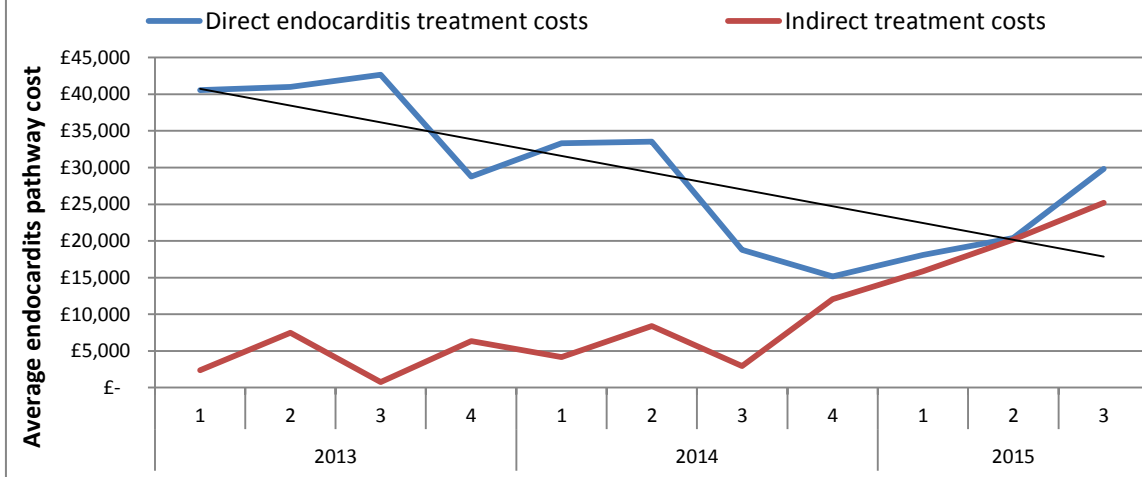


*Stroke*

In stroke, the key benefit for the team was their evidence-based ability to really challenge their perception of how they deliver care. The outcome measures addressing complications of care such as UTIs, pneumonia and falls, helped the team to review practices in each of these areas. They introduced new protocols to help minimise instances of these events. It was the dynamic of bringing together the team to think constructively and search continuously for additional potential improvements in patient care that helped produce several ideas from a range of team members. The challenge going forward is to continue to provide a forum for discussing how best to deliver the service and constantly reviewing all aspects of the service, to generate further ideas for

maintaining care standards.

Many of the improvement ideas generated by the stroke team were only implemented at the beginning of 2014. As such we do not yet have enough data available to make a statistically valid assessment of the impact. The chart below shows the median cost of treating strokes at KCH over the life of the project. This shows a slight upward trend from January 2013, but the variation from September 2013 to September 2015 is broadly consistent – indicating little change in the service.

**Average stroke costs**
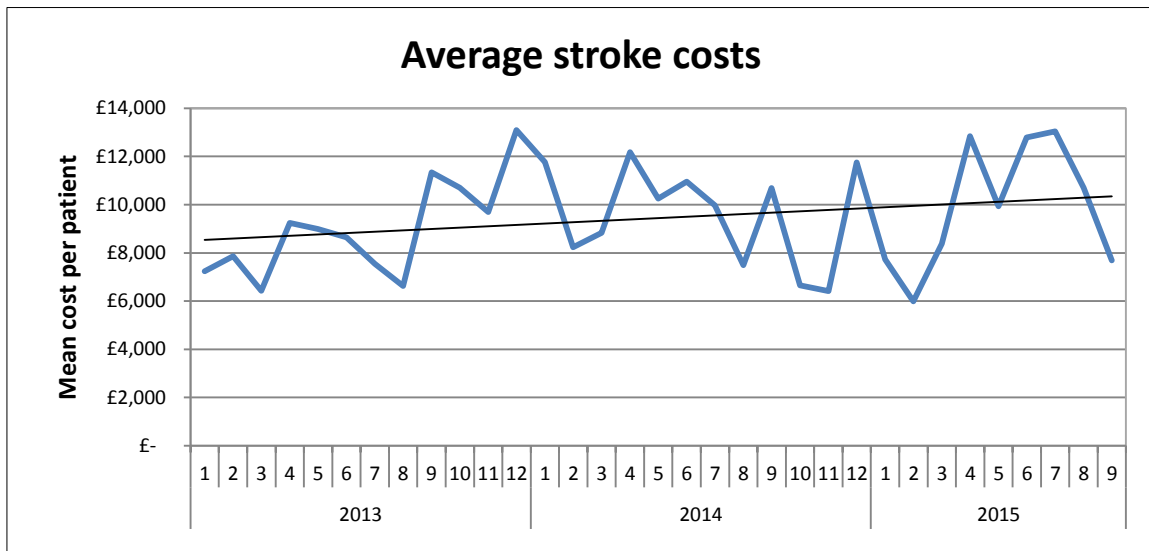


*Hepatitis*
The hepatitis team's work focussed on understanding the reasons for poor follow-up attendance, which patients are most likely to miss appointments, and development of materials to promote better follow-up attendance. Their findings have implications more widely across the trust, with the potential to use a similar approach in other services to understand and reduce non-attendance, thereby reducing lost appointment slots and wasted clinician time. This will be considered by the new Transformation Programme.

The Hepatitis B value data (Section 9) shows a steady decrease in value over the project. This is a function of the services outcomes metrics remaining at a similar level, but the average cost per patient steadily increasing (as shown below).

## Average hepatitis B patient costs
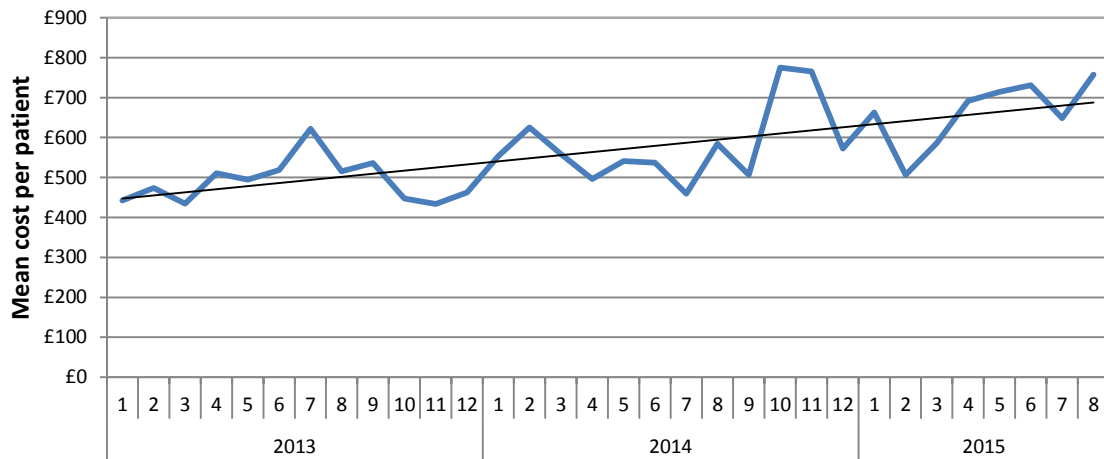


The main cost driver in hepatitis is specialist antiviral drugs, with patients receiving drug treatment costing considerably more to treat than those on a monitoring pathway. However, the nature of disease progression for hepatitis B patients is such that a move from monitoring to drug treatment is likely to be clinically necessary at some stage. Therefore, the percentage of patients within a treatment cohort receiving drug treatment is likely to increase over time. The increase within the King's Hep B cohort since January 2013 is shown below.

## Percentage of hepatitis B patients on drug treatment
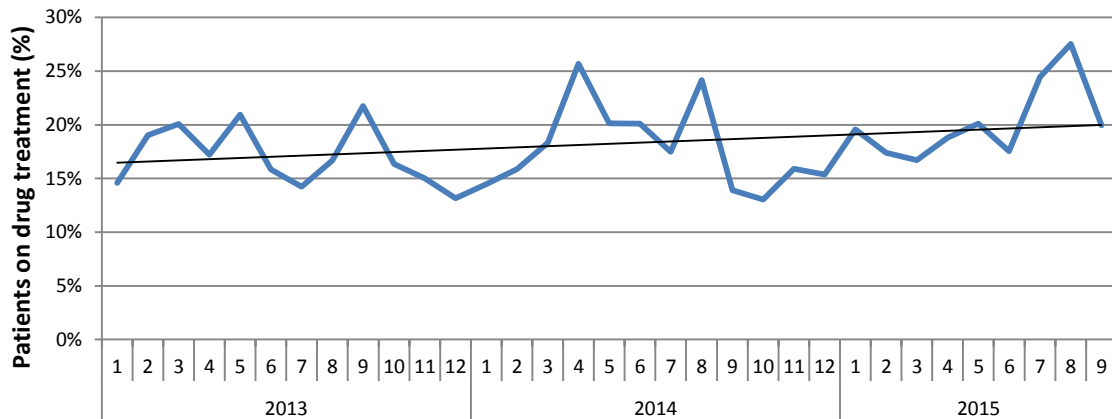


This potentially highlights an issue with applying the VBHC theory to a chronic condition such as hepatitis B. Disease progression creates a built-in cost pressure that means outcomes will have to improve at the same rate as costs just to ensure the same value is maintained. Most of our outcome metrics have a theoretical upper bound, but cost does not, meaning that for conditions where progressive deterioration is expected there is a limiting point beyond which value will always decrease. This could potential be addressed by:

1.  Choosing outcome metrics differently to account more explicitly more disease

progression;

2. Segmenting patients into different pathways according to treatment group and measuring value independently for each group;
3. Normalising value scores over time to account for changes in patient cohort and / or cost inflation

However, it should be stated that the issue of decreasing value within our hepatitis B pilot is unlikely to be due to this structural issue and more likely attributable to the low impact on outcomes of the implemented service changes.

The increased uptake of mental health screening is a key output of the project. All three specialties are now conducting depression and anxiety screening as a part of routine care. This may allow the earlier identification of patients with additional support requirements and help provide more effective care. Earlier intervention in this area may also help deliver downstream cost benefits.

### 9. How did you measure and evaluate the impact and outcomes of your project?

Our project is about the introduction of a measurement framework to drive service improvement, so **Value acts as the starting point of the process, and the measure of success.** Our aggregated measure of value provides an overall indicator of how well services are meeting the expectations and needs of their patient group.

The value score is defined as Outcomes/Cost, where we have worked with patients and clinicians to develop the set of outcomes that matter to patients, during which we sought not to anchor on what *is* routinely measured or what *can* be measured, but to consider what *should* be measured. Therefore, the resulting set of outcomes that we identified as important to patients included could not be constructed easily from existing data sources, but required the restructuring of existing trust (and in some cases the collection of entirely new data), as shown below.

|  | Endocarditis | Hepatitis B | Stroke |
|---|---|---|---|
| **Tier 1 — Survival** | Mortality at discharge; Mortality after discharge | Mortality (treated cohort); Mortality (lost to treatment.) | Mortality at discharge; Mortality after discharge |
| **Tier 1 — Degree of health/recovery** (Clinical status; Functional status) | Complications; Event-free survival; QoL / function | Disease-related damage; Viral load decline; Vertical transmission | Physical disability/dependence; Mood/psychological welfare |
| **Tier 2 — Time to recovery and return to normal activities** | Length of stay; Time admission to tx; Return to normal activities | Time to treatment | Length of stay; Treatment length |
| **Tier 2 — Disutility of the care process** | QoL as inpatient (• Pain; • Psychosocial wellbeing (incl. family)) | Convenience/experience; Side effects | ICH, VTE, sepsis, UTI, pneum.; Falls |
| **Tier 3 — Sustainability of health/recovery & nature of recurrences** | Number of recurrences | Disease presence; Patients lost to treatment; Understanding of health state | Further strokes |
| **Tier 3 — Long-term consequences of therapy (e.g. Care-induced illnesses)** | LT complications/SEs; Peace of mind / psych. wellbeing | Psychosocial welfare; Renal function; Osteoporosis | Carer stress; Domiciliary location |

Legend: Measure available (within KCH) | Measure collected, but not yet reported due to low data volumes | Requires fresh data gathering

We established methods for gathering each of these data items, and also for combining them together into a consolidated outcomes score (we made use of the approach used to create a hospital performance index by the Centers for Medicaid and Medicare Services), which gave us a single quality score. Having a single quality score then allowed us to calculate a value score by dividing the quality score over the total pathway cost – which was derived as the aggregate cost of all the events on an individual pathway.

This value score can be calculated for an individual patient pathway or for aggregated service performance within a specified time period. We have used a monthly time frame for our reporting (except for endocarditis, where the lower patients volumes dictated that quarterly reporting made more sense). At an aggregate level, the value score allows the teams involved to see how they are progressing on average over the reporting period. Sample value results are shown below and full results are available in the supporting evidence paper.
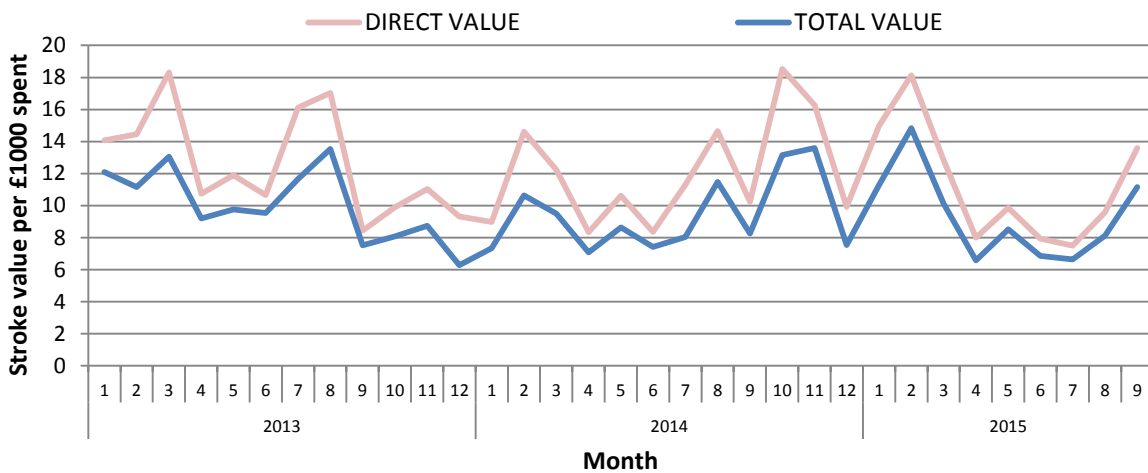
# Endocarditis value output
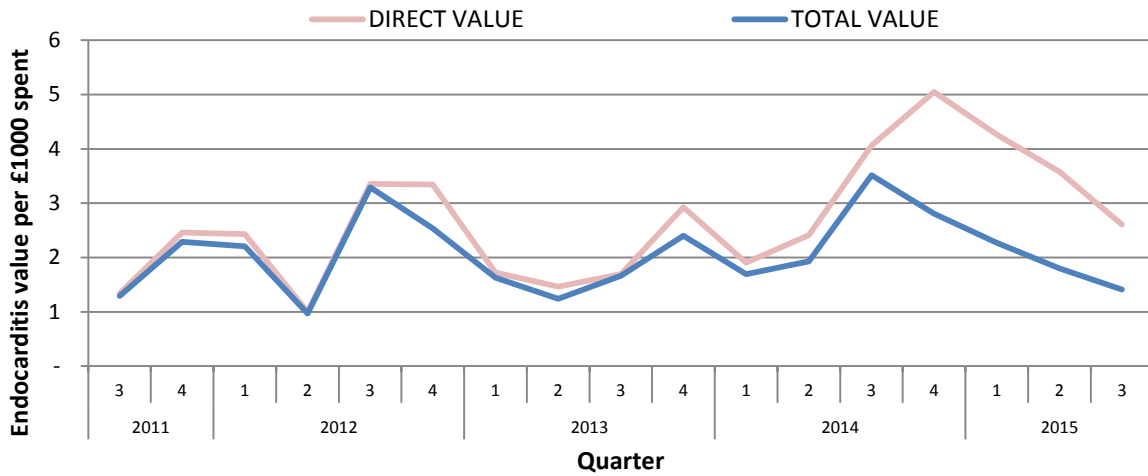


# Hepatitis value output
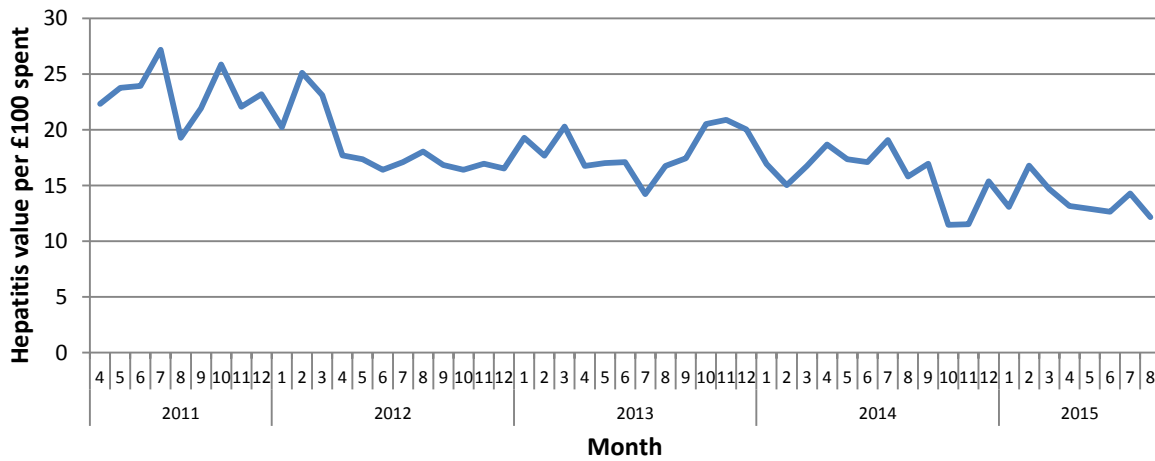


# Stroke value output



A key learning over the project is the value of sharing information with our teams throughout. The sharing of information at early stages accelerated the development process. The advantages of this outweigh the fears of damage to credibility that may be caused by sharing

incomplete data. Involving teams in the process of developing measures was a useful tool in securing engagement, but does require you to guard against teams developing performance measures in which they will always perform well [a particular problem in hepatitis, where a number of their outcomes have a very high level of performance].

Over the project we have stuck to our original intentions about measuring value, but we have found that value is not, of itself, useful for directing service improvement. So to develop ideas for service improvement we have had to explore how we can improve the individual elements that make up value within our model. This equates to identifying ways to improve performance for individual outcomes and reduce costs, thereby leading to increased value. An aggregated value score is therefore helpful for indicating a general level of service performance, but changes to value require analysis of the constituent components for complete interpretation what has changed.

In addition, we have also found our current model does not allow comparison across services. The value score is, in each case, developed specifically for the service in question and with respect to the views of patients with that condition. The resulting outcomes measures then naturally reflect the differences between these populations. However, this does mean that we are yet to develop an approach for standardising value, and therefore of being able to define what a "good" value score would be. To guard against the temptation to make cross-service comparison, value is thus presented on slightly different scales for each service as a way of emphasising the current lack of comparability.

The current results for endocarditis and stroke show value varying around a central value, but remaining broadly constant over the life of the project up to September 2015. We are yet to see statistically significant shifts in value in either endocarditis or stroke. For endocarditis, the value of direct endocarditis treatment has improved, but over the full range care, including the 12 months post discharge, value is of a similar level to January 2013. The clear downward trend seen in hepatitis B is discussed in Section 8.

**Evaluating the impact of VBHC**

We plugged summative (rather than formative) qualitative and quantitative data collection and evaluation into the project from day one for three main reasons;

- To assess how and to what extent we were achieving desired results
- Have an external perspective on how our organisational and technological context came to bear on project progress and execution
- Regard our evaluators as "critical friends" to the team and allow them open access to the work of the project and use some of their expertise and observations in real time to improve our ways of doing things

The evaluation indicated that the deliverables - data collection; the development of value-based reporting tools; and the development of value-based management system, which produce and support improvements in the quality and value of clinical services - have been substantially produced but not in the ways or to the full extent intended at the start. E.g.

- New methods of extracting and reporting information on provision, costs and

outcomes of health care still require further modification for embedding in routine organisational practice in the Trust.

- Improvements in the delivery of care for patients e.g. ward rounds and out-patient clinics with a specialist focus on endocarditis, the assessment of anxiety and mood among stroke patients, and the development of leaflets with specific information for different groups of hepatitis patients were implemented, but there is as yet no quantified evidence of improvements in the overall *value* of services resulting.

In general the evaluators noted that Porter's ideas about value in health care provided a framework within which detailed analysis of data and discussions about improvement were undertaken. But, the analysis of value in itself was not the specific driver of those discussions or improvements and has not resulted in measurable changes in the overall *value* of services in the project time frame.

Overall, the evidence suggests that the VBHC Project has partly produced the deliverables of collecting and reporting on value-based data and of using value-based data to help improve services inside King's College Hospital; it has not yet produced the deliverables relating to the whole cycle of care or to the use of value data in management systems outside the activities of the Project itself.

**Data collection**

Patient cohorts were defined, pathways mapped and existing data collated and analysed for each of the three patient groups in 2013. New outcome data were collected and analysed. Patients' views about outcomes and about what was important to them in the delivery of care were collected and analysed and were used to help define the value metrics and to support the improvement of services.

Most pathways, data and cost metrics and outcome metrics related in-patients and out-patients at King's College Hospital. They did not relate to primary and community health care, other hospitals, or to social care and support for patients after their discharge from hospital; they did not relate in Porter's terms to the whole cycle of care.

**Data reporting**

Outcome, cost and value data were analysed and reported on paper-based 'value dashboard' plotting changes in outcome, costs and value over time for all three clinical conditions in the autumn of 2013. Outcomes and costs were separately calculated for all individuals and then used to calculate value.

The calculation of the composite outcome index and of the value metric relied on the use of average values for each outcome and cost which complicated attempts to examine relationships between variables and related only to King's College Hospital and not to the whole cycle of care for patients. This lack of benchmarks or standards of value appeared to make the identification of issues and ideas for improvement from the aggregate value metric difficult.

**Value-based management systems**.

Especially at the prompting of the Project Director in the first months of 2014, the clinical

teams were encouraged to start using a PDSA framework for improvement initiatives.

But improvement work generally appeared to take place without the use of a defined improvement technique. The performance directorate and general managers in the Trust did not adopt and adapt value-based metrics into their mainstream performance management systems during the life of the Project. The value metrics and analyses were additional to rather than a replacement of existing mainstream management systems.

**Redesign of care processes to increase value to patients.**

The information generated by the Project Team has been used by the Project's Clinical Working Groups to improve their understanding of the services they provide, to stimulate questions about those services, and to help develop and test ideas about service improvement. Some of these ideas have been introduced into service practice. These ideas for improvement were generated and developed mainly on the basis of information about service activities and costs rather than on the basis of an analysis of value, defined as outcomes divided by costs, per se. It is the detailed analysis of outcome, activity and cost information, rather than the analysis of value, that leads to service improvement.

The primary aim of using value as the key performance metric to build sustainable healthcare systems of the future is only partly being achieved because, although the metrics being used in the project can contribute to the analysis of value. The single value metric (expressed as the equation $V=O/C$) has not itself been significantly used to generate general results that have informed discussion or decision-making. Although information relevant to value is being used to develop ideas for service improvement, the data analyses or metrics developed by the Project are not yet used in or embedded in performance or other general management systems.

The Project has produced many of its specific deliverables; it is, arguably, not yet at the stage of achieving its more ambitious aim of influencing wider change inside and outside King's College Hospital.

There have been benefits, implicit but not fully explicit in the original plans, relating to the aim of the Health Foundation's Shared Purpose Programme, and which promote better working relationships between clinical staff and managers and between clinical and corporate services. Clinical teams enthusiastically used better data and information, which they looked at closely and used it to ask questions about and better understand services they provided. The Project also dramatically developed the understanding by clinical teams of patients' perspectives and feelings. The attention of clinicians shifted towards patients' views about needs and outcomes; these changes then influenced a variety of improvement actions. By combining new information, additional time and inputs from project support staff, and closer contact with patients enabled, clinical teams generated new ideas for improving care and services.

## 10. What has your project added to the discussion or evidence base for corporate and clinical teams working together in improvement?

We've tried in most of the sections of this report to engage with, and reflect on, these points of consideration. This on-going and deepening reflexive stance showed us how many of the things that we did by design, or didn't do, or accidentally did, affected the process of "change" that we were involved in. We learned that the very act of coming together in relationships to each other and to the work in hand, created a wealth of dynamics and possibilities for action and change. These were situational and temporal and also dependent on who was in the room and how they showed up. Our confidence that we would be able to predict or control progress or the finer points of direction was continually shown to be over-confident. In trying to summarise some features of our endeavours that seem, after reflection on our lived experiences of the project, to have been especially formative or helpful, we are mindful of the danger that they will be interpreted as a set of "lift and shift" recipes for success. Our sense is that the actual process and progress of the changes we did make were hugely influenced by the complex processes of relating that each group were conducting moment-by-moment. The idea of bald replicability seems increasingly tenuous, given our experiences. With that important caveat in mind, here are some salient features of our work whose impact was noteworthy and helpful to us in our on-going consideration and implementation of change methodologies at King's.

**Evidence base**

The co-production by finance and clinical teams of combined and jointly owned activity and finance reports - easy to understand and related directly to the processes of care that are the day-to-day business of the clinical teams - created new joint understanding and knowing. This then allowed focus and delving into the drivers of particular operational or financial outcomes. This generates an agreed basis for change that has meaning for all participants. It is important to note that this co-creation and a common sense-making are critical. The actual data does not need to be of research-grade quality – it just needs to be good enough to command respect and engender inquiry and motivation for the group in question.

For the first time we were able to build the value data from patient level analysis and disaggregate events not linked to the condition that was our primary focus. This created cogent and understandable data for the identified patient cohorts mapped along the care pathway for their condition (or conditions if co-morbidities are important). This provided radically new insights and understandings of what actually was going on for patients in our care, who they were, how many of them there were. With this totally new vision, clinical teams, managers and finance staff all found food for thought and action.

Our involvement of patients in considerations of outcomes revealed a level of anxiety that was revelatory to caring teams, who became immediately concerned about the impact on recovery, management and delivery of care. The adoption of IMPARTS data collection, using iPads in clinic to collect a range of information about depression and anxiety – data which it hadn't been possible to collect store and analyse before – is a considerable addition to our knowledge bank. It provides a guide to unmet but vital needs, and towards a range of interventions that improve holistic mind and body care. It is being rolled out across KCH and SLAM.

**Discussion of change.**

Our experience of bringing together clinical teams, management, finance and project staff together with patients to create information that visibly shows how things are working and how they might work better, sparked considerable enthusiasm in each team. As we are now moving towards a period at KCH with an organisation-wide Transformation Programme is at the centre of the Trust's medium-term recovery strategy, this approach is being keenly debated at design stage.

The importance of the quality and purpose of the dialogue and the relationships in improvement groups, has also been an important lesson. Our Trust Strategy and Transformation Programme are considering carefully these relational and people-based issues alongside data and programme management considerations. We've noted the essential role of change agents in helping the groups move from data creation to actual improvement ideas. It is a change in thinking paradigm and requires a subtle but distinct pivot in the work of the group from analysis, through inquiry and into on-going reflexivity.

We certainly learned in Shared Purpose how different groups behave and become effective in different ways, at different times and places and at different pace. The ability to work sensitively and effectively with this emergent difference was an essential learning. However, folding this mature and flexible adaptability into a Transformation Programme that has to be generating savings annually of £86M+ (8%), will be a considerable challenge; the focus will be on delivery to time and target.

# Learning and challenges

### 11. What have you learned throughout your project?

We have learned many things on our journey through this project – many of which are reflected in our story related above. Here are some of the main  lessons:

a) The concept for the project as defined by the project team in the application needs to be explored by clinical teams via a process of inquiry and dialogue so that they can understand for themselves. The emerging meaning of the concept will be freshly co-created at this stage. This can be anxiety provoking and confusing for all. However, the jointly created meaning will be an essential building block for trust and collaboration. It takes patience and time – and we underestimated the time and effort to do this.

b) It is possible to create Porter outcome sets, but it is complex in terms of:
   - Concept (what is an outcome?)
   - Process (how do you get clinicians and patients to identify what matters to them most?)
   - Collection (how and where do we get this information?)
   - Presentation and automation (what visual format means most to teams and best

helps them to inquire into improvement potentials?)

To do this from scratch needed a lot of expert data knowledge and creativity. It took longer than we had expected. In the gap between agreeing the data idea and producing the first cut outputs clinical teams became fractious and impatient.

c) Value metrics can be used by teams to drive improvement by providing a framework of evidence from which to hypothesise and inquire into potential improvements which they were not talking about before. The information in our dashboards prompts questions, rather than providing immediate answers. Supporting the group to look beyond pass-fail inspection of data and to consider variation over time as a window on possible change for the better required skill and tenacity.

d) The Value-based Healthcare model we have developed seems to produce the type of dialogue and action that we envisaged. However, to be useful in a wider organisational context, the time taken to identify measures and costs, to collect and process data and produce dashboards and to start improvement dialogue and cycles of action must be reduced.

e) The outcome 'tiers' that Porter describes are not intended as universally-applicable rankings of the importance of different outcome factors, but the terminology of 'tiers' can imply they are. This initially caused difficulties working with teams who felt 'Tier 1 outcomes' (e.g. mortality) were less pertinent to their condition than some 'Tier 3 outcomes' (e.g. sustainability of health). Equally, where the management of a contagious condition has important benefits to the community as well as to the individual patient, it can seem wrong-headed to talk only about outcomes for the individual being treated. When spreading value further, we think it would be better to talk about 'categories' than 'tiers' and to include a 'category 4' for 'community outcomes' where this made sense to the condition in question.

f) Attitudes to existing data have been important. There is a tendency to disregard imperfect data, but what value offers is an opportunity to understand and improve the data quality available to a service. Clinical input into the processing of all trust data can significantly improve the quality of analyses and the default solution should not be to dismiss historical data and solely concentrate on improving data collection.

g) Trust systems are not set-up to provide data for service improvement work (they're set up to support immediate patient care or reporting – and the bits of the organisation doing these things are reasonably discrete), so we have had to work around the trust's technical infrastructure, not within it.

h) Impact of Commissioning changes and Caldecott 2 meant data sharing between local NHS bodies was effectively paused during 2014 whilst everyone worked out both what they now had access to and what they were allowed to do – the knock-on effect was that the work required to look along patient pathways outside KCH was much greater than anticipated.

i) The engagement between the finance team and the clinical teams in developing a

more detailed, realistic and trusted activity based costing model has been especially productive. This has allowed clinicians an insight into way finance modelling works at the trust and provided an appreciation that the finance team is keen to collaborate on improving financial models using clinician knowledge and helped demystify an area of hospital reporting that has often appeared to be a "black box" to clinical teams. The collaborative working model used within Value Based Healthcare is now being rolled out by the finance team into their wider reference cost and financial modelling work

j) The results in hepatitis B show the importance of the choice of outcome metrics, and relating these to the *full* patient pathway. As a chronic condition, hepatitis B posed a different challenge and although we do consider outcomes directed at the long-term consequences of both the condition and treatment, these are probably too blunt to allow us to distinguish between the differing impacts these outcomes had on patients at different stages of a *lifelong* pathway.

## 12. What were the unintended consequences and side effects of your project?

The focus of our project has been on the specific deliverables defined at the outset. But, as we have explained, the progress, methods and scope of the project have been adapted to some degree as we've gone along. Many valuable things have emerged unexpectedly; at project and personal levels. Our belief is that these will ripple out into quality improvement on a wider scale.

### a) Project level

The biggest unknown (among many!) when we started, was what patients felt was most important. We weren't certain about how to find that out and we didn't have any idea about how we'd be able to collect it one we did. As we inquired into this and reflected carefully on what patients told us, two really unexpected things emerged.

i. In all three conditions, patients revealed to us that they were highly anxious about the immediate and longer-term impact of their condition on their lives. They said they didn't feel well informed enough about how to manage themselves after they'd had testing, treatment or care. This worry took a toll on patients and their outlook.

Our clinicians were all profoundly struck by this revelation. They paused and reflected on their assumptions about their practice and their service models. In all cases there was a sense that they had re-connected with their patients at a different level than was normally possible in day-to-day practice. They took this seriously and improving the content of patient information materials emerged as a more central part of the work than any of us expected.

ii. As anxiety became a centrally important patient outcome measure, it became the source of great anxiety to the project group. We had no idea how to measure this, and even less idea about how we might collect and analyse the data. It could have proved a rock on which the project could have faltered.

We asked around KCH and then KHP. We heard about some work that our AHSC colleagues were doing in the Institute of Psychiatry on a programme called IMPARTS (Integrating Mental and Physical healthcare: Research, Training and Services). This project was starting to collect depression scores from patients at outpatients using iPads then transferring the information to the patient's electronic records, where it is used to inform clinical care and is available for analysis. We made contact and discussed our projects. Although there were significant originating differences between our work, both sides saw real opportunity for joint-working. The use of the iPads meant we could collect the patient defined outcomes we wanted (including depression) and through work in our teams (and, because news of their work with us spread, to other areas in KCH), IMPARTS extended its range and scope of work. Both projects benefitted hugely and a great working relationship was born.

iii. The extent of anxiety and the identification of depression scores in specific patients, in turn raised an important ethical and clinical issue for our teams. Now we knew that certain individuals had raised levels of anxiety that were of clinical concern and would affect their recovery and adaption to their on-going conditions and self-management, that couldn't be ignored as a simply interesting fact. So, again unexpectedly, our project has led to additional liaison between physical and mental health professionals and the establishment referral routes or in-clinic psychological support.

**b) Personal level**

Perhaps the most humbling of all reflections on our journey of discovery for all of us connected with the project, is the sense of personal expansion, development and difference that participants report – and how they have put this to use in service of their greater contribution to the service of patients and the NHS.

i. At project start, the clinical lead for the Hepatitis workstream was a senior registrar/clinical fellow. His involvement in the project came about as a combination of keen interest in improving the hepatology service and also in part through delegation from the departmental lead clinician. Knowing little about project management, service improvement of the Shared Purpose call, he worked diligently on the project and became an increasingly assured and confident advocate. He has recently been interviewed successfully for a consultant post. He has reflected that in preparing his application, he became aware of how the project had deepened his appreciation of his patient group and their pathway of care; how he had come to understand projects and service improvement; and how his appreciation of how data can be used to create dialogue and co-created change for the better. The feedback at his interview was the panel "know through your training portfolio that you are generally clinically capable. What was stark to us was your emphasis on how you see the service, what you would change, how it could be improved". To have been involved in a project of this scale and novelty really set him apart. He has now secured a consultant post where he will be deploying what he has learned regarding QI tools and techniques as well as the enhanced view he has of patients.

ii. The clinical lead for Endocarditis started his work on the project at Specialist

Registrar. He reports *"I got excited about value based health care and was asked about new ideas in health care and it [value] is something which is topical it's important and is the way forward". "I see the patients and the ways that we can and should deliver tour care change radically and for the better".* His passion and belief in the project chimes through as he reflects on the experience. *"[the project] made me as a person realise more about the complexity of the NHS and the opportunities you have if you work with other people."* He applied for a substantive consultant post at KCH while doing the project and again reports that "the work on the project, my new ideas for improving Endocarditis treatment and care undoubtedly helped my application and interview. He is also now a consultant and is preparing clinical papers related to the project for submission to conferences.

iii.    The original project did not contain dedicated analytical support, but for reasons outlined previously this was changed part way into the project. A data analyst was taken on in May 2013 this expert resource helped fundamentally change the direction of the project. Clinical teams thirsted for data and when it was produced, they worked willingly to refine and improve it. In turn they used it to understand their services and propose service improvement ideas. The scope of his role broadened to include involvement in the higher-level thinking on the direction of the project and support to project teams in a workstream lead role.

He reflects, *"this role allowed me to develop a strong body of innovative data work, given me the chance develop an understanding of the internal data systems within KCH and produce impactful presentation of data and to help in its interpretation. This new way of working with teams to unleash the power of data and information to make change in the organisation led me into relationships with the KCH strategy team and clinical teams. I have now moved over to work in the KCH strategy team, providing a new level of analytical resource to the trust and with the value proposition very much at the heart of what I do in this wider field of influence".*

iv.    The IMPARTS project coordinator came to the project with a more exclusively academic background. Currently also completing her PhD, she says, "I learned a lot about the practical application of project management from the different styles among the different workstreams. All teams displayed distinctly different cultures. As someone who is not a service provider within the NHS, I saw how to deal with people and how the NHS works. I also learned from the project management and service improvement disciplines used by the core team – things like reporting, document management, managing people, personalities and teams. I do my work differently now".

v.    The senior cost accountant saw this as a truly professionally and personally enriching experience and comments that it was *"a good opportunity to meet people outside of the department and to see a practical use of the data we provide", from a personal perspective he wanted to be "talked to like a human being and not an accountant".*

**13. In what ways would your intervention be useful or replicable for people working in another context?**

In addressing this question, we are increasingly careful, in the light of our experience, about what "replicate" means, and how appropriate it might be. The value equation has helped create the conditions for novel (and often unexpected) inquiry, improvement identification and action. However, the ways in which this occurs, the time taken and the results, will be also critically dependent on particular influences at work in and around any new group at a particular point in time – and unique to them. Inherent in this is profound complexity. "Deliverables" or "solutions" will not be mechanistically produced or predictable; rather they will tend to emerge as a product of the inter-relationships at work in the local circumstances at that time – and, although they will tend towards self-organisation, and they will be unpredictable.

However, we have learnt things in our work that stand out as important for us, and that will influence our process of embedding and spreading the concepts and work. In summarising these here, we simply offer them to others as a point of potential reflection and inquiry for themselves in their particular circumstances, not as a lift and shift template.

a) It is essential that initiators understand the value concept and it's potential. However, they must also be prepared for the fact that when it is introduced to new teams, the teams themselves will need to explore and make sense of it in their own way. This process of "particularisation" will be the bedrock on which the joint effort that is needed afterwards will be built. It takes time and skill to walk the fine line between allowing the individual process of sense-making to work out to its own conclusions while keeping faith with the central tenets of the concept being tested.

b) The co-creation of pathway data sets, which involves patients, is essential. The resultant ideas for the outcomes dashboard data will have to be constructed from multiple trust data sources, so establishing good access to all trust systems and maintaining good relationships with data processing teams is essential. The technical complexity of this is significant – so a data expert familiar with systems, data processing, information presentation and the interpersonal skills and persistence to work with, through and around entrenched data silos is key.

c) The data used and the purpose to which it is directed are significantly different under the value proposition to the normal use of data in the NHS. People find "outcomes" confusing (most first guesses at outcome measures put to us were not outcomes, but process measures, clinical markers or requests for additional support – all of which should inform outcomes, but are not outcomes). Workshop sessions guided by the data experts to explore together exactly what is meant by outcomes early in the process will accelerate progress to service improvement.

d) Improvement data is different in both intent and presentation to performance or reporting data. Unless teams come to understand why data is presented as it is (run-charts / SPC chats) and how to inquire into it (looking for instances and patterns of variation rather than aggregating to towards a static snapshot mean), the jump from having produced a set of data and endlessly seeking to delve deeper into its accuracy or lack thereof, to an active inquiry into improvement possibilities and

impacts will be impossible. Again, this takes knowledge and skill.

e) For all that this type of project will require prodigious technical work on data and skilled and persistent project management, it is vital to keep focused on the fact that the work of the project, the way it will be communicated, the energy it demonstrates etc. will be the product of a complex process of relating among and between all touched by it. This means paying close attention from the get-go to how relationships are working, to teambuilding, to the needs and skills of individuals, to group dynamics and to succession planning as individuals leave and join the work. Most importantly of all perhaps, is to develop a reflective and reflexive approach to the work at every point and location of the work throughout the programme.

f) This project has achieved influence and gained attention much less through the formal project governance structure and much more through the informal and emergent process of doing the work with purpose and commitment, welcoming involvement and inquiry and demonstrating results through a mixture of product, results and personal stories. Thinking about this and identifying how this "under the radar" influence is or isn't working should be a constant pre-occupation of the Project Director.

**14. What are your reflections based on your project on how change happens, new models of care and evaluating complex change?**

**Reflections:**

**1) How change happens**
  a) *Slowly, then all at once*
     With all our teams (including the central project team), there were several points in the project at which it felt like progress was not being made; the same ground was being revisited and the same conclusions were being reached. This was often because we had, both individually and collectively, become anchored to a particular way of seeing (or not seeing) the problem or fixated on a preferred solution. At these points it was often necessary to find different a way of considering the issue at hand, by for example:
     - Using more/less data
     - Involving different people in the discussions
     - Asking more detailed/simpler questions
     - Changing the thinking paradigm towards inquiry

     Approaching the problem differently can lead to a number of alternative ideas being generated and once the preferred option amongst these is identified, the move to actioning that option can swiftly build its own momentum.

  b) *Different perspectives*
     With all of our teams, we tried to involve a wide range of people in the process to ensure a variety of views were represented. By involving different types of clinician (e.g. therapists and nurses as well as consultants), patient representatives, service managers, finance staff, the IMPARTS team and

ourselves, the intention was to ask different questions of the service than may have been asked by involving only a single group, and to bring clinical and corporate perspectives on the service into direct contact. In addition, the involvement of people who were not directly involved with the delivery or management of the service provided an external perspective for identifying potential changes within the services.

c) *Creating the right conditions*
The ability to interrogate service performance and a willingness to do so are integral elements to change. These are key building blocks in appreciating a need for change and helping identify what a meaningful change could be. We found it to be important to give teams useful information about their services, but also, by facilitating sessions with each of the teams, encourage them to ask questions of the available information that started to build hypotheses about why their service behaved in a certain way rather than just accept that it did.

d) *Testing hypotheses*
Once ideas have been generated, it was important to understand both their validity and utility. With all teams we started testing their initial hypotheses through a combination of deeper data analysis and group discussion, to help understand whether the hypothesis held true and was considered credible, and feasible to implement.

e) *Willingness to try*
A key element to change is being prepared to implement ideas. Most ideas teams generated also came with a list of reasons why they wouldn't work, and whilst it was important to be cognisant of the potential difficulties, and make an informed judgement about the likelihood of success, the existence of potential barriers to success should not, of itself, be a barrier to implementing and testing service change ideas.

Our project gave each group the opportunity to make its own sense of outcomes and cost and value, and from this to self-generate improvement ideas. We did not issue them with a specific brief to create "new models of care". The demands of modern acute care are to do precisely that. Although we didn't specifically test the use of the value equation in this way – we are confident that, provided the remit of any new project was extended and expressed in this way at point of initiation, the process that we worked through on each pathway is a credible and robust way of developing and designing new models of care.

## 2) Evaluating complex change

a) *What were we trying to do?*

Our project was ambitious in scope and complex in method. We were applying our principles across three disparate teams. Progress rates were differential across teams; we encountered problems from time-to-time that impeded progress to rigid project timetables. Most notably, because we had to find novel solutions to wicked problems, we had make adaptations to project plans and methods. As a team we often debated (hotly) how true we were being to the original project

goals – as these were what we would be evaluating ourselves against. The most difficult stages of the Value Based Healthcare project were those where we seemed to be adrift from our original intentions. It made it difficult to evaluate progress and determine appropriate actions. These periods of ambiguity called for us to thoroughly reflect on progress and intentions and to act reflexively in consequence. We strived to make adaptations that were responsive to issues arising but which were also solidly informed by originating intentions. This is not an exact science and our "solutions" were a mixture of collaborative thinking and a form of tacit practical wisdom – largely a product of us as individuals and the characteristics of our actions together in the team and as a team. There was a paradoxical process of, on the one hand, letting go of pre-conceived certainties in the face of complexity and, on the other, remaining true to values and intentions central to our mission.

b) *Tracking complexity*

At times we struggled to keep track of the factors we encountered that complicated the project. Working across clinical and corporate teams gave us many insights into the complexity of the organisation and the organisational, informational or personal dynamics and relationships that influence attempts to initiate and progress change initiatives. We captured a lot of information through informal team discussions and project reports and did think about this in our reflective processes. In hindsight we think we could have had a more structured approach to documenting the complexity we encountered in the system. We also think that we could have been more imaginative in the way we encouraged people to reflect on what was going on for them. We tended to privilege written and propositional means of communication. We each know the world we live in, and the relationships that characterise the conduct of operational life, in many more ways than the written and cerebral. We could have tried to tap into this more by amplifying our use of storytelling and perhaps exploring our world via the making of pictures and collages. This would have opened up new epistemological perspectives and might have provided a useful resource for better understanding the impact our work was having on the system.

c) *Reflection and learning*

The nature of the both the Shared Purpose events and reporting required us to consistently reflect on the progress of the project. Crucially, it has also provided the time for that reflection. This reflective approach has allowed us to evaluate the progress of the project in different ways. Increasingly we adopted a reflexive approach to these considerations and changed our ways of doing things as a result – sometimes quite radically. It at once liberated us from the normal slavish loyalty to the written project plan, but also unleashed a plethora of counter-cultural anxieties, as we started to iterate and deviate from timescales and pre-conceived methodologies. The space that Shared Purpose created for us to act in this way has profoundly affected our thinking about change methods and

considerations. In essence we now stress the need for relational and reflective collaboration, rather than the prescriptive coercion of effort and thinking.

*d) Some change is not quantifiable*

In addition to the hard project deliverables, recorded as milestones or data points, Value Based Healthcare highlighted other indicators of project success. The changing attitudes of project teams to the data we presented and the idea of value was a useful indicator progress. The point at which clinical leads start chasing you for meetings, or referring – unprompted – to value within the presentations they give are not project objectives one would set, but both provide valuable indications that some level of change is being achieved. We have not yet seen the individual level changes of the project translated into wide-reaching system change, but the enthusiasm of some of those key people involved in the is useful evidence that we have something to build on.

*e) You may not be best placed to judge*

There are two main difficulties of evaluating change projects from within the project team: the first is that as part of the team delivering a project is you spend most of your time dealing with what isn't working; the second is that there is often no one to compare progress against. Both these factors lead to a skewed view of how the project is going – you're aware of the faults, but not necessarily that these are issues everyone is struggling with. For us, view from our evaluators of the challenging scope of the project, the experiences of the other Shared Purpose teams and the opportunity to present our work at KHP and UCLP value groups gave an important external perspective on the work we were doing and led us to evaluate it differently.

# Embed and spread

**15. In what ways has your intervention(s) been sustained?**

In the last 12-months three big changes to our circumstances have been influencing how the project is sustained and spread:

a) The wind-down of the central project support team resource for Value Based Healthcare – with the three clinical teams having to continue work independently
b) The rapid emergence of a financial and operational crisis at the Trust that has seen the replacement of almost all the executive and a focus of most management bandwidth on recovery and reporting to Monitor
c) The emergent inclusion of ideas central to the Shared Purpose Value Based Healthcare project in KCH Strategy and Transformation, SLAM Strategy and KHP Strategy.

On the positive side, individual teams have continued with the implementation of some

elements of the work after the project team came to an end. They are taking forward those elements which they consider to be of most use to them with variable success.

The endocarditis team have continued to have regular MDT meetings to discuss the co-ordinated management of patients and continue to make use of out of hospital care to help manage their longer term patients. They have also maintained the use of IMPARTS to track the psychological wellbeing of their patients and the use of a specialist nurse to act as a designated point of contact for patients post-discharge and co-ordinated patient care during admissions.

In hepatitis the patient information redesign is an on-going part of the service delivery model. The IMPARTS data collection methodology is still being used and will be further analysed as part of the wider IMPARTS project.

The stroke team have struggled most in sustaining the interventions. However, the RCP national audit programme (SSNAP) has moved increasingly towards tracking outcomes alongside process measures over the last year.

However, we have learned that helping teams become mature enough in continuous improvement techniques, and adopting a new mind-set to enable them to function without a specialised dedicated resource, was something we should have focussed more on. The need to concentrate on day-to-day performance and cost cutting has exacerbated the tendency to revert to pre-VBHC working styles.

The Project Director and the Business Analyst from Shared Purpose have moved into Strategy roles. Our approach to change, engagement and dialogue based on data and shared purpose has been central to the creation of a Trust recovery strategy for the next 5-years. Linking activity data from various sources in the Trust, and combining it with finance data in the PLICS system, has been a key plank of the analysis which has satisfied Monitor that the Trust has a sufficient understanding and grip on the drivers of its current situation and to identify the strategies for further recovery. This use of data is provoking a deeply different and more informed questioning and inquiry into the basic operational and business models in various key areas of the Trust. The model we have developed has been requested for use by Monitor. Internally, the Trust is committed to the further development of its functionality and its greater linkage to other data sources and IT systems of the Trust. In turn this data will be used to link Strategy Planning and the nascent Transformation Programme. In so doing, our hope and intention is to embed "value" as a key metric and rallying point for various improvement workstreams in this essential programme of work. We also expect to utilise the concept and extend our work on linking data across providers along the whole care pathway for patients as part of our work on "Our Healthier South East London".

On a wider front, the ideas from the project are informing activity across KHP. KHP itself has enshrined "value" as one of its foundational precepts and a new Value Based Healthcare Strategy for KHP is in ongoing development and implementation – with KCH being a key thought leader and participant. Additionally South London and Maudsley Trust, with whom we work on the KHP Value Based Healthcare Board, are initiating a £2.6M project across their Trust to operationalise value metrics and improvement initiatives.

**16. What successes have you had in spreading and publicising your work, and what are your future plans in this area?**

There is strong interest within the strategy team to revive the value based healthcare work and to look again at the best way in which we can sustain and grown at the KCH, KHP, Pan London levels.

**a) KCH**

There is an appetite to extend the concept into Cardiac Surgery in particular and a new research project in Liver (NETS) will use value based reporting as one its key measures – and the data expert from the project will supervise this element of the work of a new dedicated data resource for the project.

The strategy team will be informed by the value proposition and the lessons learned from the project to evaluate various strategic options as part of the development of a new 5-year strategy. We shall seek to identify specific work in the radical CIP and Transformation programmes where appreciation and understanding of value has the greatest potential to ratchet-up impact and results.

The IMPARTS team will continue their work and use the experience of this project to spread further across specialties at KCH – using the project and people management skills learned to augment their impact.

The finance team will continue to use the approach to engagement of clinicians as they roll out and refine the costing tools that are essential to better control and use of our finances in these difficult times.

**b) KHP**

One of the consultants at Guy's and St Thomas's, who has been extremely interested in the presentations to the KHP Value Committee, is keen to adopt the methodology in support of service improvement in the falls service. He is also a member of SLIC and there is potential to continue dialogue and potential for co-working here too.

The influence of the project on KHP thinking is also noteworthy. There is potential to link the work on KHP outcome books with the value dashboards from the project as the next development of that work and to impinge on the Value Strategy that is mooted – especially reaching out to Commissioners and involving them in this work.

The South London and Maudsley are also starting an internal and well-resourced value project and we shall seek to be involved – especially as our work has influenced and impressed the researchers from SLAM who have acted as external evaluators of our work and who are adapting some of the ways they collect and analyse some of their data.

**c) Pan-London**

We shall continue to be active partners of the Pan London forum and share some of the

papers being produced by our teams. It is possible that we shall seek to find a way to get word of our work directly to Michael Porter. It will be interesting to see what he has to say.

**d) Awards and conferences**

*i.* Our biggest external recognition came in September 2014, when we received the Health Service Journal (HSJ) Value In Health Care award, in the category of Value and Improvement in Financial Services. The feedback from the judges strikes a chord with the core of the shared purpose programme: *"Judges said KHP had united clinicians and non-clinical staff with a joint vision"* The full HSJ article can be found via the link http://www.hsj.co.uk/resource-centre/supplements/value-in-healthcare-awards-value-and-improvement-in-financial-services/5074914.article#.VMd2Y7CsX_M and Appendix 1.4.

ii. The Trust's Chief Executive, Tim Smart, was present at the award ceremony and the project was a highlight in his Chief Executive's Brief in October 2014 (Appendix 1.4) and the King's Health Partners Bulletin, which is sent out across the partner organisations – Guy's and St Thomas's NHS Foundation Trust, The South London and Maudsley NHS Foundation Trust and King's College London.

iii. In June 2014, we presented a poster at the Health Services Research Network Symposium 2014 at the HSRN Nottingham Conference Centre. (Appendix 1.4) The link below gives an overview of the symposium. http://www.hsrlive.org/profiles/blogs/hsrn-symposium-2014

iv. Presentation at the NHS Finance conference (28th September 2015). A link to the programme is here

Our clinical teams have also been externalising their learning from this project.

v. The nurses from the Hepatitis team have had an abstract accepted for a poster presentation at the King's Health Partners Nursing and Midwifery Conference 2015. The focus is on how nurses and midwives, can provide joined-up and integrated care with other healthcare professionals. http://www.kcl.ac.uk/nursing/newsevents/events/articles/2014/Kings-Health-Partners-Nursing-and-Midwifery-Conference-2015.aspx

vi. The Endocarditis team have submitted a paper to the 3rd national Developing Cardiac Services conference (Manchester, 12th November 2015) which focuses on management, clinical and professional issues in cardiac care and rehabilitation.

vii. KHP shining light – recognition of changes in nursing practices within KHP that have made a significant difference to the quality of care provided (Awarded April 2015)

viii. The Endocarditis team also submitted an abstract to the European Society of Cardiology which is currently being reviewed (Appendix 1.4)

ix. Invitation to produce a case study for the NHS future focused finance (http://www.futurefocusedfinance.nhs.uk/) on our work integrating finance and clinical teams.

**e) Presentations at notable meetings / gatherings**

i. Value Programme Board, King's Health Partners

One of the core themes underpinning the continued development of our local Academic Health Sciences Centre is to develop the value of healthcare. This is led by Professor John Moxham (who was part of the KCH team that bid to the Health Foundation). He chairs the King's Health Partners Value Programme Board and we have regularly presented our work to this group and steadily built interest. Our project has become regarded as an important dimension of KHP's development of this concept as part of its core mission.

ii. Southwark and Lambeth Integrated Care (SLIC)

After they showed real interest we were invited to present our work and methodology to the Southwark and Lambeth Integrated Care (SLIC) team of Change Agents. There is now interest in collaborating and further testing the application of Value Based Health Care within their Older People's programme. (Appendix 4).

iii. Pan-London Value Meeting

We have actively contributed over the last two years in the Pan-London Value meetings held quarterly. This includes colleagues from within KHP and members from Imperial Health Partners and University College London Partners. This forum's aim is to share experiences of local value based health care implementations. We have regularly presented to this group, (Example agenda in Appendix 1.4). The joint chair has said, *"This project shows the way forward and the possibilities for the development of operational impact of the value proposition"* and a participant commented *"each time I hear about the project, it just gets better and better"*.

iv. The Grand Round, Kings College Hospital

KCH has a regular Grand Round. It is the main forum in which significant topics of clinical significance and best practice are presented to an expert assembly of peers, both clinical and non-clinical. Both the Hepatitis and Endocarditis clinical workstream leads have presented their work on the Value Based Health Care project in this forum.

The Hepatitis lead reported that, after his presentation at the Grand Round, the Professor of Cardiology personally approached him to commend the work. The neuroendocrine tumour team were actively interested in how value might be applied to their service.

v. Patient Outcomes Committee

We have a regular agenda item to report progress of the project to this committee (held every two months) as the governance channel for the value based health care project. The most recent record of this is shown in appendix 1.4. This meeting is chaired by the Executive Medical Director.

# Appendix 1: Supporting evidence

Please append any further information and data that you see as evidence supporting the findings of your end of implementation report. For example, this could include any materials created as part of your work.

Additional resources help the Health Foundation to really understand your approach and to promote it to the wider world, for example, government, patient organisations and professional bodies. Information could include:

- Patient information leaflets
- Copies of presentations – internal and external
- Reports, articles, blogs and posters
- Training materials – toolkit, accelerated process
- Press cuttings
- Board papers
- Marketing materials
- Data methods, containing process explanation, dashboards, maps and results to be written, starting point will be the existing data linkage document that explains our data methodology

# Appendix 2: Local evaluation

Please provide any available information on your local evaluation, such as an interim or final report, as available.