Surgeon Simon Kenny (second right) with operating department practitioners

Catching the clinical eye

Improving quality will often reduce costs and Alder Hey's new way of presenting cost data to clinicians aims to identify these win-wins. Steve Brown reports

Alder Hey Children's NHS Foundation Trust has taken the potentially dry subject of healthcare costing and made it about patients. This has helped to deliver benefits for patients, but in the process they have already realised recurrent financial benefits of more than £1m.

The trust's work on costing was recognised at the end of last year, when it won the HFMA Costing Award for 2015. This work has built on good cost data and a philosophy of continuous improvement. But the real key has been to drive clinical engagement by focusing on quality and service improvement.

The trust has prioritised costing for several years. An early adopter of patient-level information and costing systems (PLICS) with its Healthcost costing system, the trust has taken costing improvement seriously. In 2013, a self-assessment using the HFMA's materiality and quality scoring (MAQS) system gave its costing processes a silver rating – in the top five highest scores in England. Running the same assessment a year later, on the 2013/14 data, turned silver into gold and gave the trust the country's second highest MAQS score.

Further improvements are ongoing. For example, the trust has targeted the use of acuity measures on wards to help inform the allocation of nursing costs to individual patients and move away from simplistic time-on-ward approaches. The work involved significant nurse engagement – as nurses input the relevant data – and simple changes to the patient administration system.

There have also been changes to improve allocation of costs in theatres, particularly around the allocation of downtime. And the trust wants to improve the allocation of its medical staff costs too.

But while the trust has put a lot of effort into improving costing and cost data, it has not waited for perfect data before starting to use it. Patient-level cost data has underpinned the trust's approach to service line reporting in recent years. Jason Dean, costing accountant at the trust, says 'getting the data out there' is key to the improvement of the data as the process is necessarily iterative.

However, although cost data was already being used, there was recognition more could be done to engage the clinical workforce with this data source. 'We were aware we were only seeing the tip of the iceberg in terms of how cost data could be used to improve services and performance,' says Mr Dean. 'There is no point producing wonderful information and then not using it for the benefit of the hospital and patients. We've had some good wins, but there is so much more that can be achieved.'

In October 2014, it launched a costing strategy – which it called its 'treasure map'. It identified several milestones for the past 18 months – all of which have been met – but its aim was: to listen to what clinicians wanted; provide easy-to-read, visually appealing reports; and identify opportunities to improve services and finances. Treasure hunt training sessions have even turned data analysis into a game, with attendees asked to find the total overhead for cardiac surgery or locate a patient's biggest deficit-making episode.

'The focus has been to get people using the data – talking to people so they understand better what the opportunities are and we understand what they need,' says Mr Dean.

Out have gone old-style spreadsheets providing massive amounts of detail and a 'helpful' smattering of clinician-baffling acronyms such as 'EBITDA'. In have come graphic-based interfaces and infographics that pull-out the service and cost improvement opportunities, without making clinicians go hunting for them. This comes in two forms. First is the main interactive interface with the service line reporting system, which now provides a simple summary of the overall trust performance, broken down into its five clinical business units – medical specialties;

Savings account: endocrine

Patient cost data was used to back up a business case for expansion of the endocrine service. The service was not meeting clinical standards or regional demand and was arguing for increased investment despite making a significant deficit.

The patient data revealed variation in the number of patients seen by different consultants and suggested nurse-led attendances were more cost-effective for appropriate cases.

The trust decided to train more nurses to take care of straightforward cases and the focus of attention also led to an increase in consultant contacts.

The service has seen a sustained reduction in cost per case – producing a total saving of £160,000. It is now in surplus, meeting both clinical standards and existing demand, and has been able to hire an extra consultant to meet the increasing demand.

integrated community services; neurosciences, musculoskeletal and specialist surgery; surgical, critical care, anaesthetics and cardiac; and clinical support. Separate tabs show the bottom line performance of each business unit, identifying deficits and surpluses by relevant specialties. For each specialty there are tabs by healthcare resource group and by clinician – and users can drill down to patient level.

The second approach to help clinicians understand the financial and service improvement opportunities uses infographics to show the cost of quality and performance issues, using benchmark data from other providers or previous year comparisons. Launched in the trust as 'value intelligence for patients' or VIP (see below), it uses a set of static infographics. In future, it will enable the user to drill into more detailed infographics on each subject and into patient-level data in most instances so users can track the causes of outlier performance.

It uses metrics, chosed by clinicians, that show the performance of key aspects of different services right alongside the total cost of that performance. The infographic might show a CBU's readmission performance alongside the cost of the readmissions. Or it might show the number and cost of hospital-acquired infections broken down by the service areas where the infections are occurring.

'The aim has been to tie this into the quality strategy not the cost improvement programme,' says Mr Dean. 'We want the focus on quality … and finance to be the follow-on.' It has proven a good starting point for clinical engagement.

VIP value

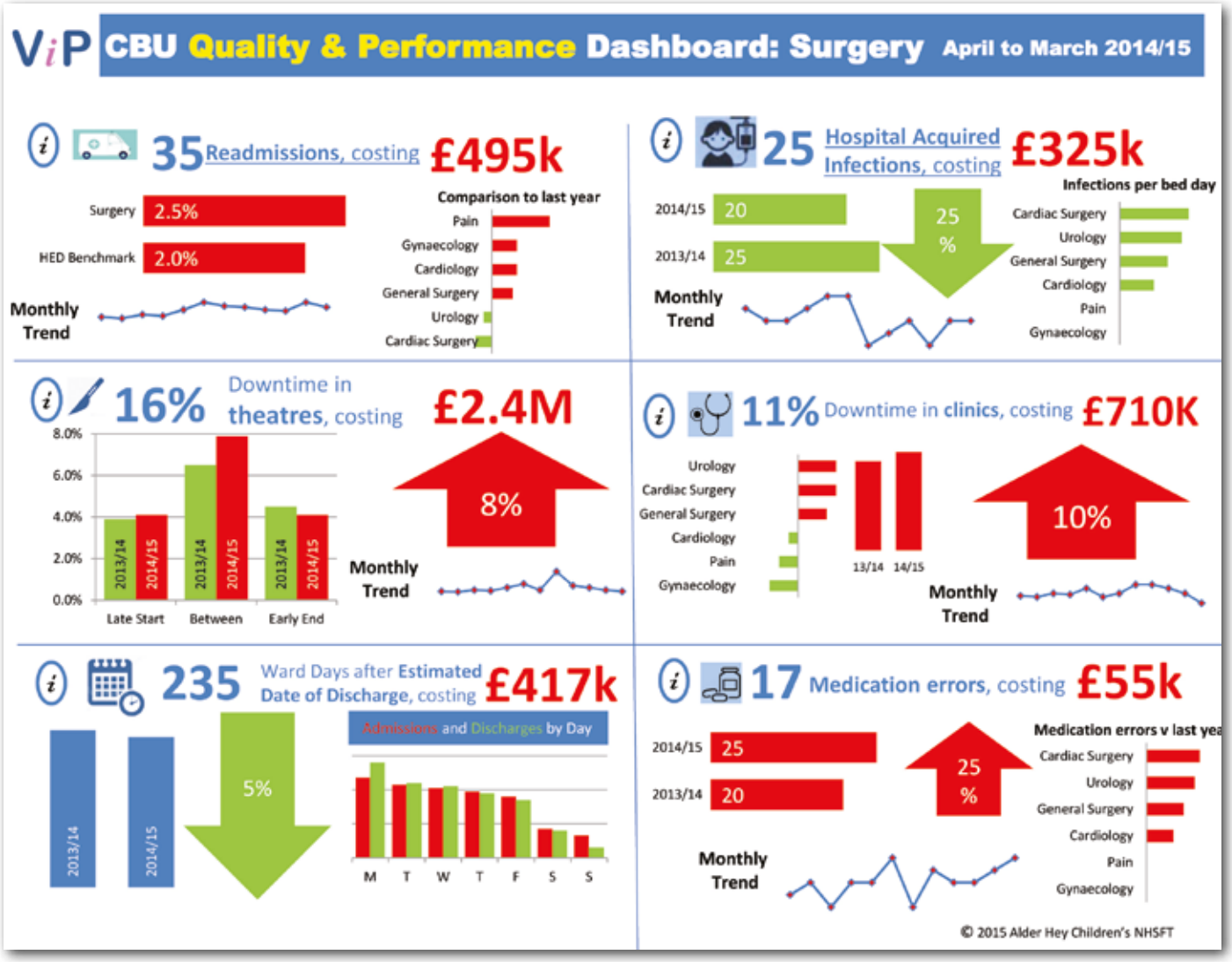
The trust is about to launch the VIP across all its specialties and clinical business units, although costing data has already shown its value in a number of pilots and deep dives.

Improvements and financial gains have been made in several areas. By using the PLICS system to drill down into the biggest loss-making patient in one business unit, the trust discovered the loss was mainly due to drug expenditure. Further investigation showed the drug was eligible for refund but was not being flagged, along with other drugs on the pharmacy system. Fixing this increased income by £90,000 and procedures have been put in place to ensure full coding occurs in future (see boxes for further examples).

The trust has used the data to identify opportunities to improve services and reduce costs and to identify previously unpaid activity. Mr Dean recognises that from a system-wide perspective, finding ways to take out real cost offers the greatest benefits. However, he says that correcting coding and classification processes also has system-wide benefits in understanding casemix and activity that go beyond any income corrections.

Perhaps the best example of how the detailed cost data has been used to inform service change is appendicectomies. Paediatric surgeon and clinical director Simon Kenny says: 'We identified the appendicectomy HRG (FZ20C [1]) as the biggest loss-making HRG in general paediatric surgery at Alder Hey.'

Outcomes – for example, measured in



[1] *FZ20c is the under-19 appendicectomy HRG under default tariff rollover arrangements – the currency changed for the 2015/16 enhanced tariff option*

terms of readmissions – were good in comparison with other providers, but costs looked higher, certainly compared with district general hospitals.

The biggest gap was in length of stay, and analysis by consultants has shown clear variation, both in terms of how quickly different consultants get children into theatres and how long they stay in hospital.

Mr Kenny says looking at variation in costs by different consultants suggested there were potential savings of £220,000 if all moved to the performance of the seemingly most efficient. 'Some surgeons wanted to keep their patients in an extra day,' he says.

This is fine when appropriate, but there are benefits for patients in getting them home as soon as they are fit for discharge. Having the data has enabled clinicians to discuss the variation and eliminate it where it makes sense.

'[The work] has allowed us to focus on reducing delays in decision-making prior to surgery and to tackle variation in different surgeons' approaches where they haven't followed the pathway,' says Mr Kenny.

Another cause of the apparently higher costs was Alder Hey's earlier use of intravenous antibiotics for complex patients. This approach has been highly successful – and a key reason for the trust's low readmissions – but it does explain some of the longer lengths of stay. The trust is examining the potential to deliver the drugs via an outpatient parenteral antibiotic therapy (OPAT) service.

Deputy finance director Claire Liddy says the trust has attempted to provide its financial data in the context of the patient journey. 'Before, when we were only talking in terms of EBITDA and profit and loss, it didn't inspire clinicians or hit the right notes.'

The response to the new visual approach has been very positive. 'Clinicians haven't suddenly decided it would be a good idea to reduce infections, for example,' she says. 'We had good data about harm and readmissions and everyone wanted to minimise these events.

'But it was not until we ran this through the costs system that we really knew and could see the true cost of not achieving these quality aspects.

'It gives us a shared purpose. Not only can we see where we want to raise quality, but we can see the financial benefits of doing so. We can unite around a win-win. Clinicians can also see how this supports our long-term financial sustainability.'

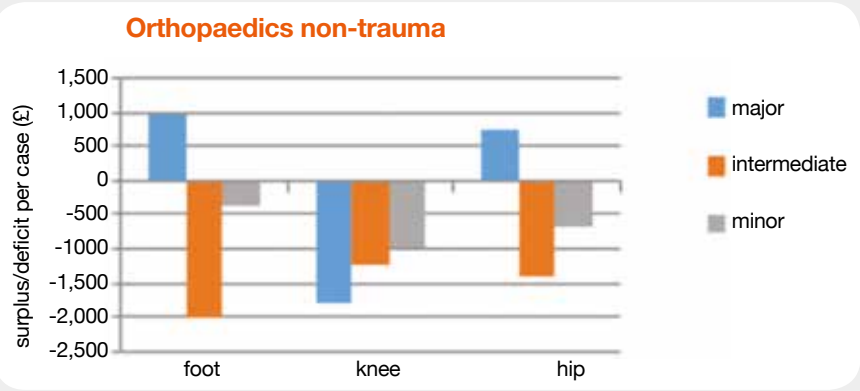
The use of costing data has already delivered service and financial benefits for Alder Hey. But the real hope with the new approach is that clinicians, services and business units will be able – and keen – to drive some of these changes themselves using the costing system as a support tool.

'We're a relatively small trust,' says Mrs Liddy. 'The senior leadership team can't know the intricacies of every service, so we have to inspire individual consultants to be leaders. Our VIP system will be the platform to take this forward.'

Savings account: orthopaedics

Income per case for orthopaedics work was behind plan. Drilling down into the detailed cost data showed that, for feet and hips work, the trust was counterintuitively making money on major, complex cases and losing on intermediate work. It became clear this was the result of undercoding, having lost a specialist orthopaedic coder.

Collaboration between surgeons and the coding team has clarified what coders need to see to code correctly and what surgeons need to provide, underpinned with a proforma. This identified £58,000 of extra income in the first three months.



Savings account: neurology

Drilling down into the data behind the neurology service – which was making a 21% deficit – highlighted a lot of therapy work being done unpaid post-discharge. Further analysis revealed 51% of the loss was from just 10 patients – each with a length of stay of more than 55 days. The patients were typically receiving intensive therapy that was not covered by the excess bed days rate.

Looking across the whole trust, the data showed just 123 patients accounted for 26% of bed days, so the trust decided to take a detailed look at rehabilitation. 'This was a staggering statistic and these patients were spread across different wards and not necessarily cared for on a consistent basis,' says costing accountant Jason Dean. 'In the acute world, hospitals might have neurology rehab wards, but this model hasn't developed in paediatrics.'

This led the trust to develop a specialised rehabilitation team working from a dedicated ward in its recently opened hospital. It means patients in the rehab stage receive the right attention and care earlier – typically intensive support from occupational, physio and speech therapists.

The aim is also to introduce a second step in the rehab process, similar to the adult pathway, where patients and their families are coached in preparation for going home. Practitioners work with the family and patient to develop a joint plan for post-discharge care, with willing parents empowered to provide as much care as possible. There are clear benefits for the child and family and typically a reduced length of stay, which reduces cost.

Alder Hey is in talks with commissioners about financial support to cover the costs of the work, with a proposal for rehab to form part of the Cheshire and Mersey Women's and Children's vanguard work.

The trust believes the changes have the potential to release up to 6,000 bed days for acute tertiary patients, though the main benefits should be felt at a much wider scale, massively reducing lifelong health and education costs.

Mr Dean cites a recent case of a child able to enter mainstream schooling as a result of the more focused, intensive therapy.

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