



EVO

Engagement Value Outcome

Case studies

Great Western Hospitals NHS
Foundation Trust

March 2020

Cardiology

Gynaecology

Trauma and Orthopaedics

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Foreword

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In today's NHS, organisations can only deliver effective patient care within available resources by creating an environment where working relationships between clinicians and finance teams are thriving. Clinicians are responsible ultimately for the way in which services are delivered and for committing resources. They can only do this effectively with input from finance colleagues. For instance, through sharing cost and patient outcomes data for better informed decision making.

”

- Department of Health and Social Care, Effective clinical and financial engagement: a best practice guide for the NHS, 2013

This quote from the Department of Health and Social Care emphasises the importance of building collaborative relationships between finance and clinical teams to ensure that value is at the centre of decision-making.

Value in healthcare – maximising the outcomes which matter to people at the lowest possible cost – is increasingly seen as a key lever for supporting the delivery of high-quality sustainable healthcare.

The roll-out of patient-level costing (PLICS) across the NHS means that services have an increasingly rich source of information to help them understand their patients and services, however awareness of this data outside the costing team is not widespread.

The HFMA's Healthcare Costing for Value Institute and Future-Focused Finance have worked together to develop the Engagement Value Outcome (EVO) framework. EVO promotes collaborative working between clinical and finance teams and their collective understanding of PLICS, providing the NHS with a framework to ensure resources are used in the most effective way possible to provide high-quality care to patients.

During the second half of 2019 we piloted the EVO framework with four trusts, covering acute, mental health and community services.

This report describes the experience of those involved in EVO at Great Western NHS Foundation Trust who chose to look at Cardiology, Gynaecology, and Trauma and Orthopaedics.



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What is EVO?

EVO facilitates the **engagement** of multidisciplinary teams in the understanding and use of patient-level information and costs, and its relationship to **value** in healthcare. The ultimate purpose being to achieve the best **outcome** for the patient within the resources available.

A trained facilitator works with a core group of individuals at specialty level over the course of a few months. The aim is to improve their understanding of PLICS data, so that they start using it on a regular basis to support improvements in the efficiency and effectiveness of how patient care is delivered. EVO can be delivered at any NHS trust that has implemented PLICS in any sector.

“EVO helps clinical teams identify how they can use their resources in the most effective way possible to provide high-quality care to their patients”

Patient-level information and costing systems (PLICS)

The NHS has increasingly detailed information – on both activities and costs – about how its resources are used at patient level.

All acute trusts are required to calculate their costs at patient level and over the next couple of years the same will be true for mental health, community and ambulance trusts. Reference costs, which are the average costs of a particular treatment, are gradually being replaced by PLICS.

Combined with other data sources, PLICS provides clinical teams with a rich source of information to help them understand their patients and services. Linking patient-level costs with outcomes allows the NHS to promote value for the patient, ensuring that resources are used in the most effective way possible to provide high-quality care.

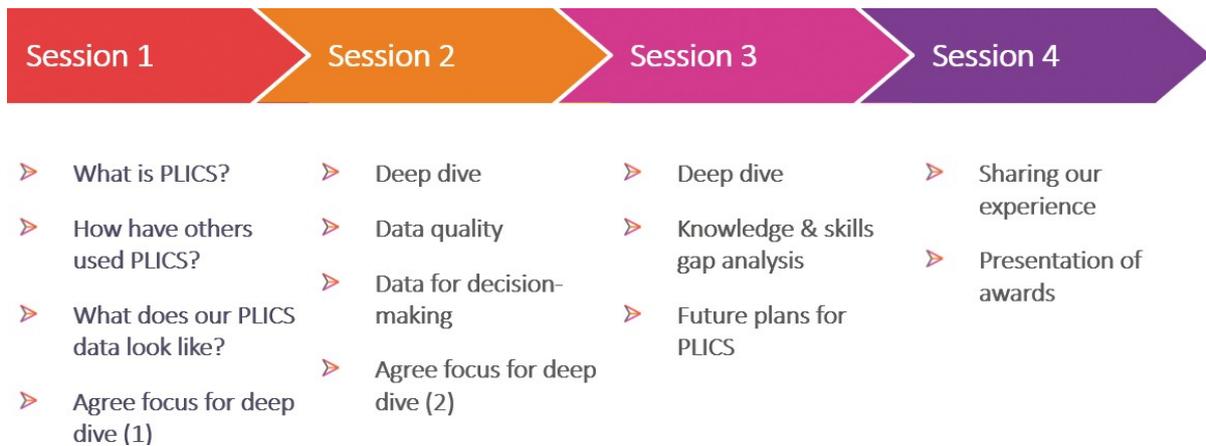
“PLICS provides clinical teams with a rich source of information to understand their patients and services”

EVO in practice

Trusts that have implemented PLICS often struggle to find the time, resource or direction to begin using the data collaboratively. Taking part in EVO provided the four pilot trusts with the support they needed.

Each pilot trust identified three specialties or clinical services which would benefit from the EVO experience. Appendix A provides more information about the trusts and their chosen services.

Each team met for three two-hour sessions over a period of three months. The final fourth session provided the opportunity to share learning across the trust. Sessions were delivered by trained facilitators using a mixture of video case studies, deep dives into local PLICS data and group discussions.

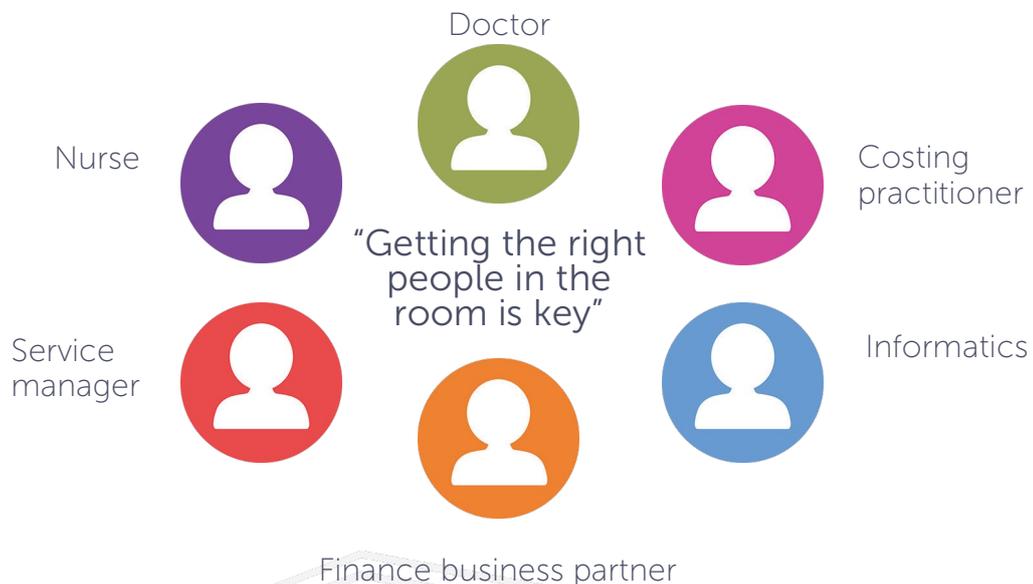


Who was involved?

Key to the success of EVO were the two EVO sponsors at director level:

- clinical champion
- finance champion

A multi-disciplinary team made up of clinicians, operational managers, finance and informatics staff attended all the EVO sessions for a particular specialty or clinical service.



Trust summary

Great Western Hospitals NHS Foundation Trust (the Trust) implemented PLICS in 2016, and since then has been publishing quarterly service line reports (SLR), based on PLICS data, to divisional teams. The executive team is keen for SLR and PLICS to be actively used and challenged by operational management and clinicians, so that it has an impact on decision making and the quality of the data.

The Trust applied to become an EVO pilot site, because it was finding it hard to make the step change from SLR and PLICS being 'pushed' by the finance team to being owned by the services.

'We are trying new tactics such as deep dives on one specialty per division, and having it on quarterly divisional performance agendas, but it still seems slow going. The expectation is that EVO will bring structured engagement and expert facilitation to bridge the gap so that clinicians and managers become the real drivers.'

The case studies in this report provide a flavour of some of the conversations the multi-disciplinary teams had within their EVO sessions as they explored their PLICS data. These conversations varied depending on the maturity and depth of the data. EVO was not about completing detailed improvement projects, but rather about providing teams with some facilitated time to start thinking about how PLICS data might help them to better understand their patients and services.

Impact of being involved in EVO

The presentation of PLICS data to clinical services for the first time opened their eyes to how the data might support them. Service managers and clinicians started to realise that the more granular patient-level data allowed them to understand variation in their services, and could support them to make more informed decisions, which the SLR reports could not do.

'In our regular meetings to discuss service issues with finance, clinical and nursing representation, we do not always have the information we need to demonstrate that decisions represent value for money, and we can't show that that money is being used wisely to make value-based decisions.'

The move towards more integrated working means that payment systems are likely to change, but there is still a strong need for clinical services to have a good understanding of their activity and costs. The EVO groups realised the potential for using PLICS data to review the consistency of patient pathways, and support conversations about pathway redesign.

EVO achievements

- ✓ Clinical services have a better understanding of how PLICS data can support service improvement
- ✓ Working relationships between clinicians and finance strengthened
- ✓ Opportunities for improving the breadth and quality of PLICS data were highlighted
- ✓ Improvement opportunities for the efficiency and effectiveness of patient care were identified

Key learning points from experience

A multidisciplinary approach to improving data quality

Using data and having conversations about data is known to drive improvements in the quality of data.

Most of the people involved in EVO had never seen their PLICS data before, and therefore unsurprisingly there was considerable focus on the need to improve the accuracy of both non-financial and financial data. The visual presentation of information at patient level shone a light on inaccuracies and inconsistencies.

By working together, clinical services and finance were able to identify opportunities to improve the quality of clinical and financial data, which not only has an impact on finance data, but also the ability to benchmark clinical practice.

There was a perception in the Trust that some of the full coding needed for HRG 4+ was not always being captured and examples of this were found in the EVO deep dives into the data. Previous work to improve coding had identified that the engagement of the clinical teams was vital but the Trust found it hard to get this engagement due to competing clinical priorities. Working through the costing detail made the coding issues real for the clinical teams involved in the EVO pilot.

Making PLICS data accessible to clinical teams

Now that clinical teams have seen the potential with PLICS data, they are keen to continue to use it. The small size of the costing team, together with the lack of a user-friendly dashboard means that this is currently difficult.

The Trust has recognised that services need access to the PLICS data through a more flexible business intelligence layer bridging users to the detailed data underneath. This would allow users to see high level dashboards and yet still drill into the patient-level activity and cost data beneath it. The Trust is acquiring a new standard BI tool in 2020 and will then use this to design new PLICS dashboards with involvement from clinical teams.

In the meantime, work is well underway to develop an interim stop gap solution. The costing team are currently testing enhanced reporting functionality with their costing system supplier.

Sharing and scaling up the EVO approach with others

Each of the three specialties involved in EVO have been invited to attend the Trust SLR and costing assurance steering board meetings to give an update on what they found during EVO, how they approached their deep dives, the benefits and what other teams could gain from adopting a similar approach.

Going forward, each division will nominate a specialty, on a rotational basis, to undertake an EVO deep dive. The specialty will then attend the steering board meetings to make a short presentation on their findings.

Further information

For more information about Great Western's approach, contact Lucie Westwood - Lead Costing Development Accountant Lucie.westwood@nhs.net

Case Study one - Cardiology

Introduction

A multidisciplinary group attended the Cardiology EVO sessions, including clinicians, service managers and the finance business partner, as well as members of the costing and informatics team.

Prior to EVO, the Cardiology service had not been the focus of any deep dive into its PLICS data. The first session began with the costing manager leading an exploration of the Trust's service line report¹ (SLR) packs which provide financial information at the divisional and specialty level. The SLR pack for Cardiology showed the speciality makes a surplus before overheads are allocated, but this moves to a deficit once overheads are added to costs.

Cardiology is usually a profitable service at a district general hospital and the service managers reported they are frequently challenged as to the reasons why there is a deficit, but the routine SLR packs do not give them the information they need to understand the lack of profitability.

The SLR reports are prepared with content from PLICS, amalgamated to specialty level, but currently the Trust's specialty teams cannot drill down to the PLICS data without support from the costing team. EVO provided an opportunity for the clinical team to look at their PLICS data for the first time and start to understand why the service has a deficit.

Most of the work done by Cardiology is elective day cases, but the EVO group agreed that the deep dive on any chosen procedure or set of procedures should cover both elective and non-elective activity, to highlight differences in cost depending on the type of admission.

Topics explored

After an introduction to how PLICS works, the costing lead presented the group with a set of charts extracted from PLICS which illustrated:

- the Cardiology healthcare resource groups² (HRGs) which accounted for the majority of the total spend
- the surplus/deficit for those HRGs
- a comparison against national average costs for those HRGs.

Two of the charts are shown below.

Identifying loss making HRGs

Figure 1 illustrates which HRGs contribute the most to the service's deficit position. The visual presentation of the data makes it easy to see that the day cases (DC) for Arrhythmia or Conduction Disorders with cc score 0-3 make a substantial loss. Non-elective (NEL) inpatient treatment for heart failure also appears to generate significant losses, as does elective (EL) cases for standard cardiac catheterisation with cc score 2-3.

1 Service line reporting measures a trust's profitability by each of its service lines, rather than just at an aggregated level for the whole trust. Trusts are organised around a portfolio of services, each with their own distinct set of patients, medical conditions treated and clinical leaders. These are known as service lines.

2 Healthcare resource groups (HRG) are standard groupings of clinically similar treatments which use similar levels of healthcare resource.

Figure 1: HRGs that generate the highest loss

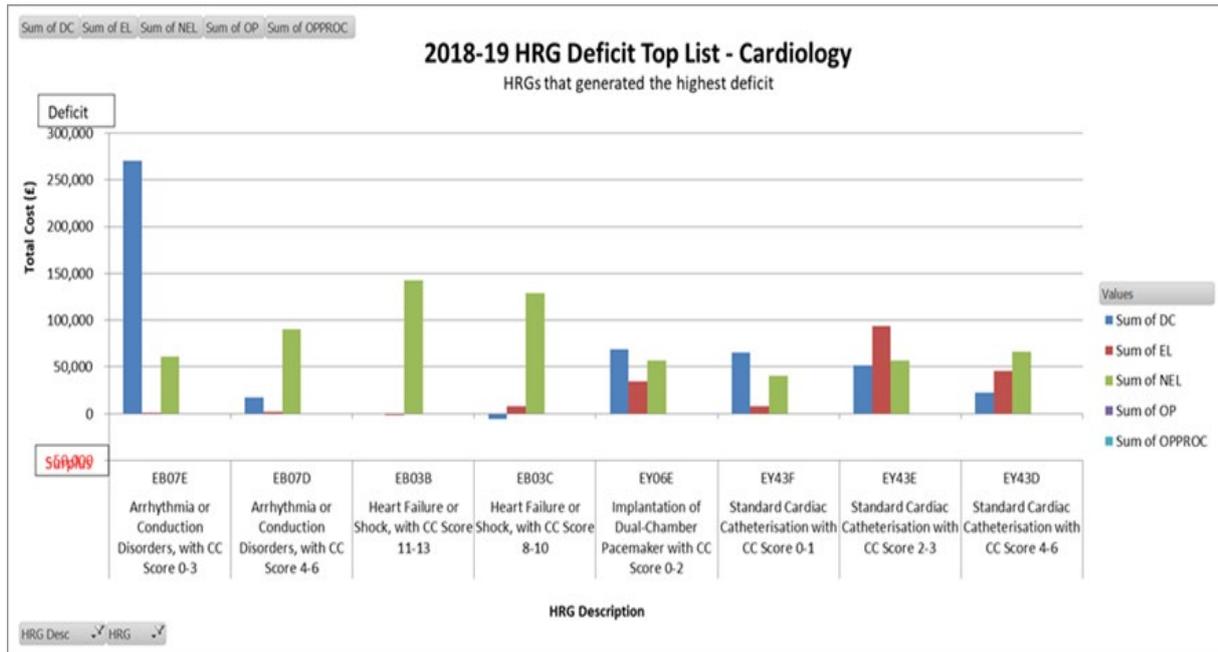
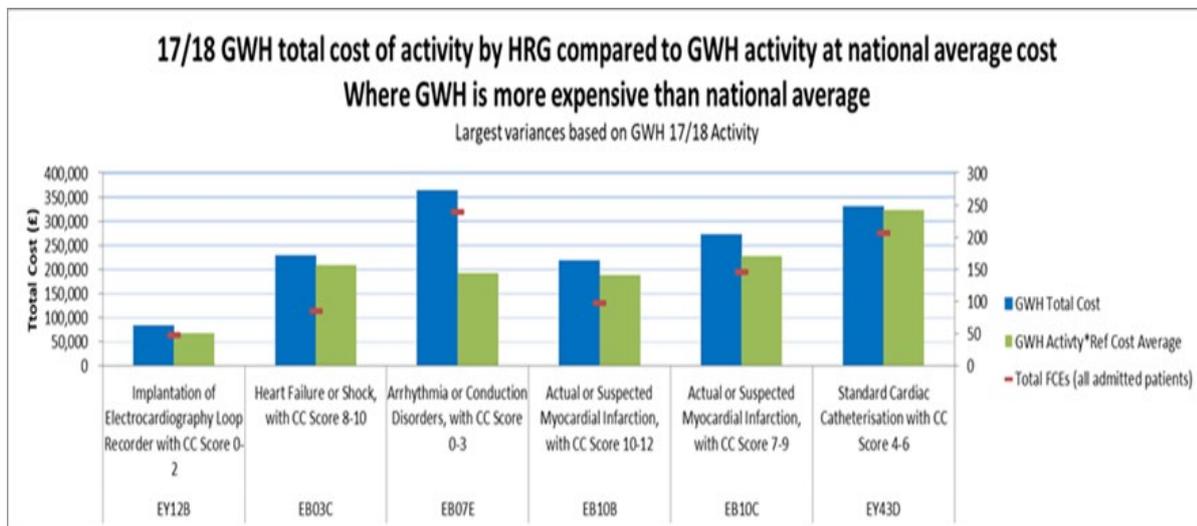


Figure 2 shows those HRGs that are more expensive than the national average. The blue column shows the Trust's actual costs for the particular HRG. The green column identifies what the costs would be if the Trust cost was at the national average. Arrhythmia or Conduction Disorders with cc score 0-3 compares poorly to the national average.

Figure 2: Benchmarking Trust HRG costs with the national average

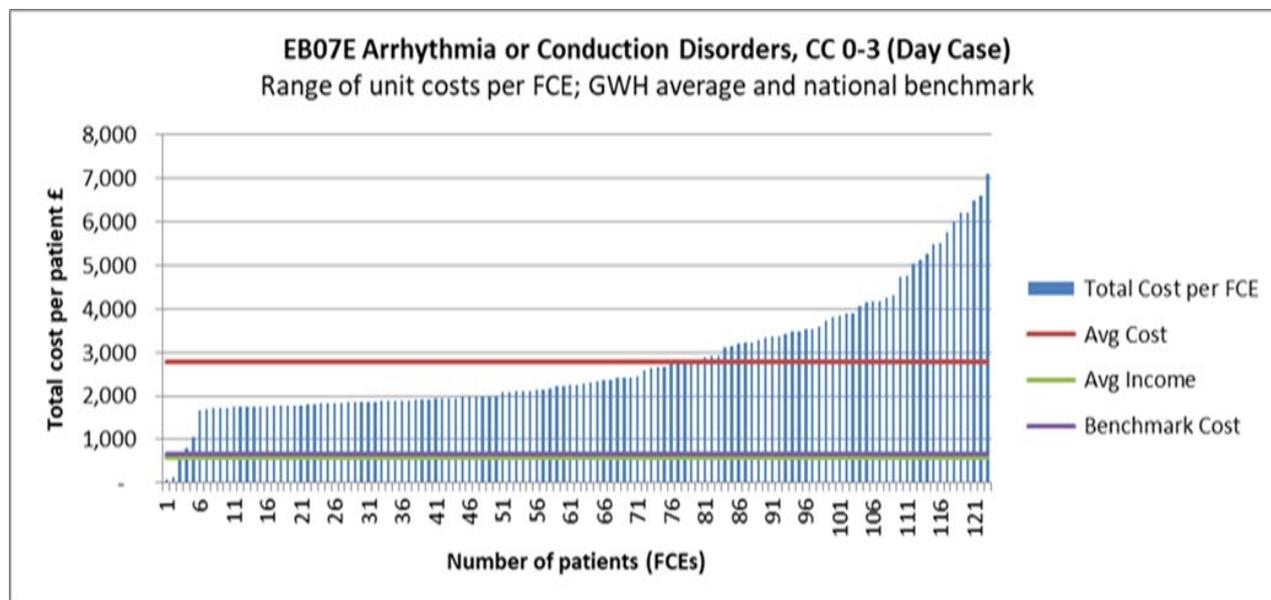


Arrhythmia or Conduction Disorders with cc score 0-3 account for 12% of the specialty's workload, with the majority of people admitted for the procedure to treat arrhythmia by cardioversion. The EVO group decided to choose this procedure for further investigation.

Investigating the clinical pathway for arrhythmia

The PLICS data showed that there was a significant variation in the costs for patients treated under this HRG for arrhythmia (figure 3).

Figure 3: Range of costs for patients with arrhythmia



Given that the clinical pathway for most patients with this procedure would usually be a day case admission, the majority of costs in figure 3 appeared to be unfeasibly high. Almost all were higher than both the income received by the Trust, and the average cost of the procedure nationally.

The Cardiology consultant advised that this variation in costs could not be due to clinical variability. On average, for every 50 patients, an estimated 49 would be expected to have the same pathway, timelines and procedure, with only the 50th needing an inpatient admission. An analysis of PLICS data following the EVO session showed this estimate was close to reality with only 5% of patients being admitted.

For the vast majority of patients, the pathway involves:

- a new outpatient appointment
- the cardioversion procedure as a day case
- follow up outpatient appointment
- potentially an echogram.

Analysis of the PLICS data confirmed that the variation in costs seen in the PLICS data was not due to the difference in the clinical presentation of patients or their treatment, but a result of the way the costs have been allocated to the procedure.

Understanding the reasons for variation

The costing lead provided an extract of patient-level data to show the costs allocated for the procedure for several patients and explained that HRGs are a useful way to present activity, but activity within a single HRG may cover a number of different procedures. The sample of patient data reviewed by the group included patients who had come through the traditional cardioversion pathway as a day case, as well as those who did not (figure 4).

Figure 4 : Examples of patient level costs for arrhythmia or conduction disorders with cc score 0-4

EB07E - Arrhythmia or Conduction Disorders, with CC Score 0-4						
	Day cases				Non elective	
Patient:	1	2	3	4	5	6
Income	(577)	(577)	(577)	(577)	(527)	(455)
Total Cost	1,858	3,895	7,094	1,885	1,122	1,770
(Surplus) / Deficit	1,281	3,318	6,517	1,307	595	1,316
Drugs costs	13	20	28	10	8	20
Medical Staffing	1,460	3,494	6,664	1,472	175	219
Specialist Nursing)	7	8	8	9	36	45
Theatres and Sterilisation	232	224	240	142	-	-
Ward Nursing/non pay	39	45	51	60	409	719
Clinical Negligence	4	5	6	4	19	24
Support costs incl diagnostics	53	92	167	125	171	212
Other operating income	(175)	(397)	(739)	(180)	(88)	(116)
Overheads	225	404	668	241	391	646
Total cost	1,858	3,894	7,094	1,883	1,121	1,770
LOS (hrs)	3.9	4.5	5.1	4.5	53.1	69.7
Theatre time (mins)	18	25	30	13	n/a	n/a
Recovery time (mins)	99	71	47	42	n/a	n/a

The patient-level data showed that the day case activity was on average £2.7k higher cost than non-elective admissions which was clearly incorrect. In addition, it was immediately obvious to the clinicians that some costs allocated to patients were very obviously wrong.

*'£6k costs - impossible! This is just three zaps from a defibrillator'
Service manager*

With access to data at an individual patient level, the group could now see that the greatest variation in costs was medical staffing. The Cardiology medical staff team works across three main areas: catheter lab, outpatients and inpatient wards. However, when the cost allocation rules were set up 'catheter lab' was referred to as 'theatre'. As a result, a significant proportion of Cardiology medical staff costs were incorrectly allocated to the small volume of cardiology procedures carried out in the Trust's main theatre rather than to activity carried out in the catheter lab. As the patient group undergoing the cardio-version procedures as day cases are treated through main theatre (but managed by a nurse specialist), these EB07E day case HRGs had non-existent high medical costs allocated to them. This underlines the importance of clarity in communication between clinical and non-clinical teams and the need for overview of the resultant cost detail by service teams.

The EVO group were successful in identifying and investigating data on a procedure that should:

- have minimal variation in the pathway experience by the majority of patients
- have a low level of theatre costs; and
- be profitable.

The Cardiology department has its own database for tracking activity through the Catheterisation Lab and for tracking devices at patient level. The costing team use this database for allocating the high cost non pay spend on cardiac devices to patients. This part of the EVO deep dive highlighted the importance of the service team understanding how the costing team could best use its standalone database for PLICS, and also the importance of the costing team understanding the information being collected in this database.

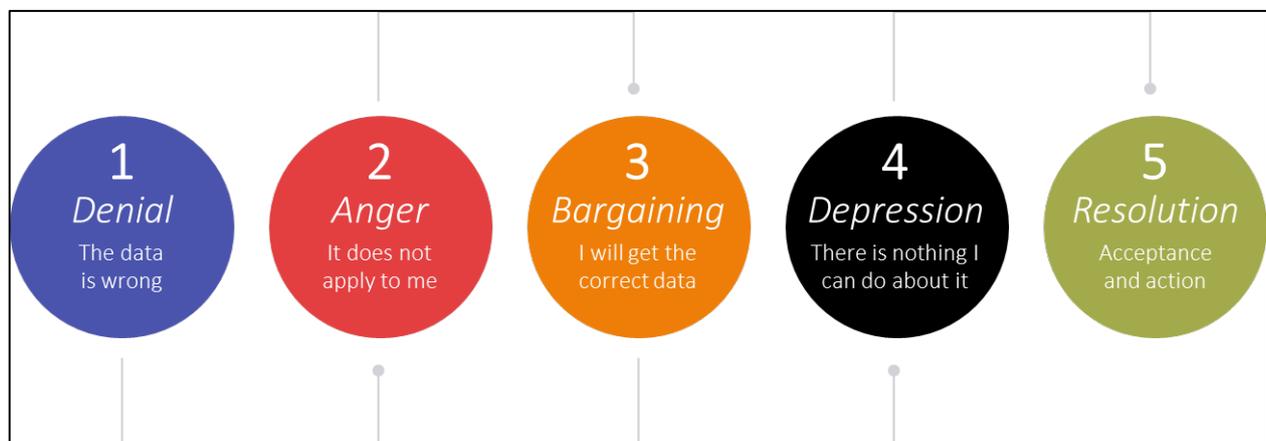
As a result of the EVO pilot, the costing team has now updated the cost allocation rules and created new data links to the Cardiology dataset to correct the allocation of medical staff to the right cost groups before those costs are then allocated to patient activity.

Improving and using finance and activity data

The investigation of the single procedure had clearly been beneficial for all members of the EVO group as it confirmed the expectation that where there was little clinical variation, financial variation should also be limited.

At the first EVO session the group were introduced to the five stages of 'data grief' (figure 5).

Figure 5 : The five stages of data grief



The group agreed that this was a useful model and they recognised the “Anger” element tends to arise when robust and intelligent data is needed urgently. The EVO process gave them time for constructive multidisciplinary conversations on the data, and the group noted that the availability of robust information was dependant on many factors including:

- up to date activity data with accurate clinical coding
- transparency of cost allocation processes
- finance staff who understand the operation of the clinical service
- triangulation of data sources
- a focus on the majority of the activity without being distracted by outliers.

The EVO group agreed that clinical service staff would not routinely have the resources to devote to this sort of deep dive on all procedures, and therefore need to have access to PLICS information that would enable them to identify those procedures that need further investigation. They would not have been able to see that this procedure for arrhythmia was so unexpectedly costly from the information that was routinely provided to them.

Conclusions and next steps

EVO provided the Cardiology service with the opportunity to look at patient-level data for the first time. This proved to be a valuable approach to gain an understanding of why the costs of one specific procedure were higher than national average costs and income. This approach is replicable across other procedures. The service now plans to review Cardiology pathways, both the elements provided within the service, as well as those supported by other departments.

EVO's multidisciplinary approach has been beneficial with costing and finance business colleagues learning much more about the specialty, and those working in the service gaining a better understanding of the cost data they see in SLR. By working together, they were able to identify opportunities to improve the quality of clinical and financial data.

It is important however to use the time of clinical colleagues in a focused way. Consultant advice was needed to identify that the variation identified was not due to clinical variation, but once the focus moved to technical costing investigations, this probably would have been better resolved between the service manager and finance representatives, freeing up medical time for patient-facing activities.

Following the formal conclusion of the EVO pilot, the costing team has been working closely with Cardiology service leads to conclude the deep dive. The intention is that the EVO group will be reconvened once this work is complete and the value of the PLICS data will be able to be tested more fully without the distraction of cost allocation inconsistencies.

Case Study two - Gynaecology

Introduction

The Head of Service for the Women's, Children's & Sexual Health Division was keen to get involved in the EVO pilot because other sources of information such as Model Hospital benchmarking had not identified any obvious improvement opportunities for gynaecology.

EVO therefore provided a structure through which she could spend time with the costing team, the clinical lead, matron and finance business partner to look in more detail at service data.

The first session was used to discuss information from the gynaecology SLR pack. The SLR provides the only source of intelligence derived from PLICS on a routine basis for services, but it is at an amalgamated level.

The costing lead explained how PLICS underpins the SLR and demonstrated this using a patient bill. This immediately triggered a clinical discussion, as the example chosen involved a newly implemented pathway introduced by the clinical lead which was showing a financial loss against tariff.

This was the first occasion that the clinicians had seen costs at patient level, and, given that the Head of Service had already expressed concerns about the accuracy of clinical coding, the group agreed to review a selection of procedures that appeared to be generating a deficit.

Topics explored

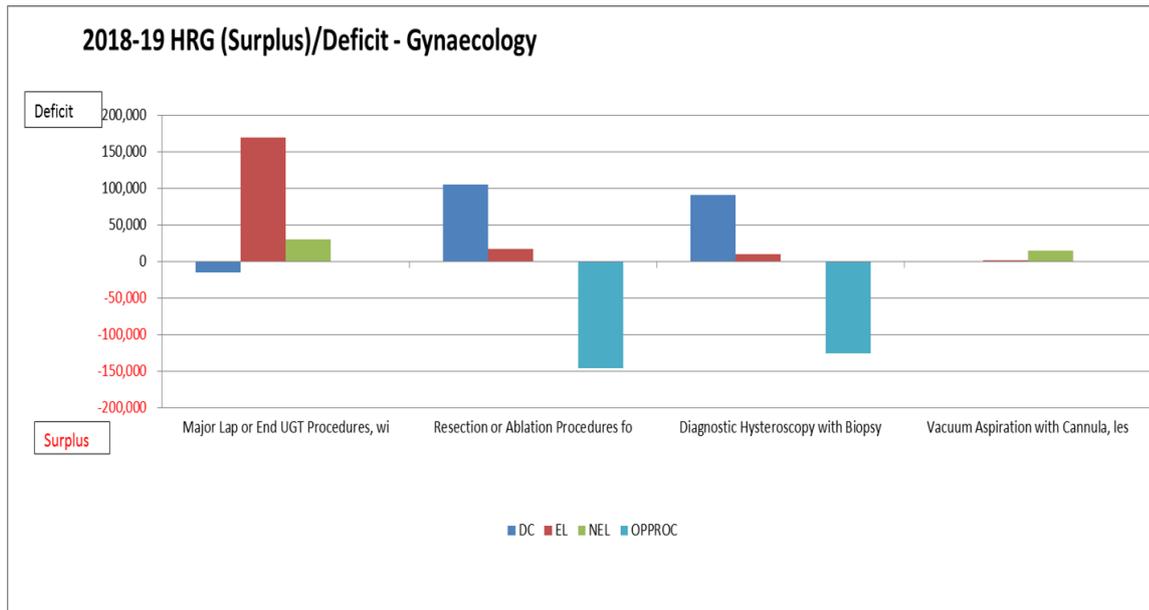
The group agreed to review a small handful of HRGs where there appeared to be an income deficit. They wanted to understand both the accuracy of the data presented and how the trust's costs performed against both tariff and national benchmark costs. The intention was to use patient level data to see how pathways resulted in a mis match between the costs incurred and the tariff income

The selected HRGs were:

- MA12Z Resection or Ablation Procedures for Intrauterine Lesions
- MA08B Major, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 0-1
- MA32Z Diagnostic Hysteroscopy with Biopsy
- MA19A Vacuum Aspiration with Cannula, less than 14 weeks gestation

The costing lead provided the group with a chart, illustrating the surplus or deficit for these four HRGs depending on whether the patient was admitted, attended as a day case or was seen in outpatients. (figure 6). For example, HRG MA08B Major, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 0-1 showed a significant deficit for elective procedures (EL), while HRG MA12Z Resection or Ablation Procedures for Intrauterine Lesions made a significant surplus as an outpatient procedure (OPPROC).

Figure 6: Surplus or deficit for chosen HRGs by point of delivery



The clinical members of the EVO group found this graphical method of presenting the data very powerful and it helped them to interpret the data more easily than looking at a spreadsheet of figures.

Comparing patient pathways

The group then reviewed a range of cost data for individual patients, an example of which is shown in figure 7. The costs for the first patient were very low, compared to the costs for the second patient who was undergoing the same procedure.

Figure 7: Comparison of two patients undergoing the same outpatient procedure

		MA12Z	MA12Z
		OPPROC	OPPROC
	Clinical Income	(856)	(856)
	Cost	13	597
	(Surplus) / Deficit	(843)	(260)
PF	Other Clinical Supplies and Servi	1	4
PF	Medical Staffing	2	184
PF	Drugs costs	0	0
PF	Outpatients/OP Nursing	4	53
		8	241
SC2	Divisional management costs	0	6
SC2	Pharmacy Services	0	1
SC2	Pathology	0	305
SC2	Clinical Negligence	1	9
		2	321
Op Inc	Other operating income	-	1
		-	56
SC	Admin, Finance, HR, IT, etc	3	36
SC	Estate Overheads	1	20
SC	Overheads	1	32
SC	Education and Training	0	4
		5	91

Following an investigation by the costing team as to why the costs were so low for the first patient, it became apparent that the clinic attended was not correctly linked to the staffing costs allocation.

This element of the deep dive underlined the importance of having a process of reviewing and refreshing the data used for the allocation of costs. For outpatients, the costing team has been steadily working on building up information to show the number and grade of staff involved in each clinic. This information is used in the costing system by way of allocation tables. However, when a new clinic is set up, it needs to be incorporated into the allocation table otherwise activity through the new clinic will not pick up all relevant costs.

Discussions also covered the importance of correct clinical coding to both understand patient pathways and support the contracting process. If a more user-friendly dashboard could be developed, it would be easier to engage clinicians who were interested in data and this would lead to improvements in the quality of information.

Identifying unwarranted variation in clinical practice

The EVO group also reviewed a number of patients with exceptionally high costs. What was the reason for them being outliers? Initial thoughts were that it was likely that it was due to inaccurate coding, but one example was found where the variation was due to clinical practice and highlighted clinical training needs.

Conclusion and next steps

Although the EVO sessions had focused on only a small number of procedures, the group's knowledge and understanding had developed significantly through the process. They had started by looking at surpluses and deficits for a group of procedures, had then learnt more about how costs are attributed at patient level and had then seen how PLICS had the potential to shine a spotlight on pathway inconsistencies.

Whilst the data they had seen had been for individual patients, they now recognised the potential for using that to review consistency of specific patient pathways and support conversations about pathway redesign. They also realised the importance of correct coding to ensure that the resulting patient level data is useful.

'Accuracy of clinical coding is so fundamental to the consistency of data'

The group agreed that the continued use of PLICS data was hampered because there were insufficient resources in the costing team to produce disaggregated data for the clinical teams to interrogate. They are also reliant on the costing team to pull together information from different sources to "paint a picture" of what is happening to the patient or the service.

As this EVO group completed their pilot, they agreed they did not want to lose momentum and identified the following actions:

- **Increase awareness of PLICS within the specialty team.** The clinical team plan to use an example patient episode to highlight to their medical and nursing teams through training sessions how the costs of care are built up. This will both increase awareness of PLICS and build an understanding of the importance of accurate non-financial data.
- **Refine the allocation of 'non-pay' items.** Work is already underway with the costing lead and the outpatient nurse manager. A list of the average cost of high cost consumables and which procedure they relate to is being developed. This will then be built into the costing system which will result in a more accurate reflection of the cost of patient care.
- **Review inconsistencies in coding.** The clinical team plan to carry out a small project to support the improvement of coding.

Case Study three – Trauma and Orthopaedics

Introduction

The Trust chose Trauma and Orthopaedics (T&O) to be one of the EVO pilot specialties because it is a large volume service, showing significant financial variances in the routine service line reports (SLR).

The EVO group had a broad membership, with a clinical lead, matron and service manager representing T&O, who were joined by costing, finance business manager and informatics colleagues.

In common with the other two pilots at the Trust, the group began by reviewing the SLR for the specialty, including the income and expenditure position by method of admission.. They were then introduced to PLICS by the costing lead, who showed the group the costs for one patient episode for a non-elective hip operation. Once again, it was the first time patient-level data had been seen by all group members.

The SLR showed that T&O non-elective activity was running at a significant loss, and this was discussed by the group, with some doubts expressed as to how accurate cost allocations were likely to be, particularly for implants which can be a significant proportion of the costs of procedures in this specialty. The group agreed to focus the remaining EVO sessions on non-elective activity.

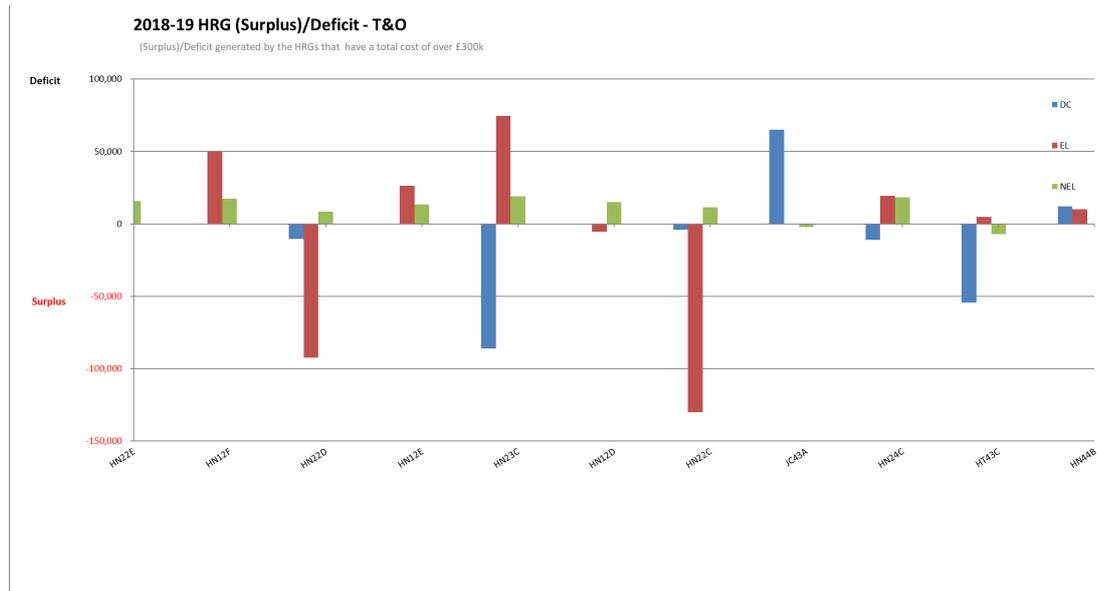
Topics explored

Having agreed to focus on non-elective activity, the group now needed to narrow their focus to a set of procedures.

Some group members had expressed concern that the time needed to look at the detail of one individual patient's spell of care would limit the breadth of work that could be covered within the EVO sessions, so it was agreed to focus on those procedures which represented the highest surpluses or deficits . It was hoped that this approach would enable them to identify issues that apply both across the specialty, and potentially more widely across the Trust, to ensure their work had maximum impact.

Figure 8 is an example of the type of chart produced for the group. This one shows the surplus/deficit for a number of HRGs split between elective, non-elective and day case admissions.

Figure 8: Surplus and deficits of HRGs for day case, elective and non-elective admissions



Two HRGs were chosen for further investigation:

- HN23C – Major Knee Procedures for Non-Trauma, 19 years and over
- HC27N – Degenerative Spinal Conditions without Interventions

Having identified these two key procedures, the costing team provided the group with information at patient level to see which costs were allocated to these episodes.

Improving the breadth of PLICS data

With the group members including both clinical and costing representatives, this facilitated discussions about the methodology for cost allocations, and whether there was better data that could be used.

The costing team was aware that the Trust was in the process of introducing a theatre stock management system. Using data from this system, it would be possible to more accurately allocate implant costs to patients. In the absence of this data, the costing team was using a combination of HRG and procedure codes to drive implant costs to activities. The clinical team reported that Hospital Sterilisation and Decontamination Unit data (HSDU) was now being collected at patient level, as was the cost of implants. The costing team were not aware the HSDU data was available and so this provided them with an additional source of patient data which could be used across all clinical services, not just T&O patients.

Comparing patients with the same HRG

For the third EVO session, the costing team provided cost data for a number of examples where patients had the same HRG, showing a breakdown of time spent in each area - ward, theatre and recovery area - and a comparison of those costs against the income the Trust received.

Figure 9 shows a comparison of the costs and income of two of those patients whose admission was coded to the same HRG, HN23C (Major knee procedures for non-trauma 19 years and over).

Figure 9 – Comparison of costs for two patients with same HRG

	Major knee procedures for Non-Trauma 19 years and over	
	NEL	NEL
	HN23C	HN23C
Ward stay (hrs)	7.5	587.3
Theatre time (mins)	98	202
Recovery time (mins)	98	97
Clinical income	-£3,824	-£3,824
Total Cost	£3,328	£17,630
Suplus (-) or deficit	-£496	£13,806
Costs:		
Other clinical supplies	£15	£108
Theatres and sterilisation	£2,133	£3,092
Protheses / Implants	£3	£209
Medical staffing	£250	£1,598
Ward costs	£74	£4,173
Drugs costs	£47	£289
Specialist nursing	£8	£659
Divisional management costs	£228	£1,817
Clinical negligence	£37	£1,937
Therapies	£12	£942
Diagnostics	£105	£352
Other operating income	-£139	-£1,198
Overhead costs	£555	£3,652
Total cost	£3,328	£17,630

These costs are driven by length of stay and / or theatre time. They then form the basis for the allocation of other costs such as clinical negligence

The first patient stayed in hospital for less than a day, while the second patient was in hospital for 25 days. Time in theatre for the first patient was considerable shorter than for the second patient. Both these factors explain the significant difference in costs between the two patients, but the income received was identical.

Further investigation identified that the clinical coding for the second patient was incorrect, which meant that the Trust did not receive the correct income for the more complex patient. Although the patient had undergone two surgical procedures during their inpatient stay, this had not been captured in the clinical coding.

Improving the accuracy of clinical coding

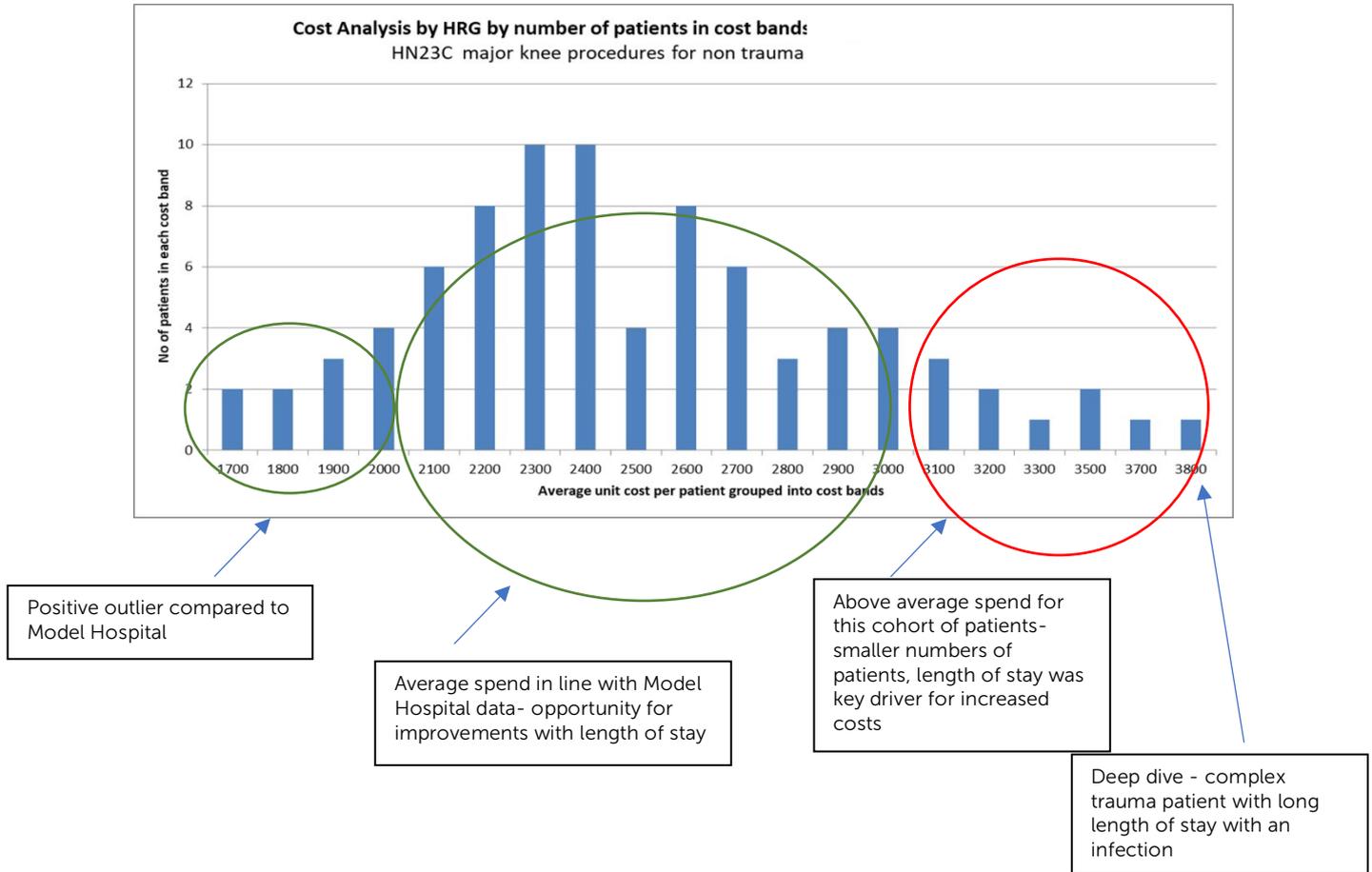
This finding chimed with the concerns that had already been expressed by T&O clinicians about the quality of coding. The group noted that it is important to not only code procedures correctly but also to ensure information is recorded on comorbidities as these can impact significantly on length of stay and may limit the success of changes made to T&O clinical pathways.

Optimising clinical pathways

The clinical members of the group asked the costing team to produce a graph to show the range of costs being incurred for a single HRG. They wanted to see if this might help identify whether individual high cost patients were an anomaly, or whether there were opportunities to optimise the clinical pathway to reduce costs for a cohort of patients.

Figure 10 shows the graph produced by the costing team and finance business partner. Patients categorised as HRG HN23C are grouped into cost bands, with comparisons to Model Hospital benchmarks added, and the cohort highlighted for whom there may be opportunities to reduce their length of stay.

Figure 10: HN23C – numbers of patients by cost band



Looking at the detail about the high cost patient at the right hand side of the chart in figure 10 sparked a further discussion with the group about income and expenditure.

A patient who has a fall will be admitted into T&O as a non-elective and then moved onto a medical ward for rehabilitation. The cost of the T&O episode would be material if theatre and implant costs form part of that episode. However, the patient's length of stay in T&O could be quite short, with a subsequent longer but comparatively low-cost episode on an elderly ward for rehabilitation.

The current practice in the Trust is that the income for the spell is allocated on the basis of the length of the episode in each specialty, and for this example would be disproportionately attributed to the medical episode. It is therefore inevitable that there will always be some T&O episodes which appear loss making.

The Trust, through its costing assurance steering board, is reviewing its approach to the apportionment of spell income to episodes.

The EVO group agreed that presenting PLICS by procedure was helpful, especially when this can be supported with a deep dive approach to better understand the circumstances affecting the outliers. The T&O service is now reviewing whether the length of stay for some patients can be reduced by increasing the level of physiotherapy interventions.

Conclusions and next steps

At the start of the EVO process, the clinical members of the group had not previously had exposure to patient-level data, but by the third session they recognised how helpful this could be in understanding more about the care they provide, both clinically and financially. PLICS data could improve their ability to make decisions on changes to pathways or to inform business cases, rather than trying to make these judgements using budget statement or SLR information.

The work carried out by the group had highlighted the impact of poor, or in some cases non-existent, coding for the procedures carried out on the patient, and it had become apparent how key accurate coding was to developing robust information.

The key requirements to progress coding improvements were identified as:

- ensure clinicians enter correct information for treatment given to patients especially for those with complications
- understand how the coders use the information to determine suitable codes that have an impact on how much income the Trust receives for treating patients
- clarify the involvement of clinical directors to influence improvements in coding.

The group had been concerned about the level of resources required to undertake deep dives, and with the EVO slots being time limited, would have liked to meet more frequently. This proved difficult because of diary commitments. However, it was encouraging that many of the findings from the group's work would have an impact across a wider set of Trust services.

Overall conclusion from pilot sites

By developing EVO, HFMA's Healthcare Costing for Value Institute and FFF set out to promote collaborative working between clinical and finance teams, and to unlock the power of PLICS by encouraging the use of the rich data set by clinical services.

EVO strengthened working relationships between clinical services, informatics and finance at all pilot sites. One participant described the EVO framework as a 'launch pad for trusts struggling with clinical and financial engagement.'

For many clinicians – doctors, nurses, allied health professionals – this was the first time they had seen PLICS data for their own patients. It was also the first time for some finance business partners.

Pilot sites demonstrated that the EVO approach can lead to important action, for example improving productivity and patient care, or building the case for new models of care and prevention programmes.

EVO bridges the gap between a theoretical model of value-based healthcare and one that is embedded in the day-to-day delivery of better care for patients. As one EVO participant said: 'If you do the right thing for the patient, your money will come right, and EVO has evidenced this beautifully.'

Embedding EVO

It is important that EVO is sustainable and can be used in its own right beyond the initial facilitated implementation. This is about equipping trusts with the tools to instigate positive change and incentivising them to use this framework at scale.

Pilot sites have been provided with online resources to support the roll-out of EVO. Specialties and services will have varying needs and will be looking for a variety of outcomes from EVO. The EVO Pilot Tools are designed to give teams flexibility to use them in whatever manner they feel is most appropriate.

EVO accreditation

By successfully completing EVO in three specialties/ services, the four pilot sites are the first trusts to be accredited as 'EVO Bronze' sites. If they roll out EVO further, they will have the opportunity to be accredited as EVO Silver sites.

Future plans

The [EVO website](#) EVO website will be regularly updated with new case studies and information about future plans.

If you are interested in receiving information on the upcoming beta version of EVO, please email richard.sawyer@hfma.org.uk to register your interest.

Appendix A EVO pilot sites

Organisation	Sector	Specialty/service
Gloucestershire Health and Care NHS Foundation Trust	Community	<ul style="list-style-type: none"> • Diabetes • Allied Health Professionals • Wound Care
Great Western Hospitals NHS Foundation Trust	Acute	<ul style="list-style-type: none"> • Cardiology • Gynaecology • Trauma and Orthopaedics
North Staffordshire Combined Healthcare NHS Trust	Mental Health	<ul style="list-style-type: none"> • Adult Community Mental Health Teams • Crisis Care • Memory Service
University Hospitals Birmingham NHS Foundation Trust	Acute	<ul style="list-style-type: none"> • Dermatology • Trauma and Orthopaedics • Vascular Surgery

Appendix B EVO Expert Panel

We are grateful to the expert panel who contributed to the development of EVO. The panel covered three sectors: acute, mental health and community services.

Name	Job title	Organisation
Dr Sanjay Agrawal	Consultant in Respiratory and Critical Care Medicine	University Hospitals of Leicester NHS Trust
Stuart Burney	Finance Business Partner and Head of Costing	South Tees Hospitals NHS FT
Dr Jane Carlile	Consultant Psychiatrist and Group Medical Director	Northumberland Tyne and Wear NHS FT
Sheelagh Carr	Head of Costing, Systems and Projects	Greater Manchester Mental Health NHS FT
Chris Chapman	Professor of Management Accounting	Bristol University
Dr Clara Day	Renal Consultant and Associate Medical Director for Finance	University Hospitals Birmingham NHS FT
Sarah Hall	Implementation Lead IAPT Service	Dorset HealthCare University NHS FT
Scott Hodgson	Head of Costing	Nottingham University Hospitals NHS Trust
Clare Jacklin	Costing Manager	Humber NHS FT
Dr Jean MacLeod	Consultant Physician in Medicine and Diabetes	North Tees and Hartlepool NHS FT
Mike McEnaney	Director of Finance	Oxford Health NHS FT
Matt Miles	Finance Business Partner	Lincolnshire Community Health Services NHS Trust
Andrew Monahan	Policy and Research Manager	HFMA
Mike Newton	Deputy Director of Finance	North Staffordshire Combined Healthcare NHS Trust
Duncan Orme	Deputy Director of Finance	Nottingham University Hospitals NHS Trust
Alex Packard	Commercial Finance Manager	Berkshire Healthcare NHS FT
Ros Preen	Director of Finance	Shropshire Community Health NHS Trust
Jenny Richards	Senior Planning and Costing Manager	Gloucestershire Health and Care NHS FT
Hayley Ringrose	Chief Financial Analyst	Stockport NHS FT
Ben Roberts	Senior Finance Business Partner	Leeds Teaching Hospitals NHS Trust
Sheila Stenson	Executive Director of Finance	Kent and Medway NHS and Social Care Partnership Trust
Ella Worsdale	Head of Information	Pennine Care NHS FT



Healthcare
Costing
for Value
Institute

About the Healthcare Costing for Value Institute

HFMA's Institute champions the importance of value-based healthcare for supporting the delivery of high-quality financially sustainable healthcare. Through its member network, it supports the NHS to improve costing and make the most of patient-level cost data to drive improvements in patient care and deliver efficiencies. By bringing together senior finance and clinicians to explore what value means, the Institute helps the NHS to turn the theory of value into practice and make value-based healthcare a reality.

About Future Focused Finance

Future-Focused Finance is a national programme designed to engage everyone in improving NHS Finance to support the delivery of quality services for patients. We want to bring finance staff at all levels of the profession together with the teams we work with in our own organisations and make sure that everyone has access to skills, knowledge, methods and opportunities to influence the decisions affecting our services. We believe by working together in this way we can harness our diverse and talented NHS workforce to produce high quality services and reduce waste in NHS spending.

About the HFMA

The Healthcare Financial Management Association (HFMA) is the professional body for finance staff working in healthcare. For 70 years it has provided independent support and guidance to its members and the wider healthcare community. It is a charitable organisation that promotes the highest professional standards and innovation in financial management and governance across the UK health economy through its local and national networks. The association analyses and responds to national policy and aims to exert influence in shaping the healthcare agenda. It also works with other organisations with shared aims in order to promote financial management and governance approaches that really are 'fit for purpose' and effective.

Published in partnership by the Healthcare Financial Management Association (HFMA) and Future-Focused Finance (FFF)

The creators of EVO are Becky Vine, Catherine Mitchell and Richard Sawyer.

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