PQIP

Perioperative Quality Improvement Programme

ANNUAL REPORT 2018-19

RCoA Royal College of Anaesthetists

NIAA National Institute of Academic Anaesthesia

HSRC Health Services Research Centre

The Health Foundation

UCL source surgical outcomes research centre

PQIP Perioperative Quality Improvement Programme

Contents

Credits

This report was prepared by the PQIP Project Team (see back cover for full list). It is dedicated to the memory of our friend and colleague David Gilhooly.

Design and layout by the Royal College of Anaesthetists.

Cover photography

Top left, top right and bottom left photos by JD Williamson (copyright). Bottom right photo by POM-POPS team, UCLH at Westmoreland Street. All photography used with consent.

PQIP Perioperative Quality Improvement Programme

Welcome to the second PQIP Annual Report — steady as she goes

Improving and growing

The 2018-19 PQIP report tells a great story of national improvements in the care and outcome of surgical patients. We have been able to look at data from almost 20,000 people undergoing operations which can have a significant impact on health and quality of life. PQIP's aim is to reduce the risk of complications after major surgery through ensuring that patients get the best possible care throughout their perioperative pathway. The mechanism for delivering these improvements is to measure, report, and support local teams to act on their own quality data.

Even though we are still very early in our collective improvement endeavours, there have been some notable successes: most importantly, we have seen a drop in major postoperative morbidity and length of hospital stay. We have also seen an improvement in a suite of processes aimed at returning patients to normal function as soon as possible after surgery: Drinking, Eating and Mobilising (together known as DrEaMing). But there are still some tricky problems — anaemia management, individualised risk assessment, diabetes optimisation and acute pain management are all proving to be hard nuts to crack.

Challenges and opportunities

We know that making improvement happen takes time, effort and personnel — and all of these can be hard to come by for busy clinical teams working hard to deliver patient care. Alongside the main PQIP study, we are doing some additional research where social scientists are working with local teams to understand the challenges and opportunities for using PQIP data effectively. They have found that teams have huge enthusiasm for trying to make improvement happen, but can lack time, resources or a supportive culture for delivering QI projects. Giving attention to PQIP goals can be difficult when we all have so many competing priorities.

So, this year we are launching a series of competitions aimed at promoting some local QI activity and spreading stories of good news and success. We are looking for improvement projects in the specific areas of diabetes detection and management, individualised risk assessment (including shared decision making), anaemia and pain management.

We are also looking to promote positive stories from hospitals who are really engaging with enhanced recovery, whatever that means to them locally. And finally, we want to hear success stories about communication and engagement — this is at the centre of our realigned priorities for the coming year. All of the hospitals who provide us with these examples of improvement successes will be showcased next year so we really look forward to hearing your stories.

Thank you

It just remains for us to say thank you to the hundreds of collaborators and thousands of patients who have contributed to PQIP in 124 NHS hospitals so far. We think this is working. Please keep going and thank you again for your hard work and support.

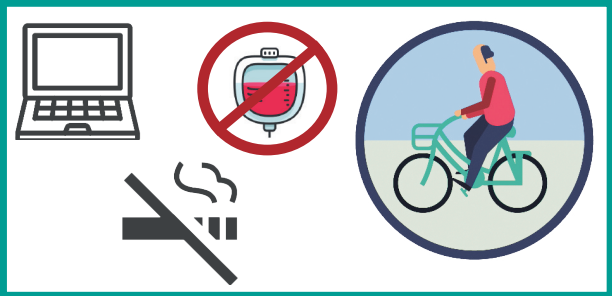
Ramani Moonesinghe
Chief Investigator, Perioperative Quality Improvement Programme
on behalf of the PQIP Project Team

Read our reports: www.pqip.org.uk
Follow us on Twitter: @PQIPNews
Join our team: pqip@rcoa.ac.uk

PQIP Perioperative Quality Improvement Programme

Top 5 National Improvement Priorities for 2019-20

1 Preoperative assessment

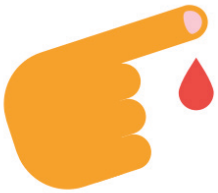


Individualised risk assessment

Anaemia detection & treatment

Lifestyle and comorbidity optimisation

2 Diabetes management



Measure HbA1C

Measure compliance against local pathway

Restore usual nutrition as soon as possible

3 Communication and multidisciplinary working

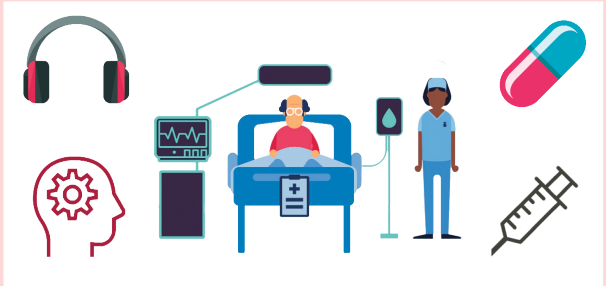
The whole MDT and patients can use PQIP to lead local improvement

Regular, multi-modal communication keeps PQIP in focus for the clinical team

Build discussion into clinical routines - team briefs, staff meetings, MDT meetings

Make your data work for you: use it to build business cases, support local reward systems etc.

4 Individualised pain management



Expectation setting and management

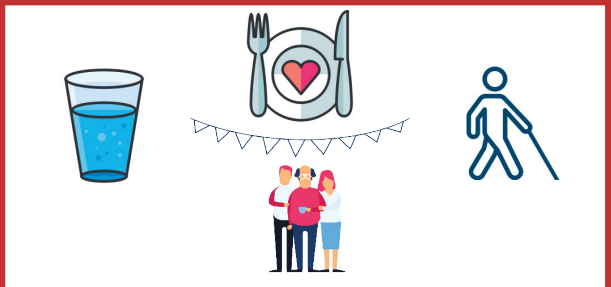
Multimodal analgesia

Local anaesthesia techniques

Distraction therapy

Regular, early post-op review by pain teams

5 Enhanced Recovery



Surgery school or other tailored preparation

Pre-op nutritional assessment, carbohydrate loading and minimising starvation

Drinking, Eating (or nutritional supplementation) & Mobilising within 24h

Minimise tubes, drains and 'institutionalisation'

PQIP sites and recruitment

On 6 August 2019, 19,912 patients had been recruited into the PQIP patient study, of whom 18,530 had locked records. This report analyses data on those 18,530 patients.

6,378 patients are categorised as 'Year 1' PQIP patients – these are patients with a locked record who had surgery before 28 February 2018. This is a slightly larger number than recorded in last year's PQIP report, as a result of a few hundred late locked records being added to the Year 1 cohort. 12,152 patients are categorised as Year 2 PQIP patients.

It is great news that 124 hospitals in England and Wales are now recruiting patients to PQIP, up from 71 in Year 1. We hope that our first sites in Northern Ireland and Scotland will join soon!

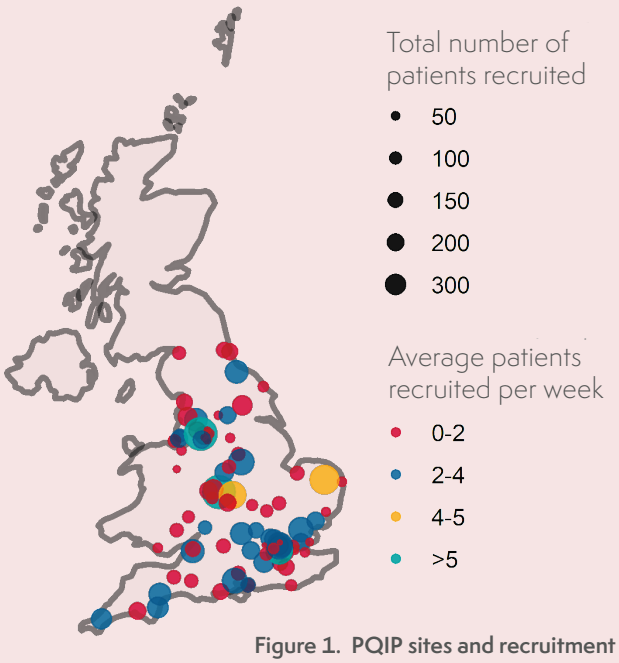


Figure 1. PQIP sites and recruitment

Quality Accounts

PQIP is now on the NHS England/Improvement (NHSE/I) Quality Accounts list, and the Getting It Right First Time Programme in perioperative care is also encouraging engagement with PQIP. We also remain a National Institute for Health Research (NIHR) portfolio adopted research study, which means that hospital Research & Development departments receive support for research staffing from their local Clinical Research Network (CRN) as a result of recruiting patients to PQIP.

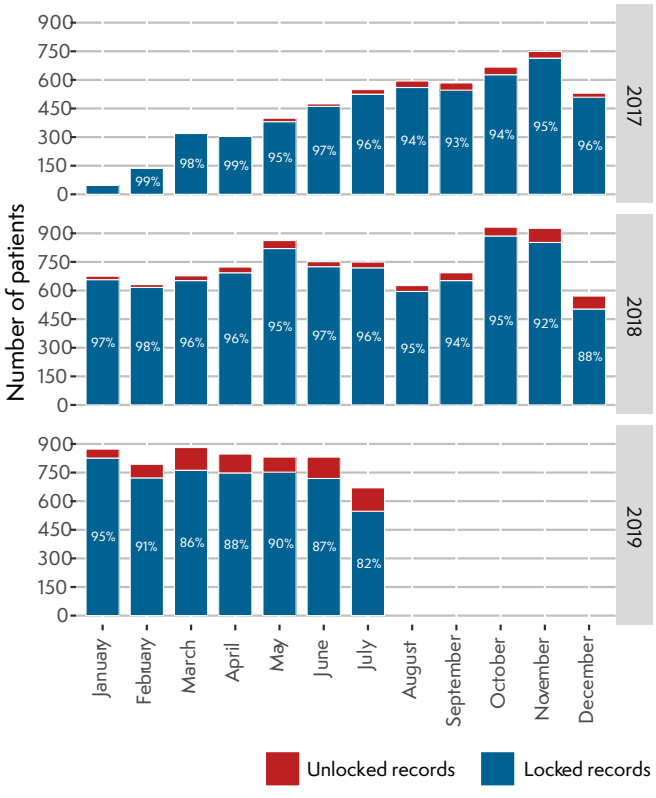
Local support

Despite all these incentives, on average, each hospital is recruiting fewer patients per week than in Year 1. We know that resources are limited and that PQIP teams are finding it difficult to secure help from their CRNs and R&D departments. We have made our concerns known to the NIHR and will continue to work with you to increase recruitment for patient benefit.

The Lister Hospital is our top recruiting site for 2019, with an average of almost 8 patients per week over the 12 weeks that they had been recruiting! Our other top recruiting sites are listed below, and it's great to see such diversity in geography, hospital size and type. Some of these very high recruiting hospitals have involved trainees in recruiting patients as well as nurses. Get in touch with them to find out their secrets!

Birmingham Heartlands, St Georges, Salford Royal, Norfolk and Norwich, University Hospital Coventry, St James University Hospital, Nottingham City Hospital, University Hospital Wales, St Thomas Hospital

Figure 2. Recruitment by date



What do PQIP patients look like?

Y2 PQIP patients recruited from our original specialties of urology, head and neck, upper and lower GI and thoracic surgery generally looked pretty similar to Y1 patients in terms of age, comorbidities, ASA grade, surgical magnitude and urgency. However, adding in complex orthopaedics, spinal, gynaecology and vascular surgery during Y2 has changed some aspects of the overall cohort profile, most notably that a smaller proportion have cancer.

	Year 1 (n= 6,378)	Year 2 (n= 12,152)
Age (median; IQR)	67 (57-73)	66 (55-73)
Sex (% female)	39	42
Body Mass Index (median; IQR)	27 (24-30)	27 (24-30)
Current smoker (%)	11	10.4
ASA grade (%)		
• 1	10.9	11.1
• 2	60.9	60.9
• 3	27	27
• 4 or 5	1.2	1.1
Surgical complexity (%)		
• Major	13.4	11.6
• X-Major	34.0	33.2
• Complex	52.6	55.1
Surgical urgency (%)		
• Elective	88.8	90.4
• Expedited	11.2	9.6
Cancer diagnosis within 5 years (%)		
• None	23.4	30.3
• Solid tumour, no metastasis	59.1	54.4
• Solid tumour with metastasis	17.5	15.2
• Leukaemia	0.3	0.2
• Lymphoma	0.5	0.4
Diabetes (%)		
• None	87.3	86.8
• Type 1	0.7	0.7
• Type 2 diet controlled	2.8	3.1
• Type 2 oral hypoglycemics	6.6	6.6
• Type 2 with insulin	2.6	2.8
NYHA Heart Failure Class (%)		
• 1	83.0	82.7
• 2	14.2	14.7
• 3	2.6	2.5
• 4	0.2	0.1
Other co-morbidities		
Respiratory history (%)	15.6	14.6
Acute respiratory infection within past month (%)	4	3.3
Abnormal ECG (%)	14.6	15.3
Cerebrovascular disease (%)	4.0	4.1
Dementia (%)	0.6	0.8
Liver disease (%)	1.3	1.1

Table 1. Patient demographics

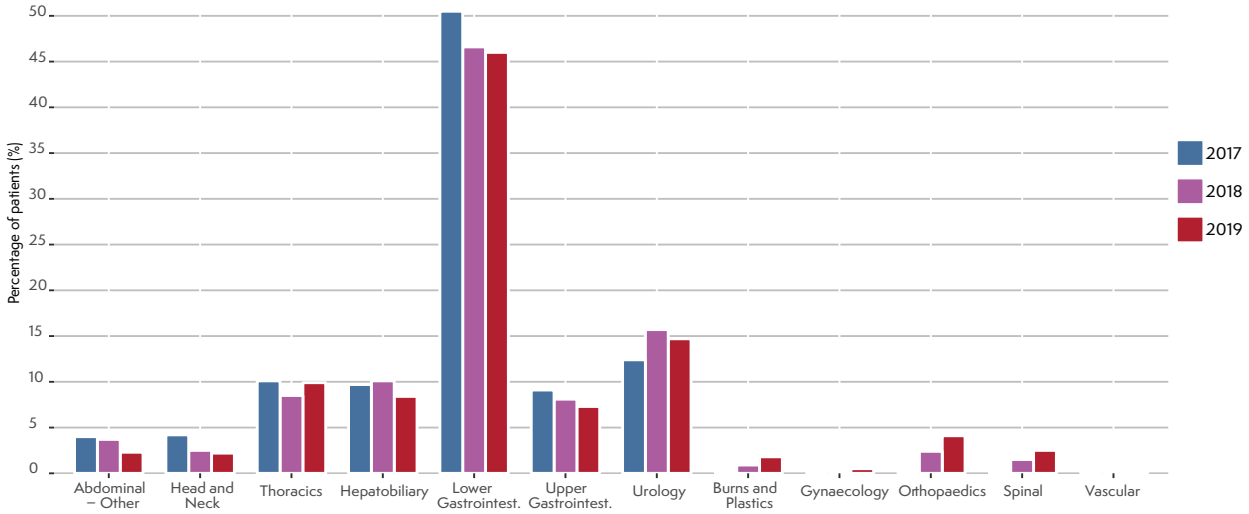


Figure 3. Patient recruitment by surgical specialty

Our patients are having complex operations — 68% had surgery lasting more than 3 hours (69% last year); 99% had surgery under the direct supervision of a consultant surgeon and 96% under the direct supervision of a consultant anaesthetist. 41% of patients are admitted to Level 2 or 3 (critical care) after their operation.

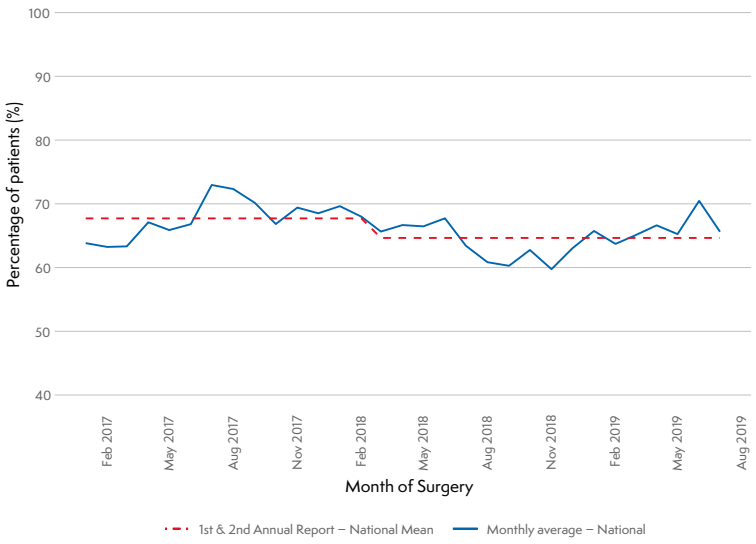


Figure 4. Patients with documented individualised risk assessment

Individualised risk assessment and ICU admission

65% of patients had a documented individualised risk assessment in Y2, compared with 68% in Y1. We had hoped to push towards 100% this year so we're keen to understand the challenges to this locally. This may be impacting on patient care: 31% of patients with a greater than 5% risk of 30 day mortality are admitted to a normal ward after surgery.

A closer look at the data shows that within colorectal, upper GI and urology there has been a modest improvement in individualised risk assessment rates, but this has been offset by other specialties all getting worse. Compliance with this goal is particularly low in our new specialties and in hospitals which started PQIP in Y2 (the hospitals which started in Y1 have actually got a bit better).

What next for local teams?

This should be a relatively straightforward goal for local teams. It should also be a governance priority, in light of the Montgomery ruling, so this might be one for managers to get involved with as well. This is one of the metrics which has been a consistent improver in the National Emergency Laparotomy Audit, so it might be worth looking across the corridor to see how your NELA teams have approached the issue locally.

How can we help?

We want to generate healthy competition without hospitals worrying about being exposed as 'poor performers'. So we're creating toolkits and launching national competitions to encourage teams to develop and share improvement projects addressing these tricky problems with the rest of the PQIP community (see page 3).

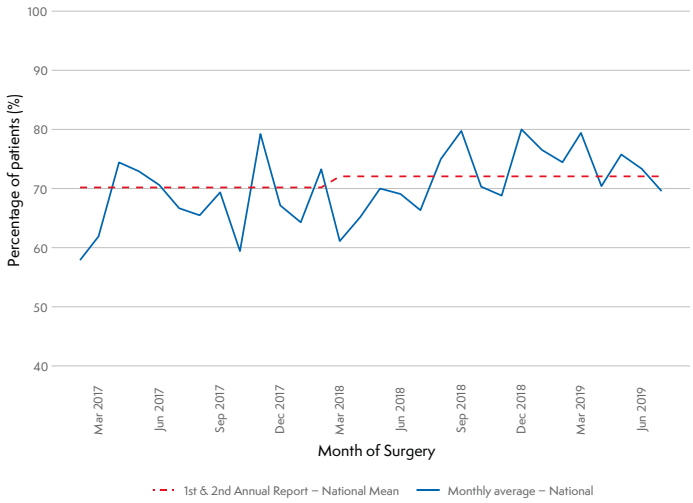
A bit stuck... where haven't things improved?

There are a few measures on which we haven't done as well as we hoped to this year.

HbA1C measurement

Like in Year 1, 13% of PQIP patients were diabetic. We aimed to measure HbA1C in 100% of diabetic patients this year. We're a little better than last year (72% of patients tested vs. 69% in Year 1) and our chart shows that things seemed to improve since last year's recommendations came out, but we're still a long way off where we want to be.

Figure 5. Patients with HbA1C measurement



What next for local teams?

- Even if you're doing well on this, check your data. The HbA1C should have been done within 3 months of surgery
- Have a look at a convenience sample of patient notes (say 5 or 10) where the HbA1C wasn't done. Were there any obvious issues: e.g. late referrals, late preoperative assessment, external referral from another hospital…?
- Remember, HbA1C measurement is just the first step in a pathway of good diabetes management. How are you doing against the national guidelines? In your convenience sample, check compliance with best practice in perioperative diabetes management. Did they have blood sugar measurement done, documented and appropriately acted upon throughout their inpatient stay?

Anaemia management

Despite anaemia management being on our top 5 priority list last year, we haven't seen a major change in anaemia rates. There has been a very modest improvement in the proportion of patients with moderate or severe anaemia (11.6% in Y1 and 10.4% in Y2) but still around 11% of patients with anaemia incur an intraoperative blood loss of more than 500ml. More women than men have moderate or severe anaemia.

We recently started collecting data on how preoperative anaemia is (or isn't) being managed. So far, we've found that almost 70% of patients with Hb <130 g/l did not receive any treatment for anaemia in the 3 months before surgery. This looks like another real opportunity for improvement.

What do we need to do?

Anaemia pathways which enable patients to have rapid access to IV iron therapy where required are increasingly common. Don't forget the international consensus guidelines state that both men and women should have a target pre-op Hb of at least 130g/l before major surgery where a blood loss of >500ml might be anticipated. Check out our anaemia guide at www.pqip.org.uk for more tips on what to do next.

Sharing data and ideas to support local improvement

STAR trainee network, Severn region

Sharing of PQIP data across the STAR (Severn Trainee Anaesthetic Research) trainee research network in Severn has helped identify opportunities to improve management of pre-operative anaemia. Hospitals willingly shared their PQIP data which highlighted identified differences in pathways. This has given an opportunity for standardisation of processes and improvement across the region.

Living the DrEaM

One of PQIP's big successes this year is the improvement in patients who are 'living the dream' – Drinking, Eating and Mobilising within 24h of surgery ending. Not only have the national figures improved in almost every specialty, but individually, the majority of hospitals are also improving their performance.

What are we learning?

DrEaMing is a straightforward improvement opportunity to communicate and target. Even where there is some controversy, e.g. early oral intake in upper GI surgery, improvements have been made in mobilisation. The exception is head and neck — and we'll work with the small number of teams recruiting patients in this specialty to understand their data better.

What next for local teams?

Let's keep going! In most specialties, there is still opportunity to improve further. Take a look at your local data to see how you're doing. The PQIP team also need to learn from this experience and think about crafting all our improvement priorities in a similarly succinct, easily communicable way. More on this in our infographics available at www.pqip.org.uk.

Tables 2-8. Percentage of patients DrEaMing in PQIP specialties

Urology	Year 1 % (n= 870)	Year 2 % (n= 1,751)
Drinking *	92	95
Eating *	74	82
Mobilising *	80	85
DrEaMing *	65	74

Colorectal	Year 1 % (n= 3,200)	Year 2 % (n= 5,390)
Drinking *	85	92
Eating	64	66
Mobilising	79	80
DrEaMing	56	57

Upper GI	Year 1 % (n= 572)	Year 2 % (n= 905)
Drinking	33	37
Eating	14	18
Mobilising *	55	61
DrEaMing	13	16

Abdominal - other	Year 1 % (n= 247)	Year 2 % (n= 367)
Drinking *	68	87
Eating *	47	61
Mobilising *	68	76
DrEaMing *	40	54

HPB	Year 1 % (n= 603)	Year 2 % (n= 1,122)
Drinking *	69	76
Eating	47	52
Mobilising	66	64
DrEaMing	38	43

Thoracics	Year 1 % (n= 630)	Year 2 % (n= 1,050)
Drinking *	93	98
Eating *	93	96
Mobilising *	90	95
DrEaMing *	85	92

Head and Neck	Year 1 % (n= 256)	Year 2 % (n= 267)
Drinking	50	46
Eating	41	41
Mobilising	75	68
DrEaMing	40	39

= improving = worsening

= same * significant improvement between Y1 and Y2 ($p<0.05$)

By the way — don't worry about p-values here

We are looking for improvement trends at the moment, not statistical significance — the PQIP study is a long way from complete! But we knew some people might be interested... so there you go. Remember, we've still got relatively small numbers of patients in several specialties at the moment.

Table 9. Percentage of patients DrEaMing in new PQIP specialties

	Orthopaedics % (n= 582)	Spinal % (n= 367)	Burns and Plastics % (n= 242)	Gynaecology % (n= 75)	Vascular % (n= 34)
Drinking	99	98	100	95	97
Eating	97	96	97	92	91
Mobilising	65	73	85	91	77
DrEaMing	65	72	84	87	71

Morbidity, complications and length of hospital stay

We're really delighted to report that major morbidity has fallen between Y1 and Y2. Here we present a comparison of Y1 and Y2 outcomes. Some of our new specialties have lower morbidity rates so the final column shows Y2 outcomes in only our original PQIP specialties of GI, HPB, urology, head and neck and thoracic surgery.

Morbidity

Day 7 morbidity domain	Year 1 % (n= 6,378)	Year 2 % (n= 12,152)	Day 7 morbidity domain	Year 1 % (n= 6,378)	Year 2 excluding new specialties % (n= 10, 852)
Major pulmonary*	6.2	5.3	Major pulmonary	6.2	5.8
Major infection*	12.8	11.5	Major infection	12.8	12.2
Major renal*	1.5	1.1	Major renal	1.5	1.2
Major cardiac*	2.7	2.2	Major cardiac	2.7	2.4
Major neurological*	2.4	1.8	Major neurological*	2.4	1.8
Major wound*	4.5	3.2	Major wound*	4.5	3.4
Major haematological	0.8	0.8	Major haematological	0.8	0.8
Major pain	0.9	0.8	Major pain	0.9	0.9
All gastrointestinal *	14.9	11.8	All gastrointestinal *	14.9	13.0
Any morbidity*	**28.4**	**23.8**	**Any morbidity***	**28.4**	**25.1**
Any major morbidity*	**18.7**	**16.4**	**Any major morbidity***	**18.7**	**17.2**

Table 10. Major postoperative morbidity¥ on day 7 after surgery

¥measured using the POMS major definition which includes any type of POMS defined morbidity of ≥ Clavien-Dindo level 2. For Gastrointestinal morbidity, as all definitions are Clavien Dindo level 1 we have shown all morbidity rather than just major. For more information see Grocott et al, 2007: J Clin Epi. 60; 917-928 and Wong et al, 2017: Brit J Anaes. 119 (1); 95-105.

By far the most common major morbidity is infection, with more than 1 in 10 patients remaining in hospital on day 7 either on IV antibiotics or with a temperature of >38 degrees in the previous 24h.

Postoperative length of stay

It is also great news that we have seen a fall in postoperative length of stay overall for PQIP patients this year, and in almost every specialty individually. The improvement in length of stay was particularly good in hospitals which have been taking part in the study for the longest period of time.

	Year 1 (n)	Mean length of stay (days)	Year 2 (n)	Mean length of stay (days)
Urology*	870	6.2	1751	5.2
Upper gastrointestinal	572	13.4	905	12.9
Lower gastrointestinal*	3200	8.9	5390	8.5
Hepatobiliary	603	9.6	1122	9.8
Thoracics	630	5.3	1050	4.8
Head and Neck*	256	12.7	267	10.3
Abdominal – other	247	11	367	10.1
Orthopaedics	-	-	582	8.8
Spinal	-	-	367	4.9
Burns and Plastics	-	-	242	5.1
Gynaecology	-	-	75	3
Vascular	-	-	34	4.9

Table 11. Postoperative length of stay = improving = worsening = same * significant improvement between Y1 and Y2 ($p<0.05$)

	Year 1 (n)	Length of stay (days)	Year 2 (n)	Length of stay (days)
Total PQIP population	6378	8.9	12152	8.0
Hospitals participating in both Y1 and Y2 (n=65)	6378	8.9	8835	7.8

Table 12. Length of stay between years 1 and 2 for entire PQIP cohort (n=18,530)

But as you can see from the graphs below, the impact of major complications (defined as requiring a Clavien-Dindo grade 3 or above intervention) on length of stay remains very substantial across the board.

Year 1

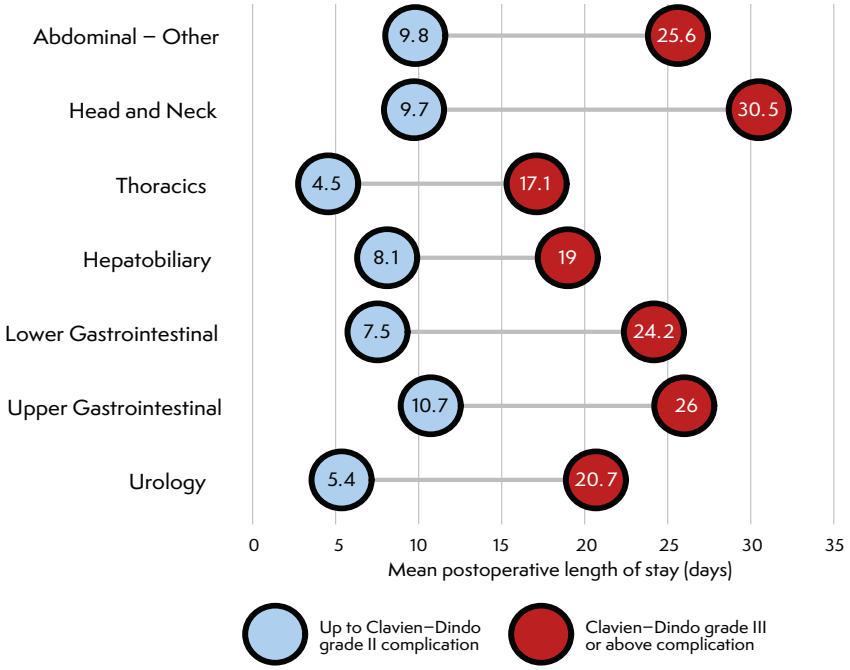


Figure 6. PQIP Year 1 Clavien-Dindo scores and mean length of stay

Year 2

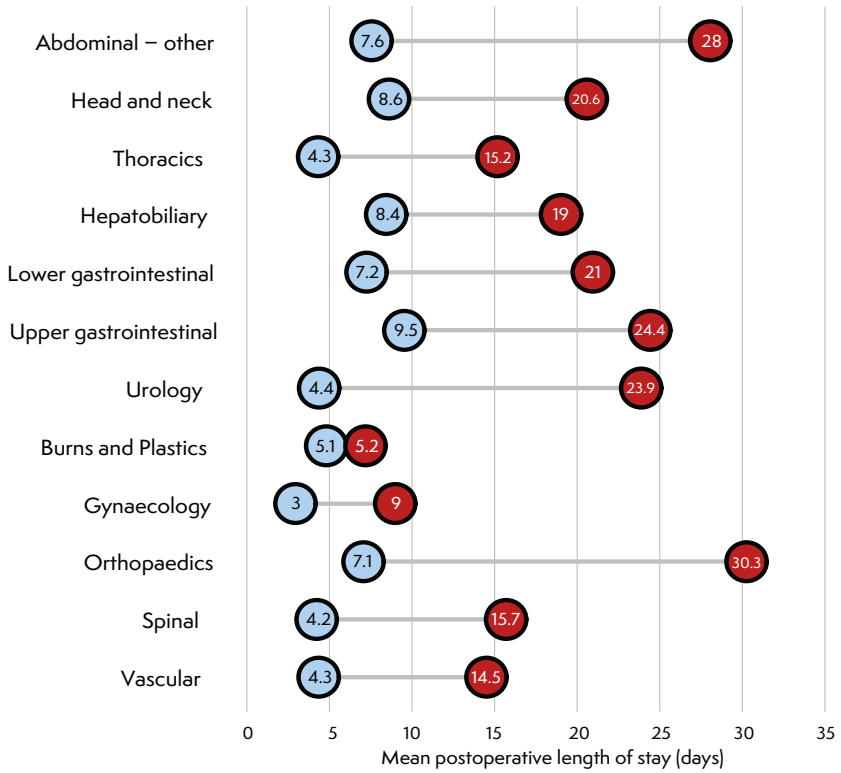


Figure 7. PQIP Year 2 Clavien-Dindo scores and mean length of stay

Individualised pain management

We're a bit stuck on our pain outcomes. Including all Y1 and Y2 data, 7.5% of patients reported severe pain in recovery and 19.8% reported severe pain within 24h of surgery (on the Bauer patient satisfaction questionnaire).

The key findings from pain data:

- There is a huge increase in the proportion of patients experiencing severe pain between recovery and at 24h in almost all specialties apart from head and neck surgery
- Recovery room pain is highest in upper GI, hepatobiliary and head and neck surgery
- Around 20% of PQIP patients have no short-term (recovery room) pain data recorded.

Year 1	Recovery (%)	24h (%)	Year 2	Recovery (%)	24h (%)
Urology	6.8	15.7	Urology	5.5	20.4
Upper gastrointestinal	11.5	14.9	Upper gastrointestinal	16.5	19.6
Lower gastrointestinal	5.3	20.5	Lower gastrointestinal	5.6	18.6
Hepatobiliary	8.6	16.9	Hepatobiliary	13.1	17.6
Abdominal-other	10.9	26.8	Abdominal-other	7.6	21
Thoracics	6.3	27	Thoracics	6.3	24.3
Head and Neck	24.2	14.3	Head and Neck	20.6	15.8
Orthopaedics	-	-	Orthopaedics	5.2	28
Spinal	-	-	Spinal	9.0	24.2
Burns and Plastics	-	-	Burns and Plastics	3.7	13.2

Table 13. Percentage of patients reporting severe pain in recovery and within 24h

We start to see some really fascinating patterns when looking at patients who have had different types of intraoperative analgesia/anaesthesia and their pain outcomes. Take a look at this:

	Severe recovery pain (%)	Severe pain within 24h (%)
GA only	11.3	22.0
Local/regional		
LA infiltration only	4.3	20.4
Regional block	5.7	23.1
Neuraxial		
Epidural	7.5	16.8
CSE	0	17.1
Spinal	5.5	17.9

Table 14. Intraoperative analgesia techniques and percentage of patients reporting severe pain

What does this all mean?

The key message we get from this is that where general anaesthesia is topped up with additional local, regional or neuraxial blockade, pain outcomes in recovery are pretty good — however, across the board, around 1 in 5 patients are experiencing severe pain within 24h of surgery. So we perhaps need to switch focus to those crucial first 24h after surgery when we want patients to be really comfortable so that they can start drinking, eating, mobilising and generally recovering from their major surgery.

What next for local teams?

We think this is a target for improvement. 1 in 5 patients having severe pain at 24h seems high to us and we think we should try to improve. Reasons for this will vary locally but things for teams to look at are highlighted in our pain management guide.

Patient satisfaction and comfort

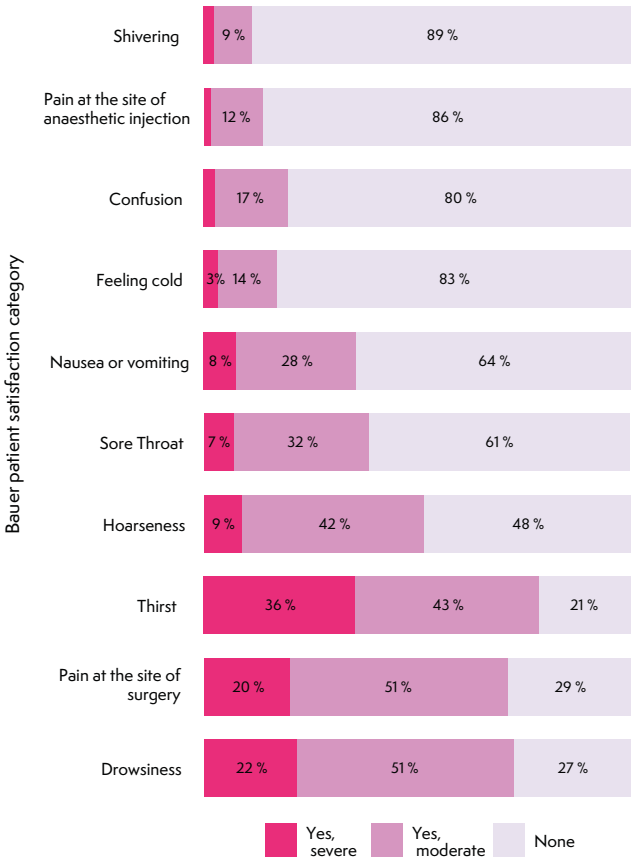
The Bauer patient satisfaction score for patient reported outcome within 24h continues to point towards successes and opportunities for improvement. We're delighted that PQIP data have prompted some trusts into action about some of the commonest types of postoperative discomfort, like thirst, sore throat and hoarseness (plus we're also delighted to see such a great improvement in drinking rates within 24h of surgery — see page 9).

But we still have a lot to do to improve short-term patient experience overall in our high-risk cohort. In particular, postoperative nausea and vomiting remains a significant problem for 8% of patients, and we know from other studies that this has a big impact on patients.

Using your data for local QI projects

Two PQIP hospitals have used their patient satisfaction data to develop QI projects aimed at improving postoperative patient experience! See below (and also our cover to see the POM-POPs team with their lollipops!) for more, and consider how you could use your own local data to drive improvement.

Figure 8. Patient experience of anaesthetic-related discomfort (Bauer patient satisfaction score)



Oh, we do love to be beside the seaside....

Dr Mark Paul, Clinical Director, Brighton and Sussex University Hospital

We tried to get ice lollies in recovery some time ago. We'd seen a small study showing a possible anti-emetic effect and it just seemed like a nice thing to offer someone after an operation. Unfortunately, there were a few annoying, in-hospital barriers to this and we never quite got there. When we started collecting PQIP data we could see that thirst, sore throat and hoarseness immediately post-operatively were significant issues so we tried again to get the ice lollies and our persistence has now paid off. We'll be using PQIP data to measure any improvement but anecdotally they've been a great success so far and we're having to buy a bigger freezer to cope with the increasing demand!

POM-POPS – a different airline industry analogy

Prof David Walker, Clinical Lead for the Post-Anaesthetic Care Unit, UCLH at Westmoreland Street

Learning from the work of a flight attendant preparing a business class traveller for an overnight transatlantic flight might be a good analogy. Fed, watered, bed-comfortable, lights down, ear plugs in and eye-shields on, good book and the occasional glass of something medicinal might be all that is needed to improve the patient journey.

We may think we do that already, but it's amazing what you find out when you really ask the patient. POM-POPS are our in-house solution to the common problem of postoperative thirst, lollipops made in our kitchens and offered liberally to our patients. They are a critical part of our new 'comfort rounds' which involve nurses and doctors rounding together and exploring what matters to patients, attempting to reduce anxiety, and pain, improve sleep and consider changes to the ward environment and the daily routine. PQIP data, particularly from the Bauer patient satisfaction questionnaire, will help us monitor how we're doing and focus.

Longer-term patient reported outcomes

One of the jewels in the crown of the PQIP database is the longer-term patient reported outcome (PROMs) data. We are collecting several PROMs measures, including the Euro-Quality of Life (Euro-QOL) EQ5D measure and the World Health Organisation's Disability Assessment Schedule. Here we are able to present some snapshots of PROMs data, really just as a thank you to teams and patients for working together to collect this information, and as a 'teaser' for how we hope to use this information in the future. These graphs show the change in different measures of the EQ5D questionnaire between admission and 6 months. We have only included specialty-specific data for those groups with more than 500 patients reporting both baseline and 6 month outcomes. On the next page, we have alluvial plots for all PQIP patients who responded to the baseline and 6 month questionnaires. These demonstrate the trajectory for individual patients for the five different EQ5D domains.

Figure 9. All PQIP patients

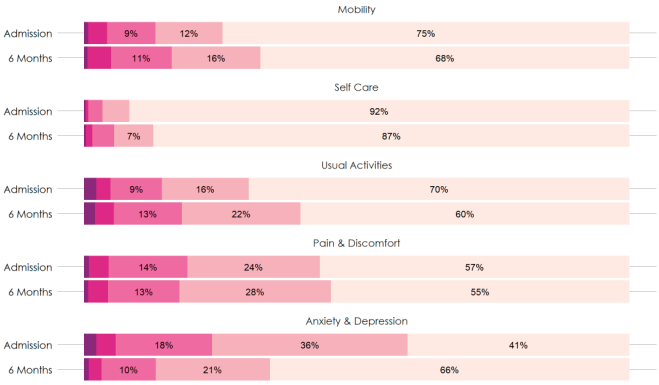


Figure 10. Urology

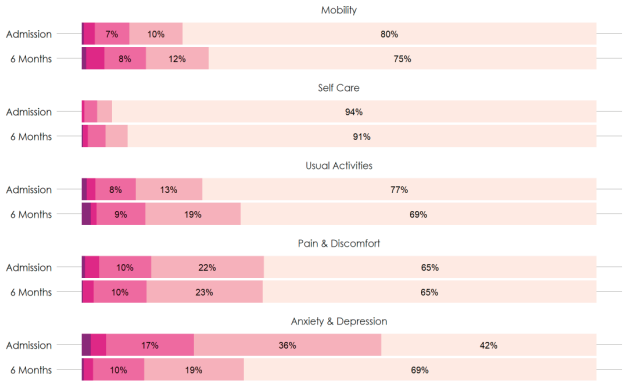


Figure 11. Upper GI

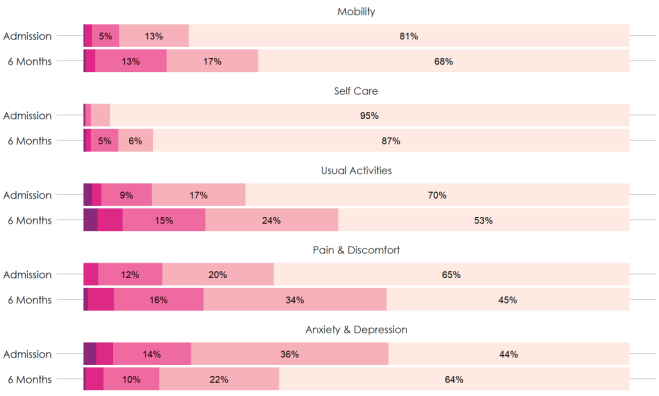
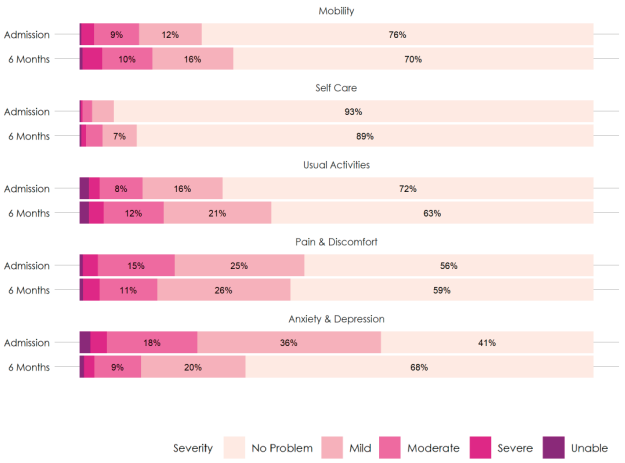


Figure 12. Lower GI



What does this all mean?

Perhaps unsurprisingly, in the run up to major surgery, anxiety and depression is an issue for around 60% of PQIP patients. While this improves for many by 6 months, over 40% of patients still have some problems. The proportion of patients who report moderate, severe or extreme pain is similar at 6 months to baseline, but the alluvial charts on page 15 show significant numbers of individual patients who both improve and deteriorate from a pain perspective. Looking in more detail at each of these groups to identify whether there are any potentially modifiable factors which can reduce the risk of significant pain at 6 months will be a priority going forward.

What next for local teams?

At this stage, these data are provided more for interest than as a target for improvement. But, given the importance of mental health for physical recovery, looking at your PQIP data prospectively to identify patients who report that they are feeling anxious or depressed, and working across the multidisciplinary team to ensure that they have the psychological support that they need (including collaborating with primary care, nurse specialists, Macmillan teams and so on as relevant) would be a great patient-centred QI goal.

Figure 13. Mobility

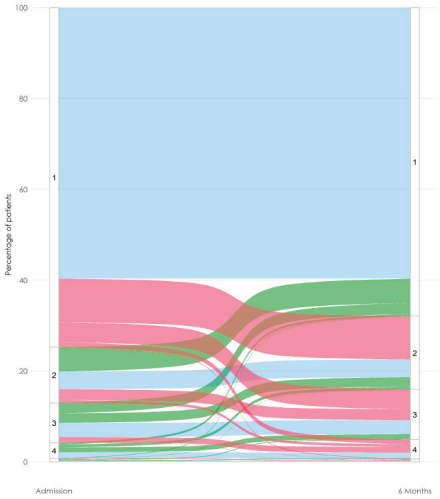


Figure 14. Usual activities

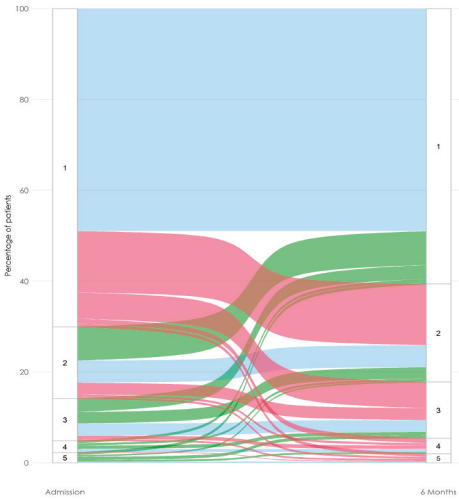


Figure 15. Pain and discomfort

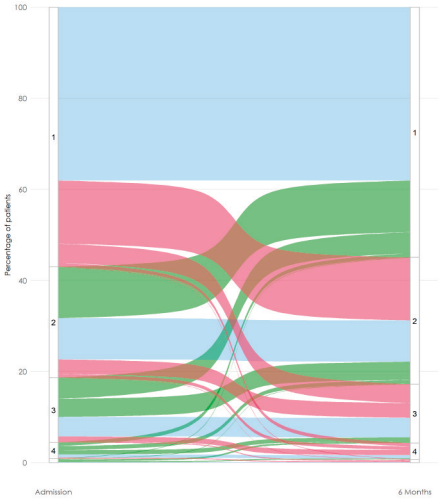


Figure 16. Self-care

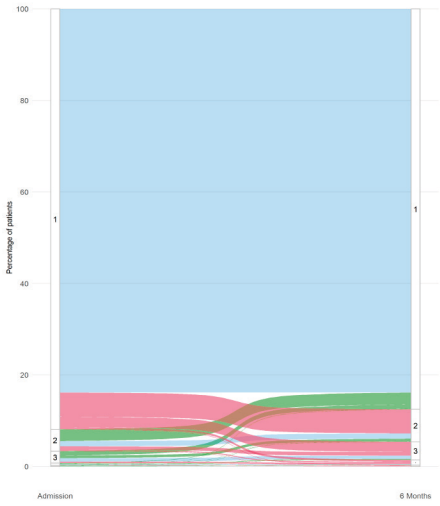
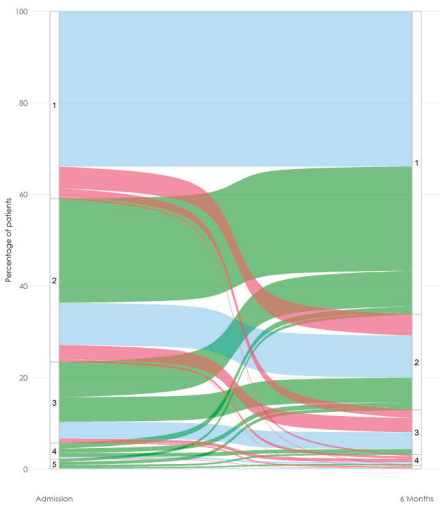


Figure 17. Anxiety and depression



Change in domain level from admission to 6 months postoperatively

- Deterioration
- No change
- Improvement

1 = No problem
2 = Slight problem
3 = Moderate problem
4 = Severe problem
5 = Unable/extreme

Engaging staff, engaging patients, improving data collection and completion

We know that data collection for PQIP is a burden on local teams and we are really grateful to you for your efforts and we hope you can see the value of this information. Phone follow-up tends to have better success rates than email — we are finding this in PQIP and this is well documented in the literature. Some hospitals with really great data completion and follow-up rates have shared their secrets with us…

St James' University Hospital has improved contemporaneous data collection with drop in sessions in theatre complete with PQIP cakes as incentives! They've marked the notes with a PQIP stamp and study number. Use of the NHS messaging app allows notification of anaesthetists and QI leads.

University Hospital Wales has also used messaging to co-ordinate data collection, they use WhatsApp to highlight upcoming patients and follow-ups using only non-identifiable data. They have found that use of live messaging has created a 'buzz' within the team where everyone can see how hard other members are working.

Please note that PQIP does not endorse any specific messaging service. If you are going to use live messaging services to communicate about PQIP patients, please do take note of the NHS guidance for this: https://bit.ly/2AUJZoO.

Celebrating success — the positive deviance lists!

Here we list the hospitals which are doing particularly well at various measures and have met or exceeded our national target for each process. Please note we have only listed hospitals who recruited at least 50 patients in Y2. We're thrilled that we've had to reduce our font size compared to last year's report! These lists tell us that great things are possible in lots of places — so we continue to aim to achieve these goals everywhere. Congratulations to all teams featured here!

Anaemia management: National target >80% of patients having elective surgery with pre-op hb ≥13

In these hospitals, >80% of male patients having elective surgery had Hb≥13: Lister Hospital, Royal National Orthopaedic Hospital, Royal Preston Hospital

In these hospitals, >80% of patients who had elective surgery and blood loss >500ml started with Hb >13: Royal Liverpool University Hospital, Royal National Orthopaedic Hospital, Southampton General Hospital, St Thomas' Hospital, Royal Marsden Hospital

Diabetes (HbA1C measurement): National target 100%

These hospitals recruited at least 5 patients with diabetes and recorded HbA1C in 100% of those patients: Countess of Chester, Darent Valley, East Surrey, Hereford County, King's Mill, Nevill Hall, Northampton General, Royal Berkshire, Royal Preston, Southmead, Stoke Mandeville, Tameside General

Individualised risk assessment: National target >80%

Aintree University Hospital, Basildon University Hospital, Bristol Royal Infirmary, Broomfield, Churchill, Cumberland Infirmary, Great Western, King's College Hospital (Denmark Hill), King's Mill Hospital, Lister, Nevill Hall, Papworth, Princess of Wales, Queen Elizabeth University Hospital, Gateshead, Royal Berkshire, Royal Blackburn, Royal Bournemouth, Royal Derby, Royal Lancaster Infirmary, Royal Preston, Sandwell General, Southampton General, St. Peter's, Sunderland Royal, Tameside General, Royal Marsden, The Royal Orthopaedic Hospital, Torbay Hospital, University Hospital Coventry, York Hospital

Carbohydrate loading: National target >80%

These hospitals gave >80% of all their PQIP patients preoperative carbohydrate loading: Bristol Royal Infirmary, Countess of Chester, Great Western Hospital, King's Mill, Queen Elizabeth Hospital Birmingham, Queen Elizabeth University Hospital Gateshead, Queen Victoria Hospital, Royal Hampshire County Hospital, Russells Hall Hospital, St. Peter's Hospital, Torbay Hospital, York Hospital

These hospitals gave >80% of their colorectal patients pre-operative carbohydrate loading: Bedford Hospital, Churchill Hospital, Colchester General, Countess of Chester, Great Western, King's Mill, North Manchester General Hospital, Queen Elizabeth University Hospital Gateshead, Royal Blackburn, Royal Cornwall, Royal Devon and Exeter, Royal Hampshire County Hospital, Royal Lancaster Infirmary, Russells Hall, St Thomas' Hospital, St. Peter's Hospital, Stoke Mandeville Hospital, Torbay Hospital, Yeovil District Hospital, York Hospital

In thoracic surgery, only Bristol Royal Infirmary gave >80% of their patients preoperative carbohydrate loading, and in burns and plastics, only Queen Victoria Hospital reached this goal.

No hospitals reached provided preoperative carbohydrate loading to at least 80% of their orthopaedic, head and neck, upper GI or urology patients.

Drinking within 24h of surgery: National Target 90%

>90% of PQIP patients in these hospitals were drinking within 24h of surgery: Aintree University Hospital, Basildon University Hospital, Bedford Hospital, Birmingham Heartlands, Bristol Royal Infirmary, Castle Hill, Chelsea and Westminster, Colchester General, Countess of Chester, Cumberland Infirmary, Darent Valley Hospital, Hereford County Hospital, King's Mill Hospital, Lister Hospital, Manchester Royal Infirmary, Musgrove Park Hospital, National Hospital for Neurology and Neurosurgery, Nevill Hall Hospital, Norfolk and Norwich University Hospital, Northampton General Hospital, Nottingham City Hospital, Papworth Hospital, Princess of Wales Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth Hospital Birmingham, Queen Elizabeth University Hospital, Gateshead, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Bolton Hospital, Royal Cornwall Hospital, Royal Derby Hospital, Royal Lancaster Infirmary, Royal London Hospital, Royal National Orthopaedic Hospital, Royal Surrey County Hospital, Russells Hall Hospital, Sandwell General Hospital, Southmead Hospital, St George's Hospital, St. Peter's Hospital, Stoke Mandeville Hospital, Sunderland Royal Hospital, Tameside General Hospital, The James Cook University Hospital, The Royal Orthopaedic Hospital, Torbay Hospital, University Hospital Wales, University Hospital, Coventry, Warwick Hospital, Yeovil District Hospital, York Hospital

By specialty – these are the hospitals where patients were drinking within 24h of surgery:

Colorectal surgery: Bedford Hospital, Birmingham Heartlands Hospital, Broomfield Hospital, Churchill Hospital, Colchester General Hospital, Countess of Chester Hospital, Cumberland Infirmary, Hereford County Hospital, King's Mill Hospital, Nevill Hall Hospital, Norfolk and Norwich University Hospital, North Manchester General Hospital, Northampton General Hospital, Nottingham City Hospital, Princess of Wales Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth University Hospital, Gateshead, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Bolton Hospital, Royal Cornwall Hospital, Royal Devon and Exeter Hospital, Royal Lancaster Infirmary, Russells Hall Hospital, Salford Royal Hospital, Sandwell General Hospital, Southmead Hospital, St George's Hospital, St Thomas' Hospital, St. Peter's Hospital, Stoke Mandeville Hospital, Tameside General Hospital, The James Cook University Hospital, Torbay Hospital, University Hospital, Coventry, Warwick Hospital, Watford General Hospital, Yeovil District Hospital, York Hospital

Urology: Birmingham Heartlands Hospital, Norfolk and Norwich University Hospital, Royal Devon and Exeter Hospital, Salford Royal Hospital, St George's Hospital, Sunderland Royal Hospital, The James Cook University Hospital, The Royal Marsden Hospital, University College Hospital, University Hospital, Coventry

Upper GI: None

Thoracics: Basildon University Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Norfolk and Norwich University Hospital, Papworth

Hospital, St George's Hospital, Wythenshawe Hospital

Orthopaedics: Royal National Orthopaedic Hospital, The Royal Orthopaedic Hospital

Spinal: National Hospital for Neurology and Neurosurgery, Royal National Orthopaedic Hospital

Burns and plastics: Queen Victoria Hospital

Eating within 24h of surgery: National target 80%

>80% of patients were eating within 24h of surgery in these hospitals: Aintree University Hospital, Basildon University Hospital, Bedford Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Castle Hill Hospital, Charing Cross Hospital, Countess of Chester Hospital, Cumberland Infirmary, Hereford County Hospital, Lister Hospital, Musgrove Park Hospital, National Hospital for Neurology and Neurosurgery, Nevill Hall Hospital, Nottingham City Hospital, Papworth Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth University Hospital, Gateshead, Royal Cornwall Hospital, Royal Derby Hospital, Royal National Orthopaedic Hospital, Royal Surrey County Hospital, Sandwell General Hospital, Southmead Hospital, St George's Hospital, Stoke Mandeville Hospital, Sunderland Royal Hospital, The Royal Orthopaedic Hospital, Torbay Hospital, University Hospital Wales, Wythenshawe Hospital

By specialty, >80% of patients in these hospitals were eating within 24h of surgery:

Colorectal: Bedford Hospital, Broomfield Hospital, Castle Hill Hospital, Countess of Chester Hospital, Hereford County Hospital, North Manchester General Hospital, Nottingham City Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth University Hospital, Gateshead, Royal Cornwall Hospital, Sandwell General Hospital, Southmead Hospital, Stoke Mandeville Hospital, Torbay Hospital, Watford General Hospital, Wythenshawe Hospital

Urology: Birmingham Heartlands Hospital, Salford Royal Hospital, St George's Hospital, Sunderland Royal Hospital, University Hospital, Coventry

Thoracics: Basildon University Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Norfolk and Norwich University Hospital, Papworth Hospital, St George's Hospital, Wythenshawe Hospital

Orthopaedics: Royal National Orthopaedic Hospital, The Royal Orthopaedic Hospital

Spinal: National Hospital for Neurology and Neurosurgery, Royal National Orthopaedic Hospital

Burns and plastics: Queen Victoria Hospital

Mobilising within 24h of surgery: National target 85%

>85% of patients were mobilising within 24h of surgery in these hospitals: Aintree University Hospital, Basildon University Hospital, Bedford Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Colchester General Hospital, Cumberland Infirmary, Gloucestershire Royal Hospital, Hereford County Hospital, Manchester Royal Infirmary, Musgrove Park Hospital, Norfolk and Norwich University Hospital, Papworth Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth University Hospital, Gateshead, Queen Victoria Hospital, Royal Hampshire County Hospital, Royal Lancaster Infirmary, Royal Surrey County Hospital, Russells Hall Hospital, Sandwell General Hospital, St George's Hospital, Stoke Mandeville Hospital, Sunderland Royal Hospital, University Hospital Wales, Warwick Hospital, Wythenshawe Hospital, Yeovil District Hospital, York Hospital

By specialty, >85% of patients in these hospitals were mobilising within 24h of surgery:

Colorectal: Bedford Hospital, Churchill Hospital, Colchester General Hospital, Cumberland Infirmary, Hereford County Hospital, Norfolk and Norwich University Hospital, Nottingham City Hospital, Queen's Hospital, Burton upon Trent, Queen Elizabeth University Hospital, Gateshead, Royal Hampshire County Hospital, Royal Lancaster Infirmary, Russells Hall Hospital, Sandwell General Hospital, Southmead Hospital, Stoke Mandeville Hospital, Warwick Hospital, Wythenshawe Hospital, Yeovil District Hospital

Urology: Birmingham Heartlands Hospital, Salford Royal Hospital, St George's Hospital, Sunderland Royal Hospital, The Royal Marsden Hospital, University College Hospital, University Hospital, Coventry

Upper GI: St Thomas' Hospital

Thoracics: Basildon University Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Norfolk and Norwich University Hospital, Papworth Hospital, St George's Hospital, Wythenshawe Hospital

Orthopaedics: None

Burns and plastics: Queen Victoria Hospital

Head and Neck: None

DrEaMing within 24h of surgery: National target 80%

>80% of patients were DrEaMing within 24h of surgery in these hospitals: Aintree University Hospital, Basildon University Hospital, Bedford Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Hereford County Hospital, Musgrove Park Hospital, Papworth Hospital, Queen Elizabeth University Hospital, Gateshead, Royal Surrey County Hospital, Sandwell General Hospital, Stoke Mandeville Hospital, Sunderland Royal Hospital, University Hospital Wales

By specialty, >85% of patients in these hospitals were DrEaMing within 24h of surgery

Colorectal: Bedford Hospital, Hereford County Hospital, Nottingham City Hospital, Queen Elizabeth University Hospital, Gateshead, Sandwell General Hospital, Stoke Mandeville Hospital

Urology: St George's Hospital, Sunderland Royal Hospital, University Hospital, Coventry

Upper GI: None

Thoracics: Basildon University Hospital, Birmingham Heartlands Hospital, Bristol Royal Infirmary, Norfolk and Norwich University Hospital, Papworth Hospital, St George's Hospital, Wythenshawe Hospital

Orthopaedics: None

Burns and plastics: Queen Victoria Hospital

Head and Neck: None

PQIP Perioperative Quality Improvement Programme

Collaborators

A huge thank you and well done to all of our valued collaborators across the UK, whose hard work makes both PQIP and this report possible. This list is based on the names submitted to us by participating sites prior to report publication.

Mayavan Abayalingam
Sue Abdy
Laura Abernathy
Nkemjika Abiakam
Andrea Ackerman
Ian Adams
Oluronke Adanini
Maame Aduse-Poku
Neil Agnew
Michael Agyemang
Salman Ahmad
Sarfraz Ahmad
Anjum Ahmed-Nusrath
Doug Aitken
Lindianne Aitken
Louise Akeroyd
Mansoor Akhtar
Timothy Alce
Nick Aldridge
Rod Alexander
Tamara Alexander
Hind Al-Husain
Syed Ali
Jason Ali
Bilal Alkhaffaf
Charlotte Allan
Clare Allcock
Wei-Lin Allen
Jo Allison
Denise Almond
Ziad Alrifai
Elana Anastasescu
Edward Andrade
Prematie Andreou
Eleanor Andrews
Gillian Ansell
George Antoniou
Gill Arbane
Giuseppe Aresu
Michael Argent
Susanne Armitage
Glenn Arnold
Jon Arnot-Smith
Linda Ashley–Edden
Nadeem Ashraf
Anam Asif
Sheila Avery
Omer Aziz
Ewa Babisz
Morgan Back
Sheeba Badu
Craig Bailey
Tessa Bailey
Pearl Baker
Madhu Balasubramaniam
Mansoor Bangash
Samantha Banks
Smita Bapat
Chris Barben
Musa Barkeji
Rebecca Barker
Debi Barnes
Veronica Barnes
Gillian Barnett
Nina Barratt
Lisa Barrell
James Barrowman
Andy Bates
Katherine Batte
Rachel Baumber
Hannah Beadle
Chloe Beard
Paul Bedford
Kate Beesley
Rose Beesley
Xiao Bei Zhao
Jan Belcher
Martha Belete
Sarah Bell
Jocelyn Bell
Gillian Bell
Jane Bellamy
Melissa Benavente
Julia Benham-Hermetz
Zoe Bennettan
Jenny Bennett-Britton
Mariana Bernardo
Stephanie Berry
Emily Bevan
Anna Bewlay
Chetan Bhan
Kailash Bhatia
Ravi Bhatia
Arnab Bhowmick
Edward Bick
Janine Birch
Sian Birch
Janine Bird
Brian Bisase
Ethel Black
Lauren Blackburn
Verity Blackburn
Doug Blackwood
Jackie Bladon
Kevin Blizzard
Melanie Bloor
Aneta Bociek
Andrea Boedo
Clare Bolger
Pieter Bothma
Anne-Marie Bougeard
Rebecca Boulton
Jessica Bowen
Sophie Boyd
Sharon Boyne
Andrew Bracewell
Julie Bracken
Joanne Bradley-Potts
John Bramall
Debbie Branney
Elizabeth Brannigan
Philip Braude
Barbara Bray
David Brealey
Andrew Brennan
Matthew Bridge
Anne-Jayne Brien
Elaine Brinkworth
Catherine Britton Jones
Kathryn Brodbelt
Fiona Brogan
Helen Bromhead
Adam Brooks
Johanna Brown
Michelle Bruce
Zoe Brummell
Sarah Buckley
Rhian Bull
Rachel Burnish
Karen Burns
Wendy Byrne
Hazel Cahill
David Cain
Bridget Campbell
Marta Campbell
Debbie Campbell
Debra Campion
Sara Campos
Joel Cardoso-Pereira
Suzanne Carey Jones
Millie Carnachan
Sue Carnell
Ben Carrick
David Carter
Jaime Carungcong
Clarissa Carvalho
Paula Carvelli
Kim Chan
Ben Chandler
Mogera Chandra
Tristan Chapman
Asif Chaudry
Irfan Chaudry
Katy-Jane Chick
Belinda Chieng
Anna Chillingworth
Mahindra Chincholkar
Gayathri Chinnappa Srinivas
Sadasivan Chinniah
Sara Churchill
Maria Ciaponi
Emma Clarey
Amy Clark
Thomas Clark
Richard Clark
Sheron Clarke
Sarah Clarke
Hannah Clarke
Tristan Clarke
Peter Coe
Leon Cohen
Libby Cole
Martin Cole
Andrea Cole
Helen Cole
Alison Colhoun
Peter Collett
Julie Colley
Dawn Collier
Nikki Collings
Rachel Collis
Thomas Collyer
Edward Combes
Clare Conlon
Louise Conner
Karen Connolly
Daniel Conway
Tim Cook
Sarah Cooper
Nadine Cooper
Lisa Cooper
Karen Copeland
Zoe Copp
Jim Corcoran
James Corcoran
Henry corner
Darryl Cornish
Patricia Correia da Costa
Edward Costar
James Coulston
Nicholas Courtenay-Evans
Edward Courtney
Amanda Cowton
Nicholas Crabtree
James Craig
Jayne Craig
Andrew Cresswell
Nikki Crisp
Jennifer Crooks
Jason Cross
Carina Cruz
Peter Csabi
Fiona Culley
Claire Dalton
Zoe Daly
Sarah Daniels
Diane Daniels
Thelma Darian
Bobby Dasari
Dave Smith
Beena David
Louisa Davies
Amanda Davies
Charlie Davies
Richard Davies
Roger Davies
Samantha Davies
Jenny Davis
Khaled Dawas
Andrew Day
Toni de Freitas
Joanne Deery
Peter Delve
Amit Deshmukh
Somi Desikan
Anne Devine
Jugdeep Dhesi
Priya Dias
Chimverly Diaz
Matt Dickinson
Lisa Ditchfield
Hiren Divecha
Toby Dixson
Emma Dougherty
Annette Dowdell
Claire Dowse
Steve Drage
Dragos Dragnea
Kate Driver
Ronald Druyeh
Leon Dryden
Stephen Duberley
Lucy Dudgeon
Sarah Duff
Stephanie Dukes
Steven Dunkley
Almu Duran-Rosa
Rebecca Dyar
Simon Dyer
Rebecca Dyer
James Eales
Megan Eardly
Jonathan Easterbrook
Christine Eastgate
Tracy Edmunds
Emma Edmunds
Mandy Edwards
Mark Edwards
Ramesh Ekambaram
Ashley Elden
Kerry Elliott
Kaytie Ellis
Ahmed El-Sharkawy
Mark Eltringham
Jonathan Epstein
Iony Evans
Paul Evans
Matt Everson
Mark Fairbrass
Joanne Falconer
Sarah Farnell-Ward
Naila Farooq-Iqbal
Helen Farrah
Catherine Farrow
Imogen Fecher
Teresa Ferreira
Helder Filipe
Stuart Finn
Gracie Fisk
Jill Fitchett
Fiona Fitzgerald
Katie Flower
Jayne Foot
Selina Ford
Jessica Forrester
Greg Forshaw
Damon Foster
Ming Fung
Jackie Furlong
Rosie Furness
Kito Fusai
Claire Gabriel
Claire Gallagher
Joanne Galliford
Carina Galpin
Fang Gao Smith
Amina Garcia
Mark Garfield
Zoe Garland
Theresa Garratt
James Garrod
Philip Gedling
Emma Gendall
Roman Genetu
Emma Gent
Simon George
Norma Gibbons
Ranjit Gidda
Kayleigh Gilbert
Julian Giles
Marc Gimenez
Kim Giraud
Jon Glass
Yvonne Gleeson
Kelly Goffin
Dhanny Gomez
Prisca Gondo
Romana Govindaraju
Lia Grainger
Gayna Grantham
Juan Graterol
Neus Grau Novellas
Irina Grecu
Louise Greig
Caris Grimes
Lisa Grimmer
Chris Grocock
Mike Grocott
Jessica Gunn
Paul Gunning
Zoe Guy
Laura Gwathil
John Gwatkin
Denise Hadfield
Brigid Hairsine
Bence Hajdu
Chandima Halahakoon
Dawn Hales
Angela Hall
George Hallward
Geraldine Hambrook
Vincent Hamlyn
Kate Hammerton
Sarah Hammond
Fiona Hammonds
Aimee Hampton
Janice Hanley
Vivienne Hannon
Daniel Hanratty
Will Hare
Daniel Harper
Andrea Harren
Yasmin Harrington-Davies
Stephen Harris
John Harris
Clair Harris
Colin Harris
Sanjay Harrison
Alister Hart
Emma Hartland
Robert Hartley
David Harvie
Liz Hawes
Nancy Hawkins
Christine Hawkins
Kat Haynes
Olivia Hayward
Jess Heaps
Chantelle Heppolette
Sarah Herbert
Emily Hetherington
Sarah Hierons
Susan Hill
Matt Hill
Simon Hindley
Ned Hobbs
Elizabeth Hodge
Tim Hodgkins
Tracey Hodgkiss
Gemma Hodgson
James Holding
Maureen Holland
Ann Holmes
Cassandra Honeywell
Liz Hood
Kathleen Horan
Anil Hormis
Deborah Horner
Tanvir Hossain
Kate Howard
Linda Howard
Georgina Howell
Lucie Howie
Jo Hubert
Danielle Huckle
Karen Hudson
Alistair Hughes
Tim Hughes
Rachel Hughes
Jenny Hughes
Rob Hull
Spencer Humphrys
Adam Hunt
Louise Hunt
Lisa Hurley
Nik Husain
Melanie Hutchings
Mark Ibrahim
Ugo Ihedioha
Jennifer Illingworth
Arjuna Imbuldeniya
Fiona Ingoldby
Francious Ioffidis
Matthew Jackson
Reni Jacob
Jacqueline Routledge
Vipul Jain
Zara Jalal
Rose Jama
Sunil Jamadarkhana
Katherine James
Parandeep Jandu
Anna Janowicz
Anne Jayne Brien
Richard Jennings
Emily Jeynes
Shaman Jhanji
Mhairi Jhugursing
Jo Bennett
Teishel Joefield
Summayyah Jogi
Helgi Johannsson
Rebekah Johnson
Linda Johnson
Joanne Johnson
Rob Johnston
Carolyn Johnston
Dawn Johnstone
Rhidian Jones
Cathy Jones
Claudette Jones
Lyndon Jones
Colette Jones-Criddle
Lesley Jordan
Matt Julian
Miriam Kadry
Prashant Kakodkar
Vidya Kasipandian
Ramanathan Kasivisvanathan
Tasneem Katawala
Jasmin Kaur
Sharon Kaur
Ambreen Kauser
Anne Keen
Natalie Keenan
Jessica Kelly
Andrea Kelly
Peter Keltie
Clive Kelty
Christopher Kennedy
Jo Keogh

PQIP Perioperative Quality Improvement Programme

Amy Kerr
Joyce Kibaru
Katie King
Maureen King
Jane Kingham
Harry Knight
John Knight
Peter Knowlden
Shum Koin Lon
Dimitrios Konstantopoulos
Christos Kontovonisious
Damir Kosutic
Kartik Kota
Bobby Krishnachetty
Priya Krishnan
Monika Krupa
Agniezsa Kubisz-Pudelko
Mohan Kumar
Vikas Kumar
Snehal Kumbhare
Rajeev Kushwaha
Inese Kutovaja
Thyra Kyere-Diabour
James Lai
Sandeep Lakhani
Aroon Lal
Jo Lambert
Ben Lane
Tamsin Lane
Katy Later
Maurice Lau
Helen Lawrence
Tessa Lawrence
Heidi Lawson
William Lawson-Brown
Tom Lawton
Susannah Leaver
Julie Lebas
Gemma Lee
Michelle Leemans
Mairi Leggatt
Cynthia Leigh
Dee Leonard
David Leslie
Denny Levett
Christopher Levett
David Levy
Juliette Li Wan Po
Rosario Lim
Woei Lin Yap
Jonathan Lloyd Evans
Alison Loftus
Ruth Longfellow
Rita Lopes
Rui Lopes
Bruno Lorenzi
Gretel Loten
Louise Hunt
Robert Loveridge
Justine Lowe
Clare Lummis
Val Luoma
Craig Lyness
Marc Lyons
Sara Ma
Neil MacDonald
Mark MacGregor
Ami Mackay
Ailie Mackenzie
Jennifer MacLellan
Joe Macmillan
George Madden
Karen Maher
Parisa Mahjoob-Afag
Christopher Mahon
Cathryn Mainwaring
Sola Makinde
Jasmina Mandair
Mira Manoharan
Hosnieh Marbini
Kalimuthu Marimuthu
Nicky Marks
Suzie Marriott
Emma Marshall
Jane Martin
Tim Martin
Sarah Martindale
Guillermo Martinez
Laura Martins
Gladys Martir
Sushil Maslekar
Clare Mason
Alexandra Matson
Rosanna Maurin
Debbie Mawson
John May
Denzil May
Frank McAuley
Laura McCafferty
Ananya McCarthy
Jacqueline Mccormick
Bruce McCormick
Richard McCormick
David McCrettton
Evanna McEvoy
John McGrath
Sophie McGrath
India McKenley
Emma Mckenna
Elizabeth McKerrow
Euan McLaughlin
Laura Mcleavy
Fiona McNeela
Margaret McNeil
Denise McSorland
Johannes Mellinghoff
Teresa Melody
Julie Melville
Arun Menon
Stuart Mercer
Pauline Mercer
Megan Meredith
Susan Merotra
Rachel Meskell
Clare Mewies
Maria Milburn
Martin Millar
Jessica Miller
Don Milliken
Simran Minhas
Gary Minto
Sarah Mitchard
George Mochloulis
Jignasa Modha
Faizal Mohomed-Hossen
Helen Molloy
Georgia Monantera
Rugaia Montaser
Jane Montgomery
Maria Moon
Claire Moore
Tim Moore
Alison Moore
Iain Moppett
Lucy Moran
Tom Morgan-Jones
Catherine Moriarty
Clare Morkane
Rebecca Morris
Lucy Morris
Sophie Morris
Andy Morrison
Alison Moss
Susan Moss
Bhvani Mothe
Lorraine Motuel
Jessica Muchmore
Karim Muhammad
Hassan Mukhtar
Amanda Mulholland
Joe Mullender
Amanda Mullholland
Maxene Murdoch
Henry Murdoch
Rosie Murdoch
Jo Murfin
Anthony Murphy
Zoe Murphy
Katherine Murray
Dave Murray
Rosemary Musanhu
Esther Mwaura
Priya Nadarajah
Seema Nadkarni
Zin Naing
Rajesh Nair
Ashok Nair
Priya Nair
Shireen Naqui
Andres Naranjo
Nagendra Natarajan
Noel Nathaniel
Shakira Nathoo
Deanna Naylor
Aaron Ng
Yang Ng
Onie Ngwenya
Sotiris Nicholas
Claire Nicholas
Tom Nightingale
Louise Nimako
Marie Nixon
Hannah Noble
Harriet Noble
Aidan Noon
Julie North
Kribashnie Nundlall
Ruth O'Dowd
Paul O'Loughlin
Vikki O'Loughlin
Jonathan Ockrim
Tessa O'Halloran
Maxine Okello
Alison O'Kelly
Padraig O'Scannill
Ayo Oshowo
Harriet Owen
Sara Owen
Jamie Pack
Andrew Padwick
Valerie Page
Katherine Pagett
Anirudda Pai
Glykeria Pakou
Carole Paley
Claire Palmer
Janet Palmer
Shivani Pandya
Kerry Paradowski
Dhruv Parekh
Zarah Paris
Linda Park
Jane Parker
David Parkinson
Valerie Parkinson
Sanjay Parmar
Julia Parnell
James Parry
Penny Parson
Georgie Parsons
Judith Partridge
Jonathan Pass
Jaimin Patel
Rajan Patel
Johanna Paterson
Kate Paterson
Abigail Patrick
Mathew Patteril
Dan Paul
Mark Paul
Varghese Paul
Mark Pauling
Stephanie Pauling
Nikhil Pawa
Corinne Pawley
Louise Pearson
Andrew Peethamsingh
Suzannah Pegler
Melchizedek Penacerrada
Lisa Penny
Stacey Pepper
Lauren Perkins
Raj Pervalli
Cecilia Peters
Chris Peters
Carroll Petty
Alexander Philips
Andrew Pick
Mikolaj Pielas
Manuel Pinto
Lucy Pippard
Bala Piramanayagam
James Plumb
Kathryn Pointon
Sara Polhill
Michael Pollard
Fiona Pomeroy
Jim Poncia
Mel Poole
Claire Potter
Alison Potter
Gail Pottinger
Sarah Powell
Chris Powell-Wiffen
Oliver Pratt
Joel Prescott
Karen Prevc
Anna Price
Carly Price
Stephanie Prince
Florence Prior
Ffion Pritchard
Mark Pulletz
Anne Pullyblank
Bally Purewal
Charlotte Quamina
Ramasamy Radhika
Govindaraju Ramana
Sean Ramcharan
Lidia Ramos
Nirmalabaye Ramsamy
Fiona Ramsden
Simon Rang
Mohan Ranganathan
Valluvan Rangasamy
Sameer Ranjan
Rajashankar Rao
Steph Ratcliffe
Dave Raw
Shilpa Rawat
Caroline Reavley
Jon Redman
Ellie Reeves
Hafiz Rehman
Karen Reid
Simon Reid
Andrew Renehan
Johannes Retief
Adam Revill
Nicolas Rey de Castro
Anna Reyes
Ramasamy Rhadika
Matthew Rhodes
Karen Rhodes
Anna Riccoboni
Zoe Ridgway
Stephanie Ridgway
Corinne Rimmer
Jenny Ritzema
Vanessa Rivers
Stephen Roberts
Martyn Robertson
Nikola Robinson
Lisa Roche
Kirsty Rogers
Melissa Rosbergen
Alastair Rose
Joanne Rothwell
Jacqueline Routledge
Geena Roy
James Royal
Anna Roynon Reed
Webster Rushesha
Lucy Ryan
Christine Ryan
Parv Sains
Amina Sajid
Mark Salmon
Collette Samuels
Amanda Sanderson
Siva Sangaralingham
Sumayer Sanghera
Seliat Sanusi
Laura Sarmiento Valero
Christine Sathananthan
Nicholas Savage
Heather Savill
Amrinder Sayan
Magda Sbai
Andrea Scala
Mark Scarfe
Rosaria Scarpinata
Lyndsay Scarratt
Anne Scase
Louise Schonborn
Simon Scott
Michaela Scott
Chloe Searles
Karthikeyan Selvaraju
Neel Sengupta
Victoria Senior
Darreul Sewell
Helen Seymour
Nirav Shah
Samir Shah
Deep Shah
Andy Shannon
Sophie Shapter
Emma Sharkey
Helen Sharples
Adnan Sheikh
Tom Sheppard
Julie Sheriff
Paula Shirley
Anthony Short
Charmaine Shovelton
Pauline Sibley
Constantinos Simillis
Helen Simmons
Joanna Simpson
Janet Sinclair
Jambulingam Sivasamy
Subash Sivasubramaniam
John Skinner
Amy Slack
Kirstie Smith
Tim Smith
Chris Smith
Darren Smith
Austen Smith
Dave Smith
Julian Smith
Jason Smith
Rachel Smith
Neil Smith
Theresa Smith
Jennifer Smith
Fran Smith
Debbie Smyth
Rebecca Snell
Manisha Sodhi
Kathryn Sollesta
Julian Sonksen
Simon Sparkes
William Speake
Will Spencer
Yolande Squire
Gemma Squires
Philippa Squires
Seema Srivastava
Frank Stafford
Claire Stapleton
Lorraine Stephenson
Joseph Stevens
Nathalie Stevenson
Richard Stewart
Duncan Stewart
Adrienne Stewart
Julian Stone
Mark Stoneham
Sharon Storton
Alexa Strachan
Richard Struthers
Charlotte Strzelecki
Daren Subar
Akshay Sule
Mark Sullivan
Jaysimha Susarla
Paul Sutton
Asheesh Suxena
Andrew Swain
Catherine Swann
Kathy Swanson
Mike Swart
Katie Sweet
Yadullah Syed
Abdul Syed
Rebecca Symes
Gemma Szabo
Kata Szabo
Melanie Tan
James Taylor
Frances Taylor
Michelle Taylor
Natalie Taylor
Emma Temlett
Nila Tewari
Azeem Thahir
SriKandan Thangavel
Mini Thankachen
Bubby Thava
Abrie Theron
Kumaran Thiruppathy
Kannan Thogulava
Caroline Thomas
Sue Thomas
Vicky Thomas
Rebecca Thompson
Leah Thompson
Chris Thorn
Madeleine Thyssen
Helen T-Michael
Gabriella Tomkova
Zara Townley
Dawn Trodd
Maria Troy
Julia Tubbs
Olga Tucker
James Tulloch
Victoria Turner
Ian Turner-Bone
Cadice Tyers
David Tyl
Stephen Usher
Chandrashekhar Vaidyanath
Chandra Vaidyanath
Luke Vamplew
Emma Varley
Nikhil Vasdev
Rajiv Vashisht
Frances Venn
Joanne Vere
Mark Vertue
Julie Vickery
Dale Vimalachandran
Marcela Vizcaychipi
Ravinder Vohra
Lewis Waggett
Mai Wakatsuki
Jessica Walding
Susanna Walker
Elaine Walker
James Walkington
Deirdre Wallace
Jo Waller
Lucy Walsh
Michelle Walter
Daniel Wang
Sinead Ward
John Ward
Sally Ward-Booth
Gregory Warren
Tim Warrener
Richard Wassall
Lucy Waterfield
Grant Watling
Jane Watson
Nicholas Watson
Dave Watson
Philip Waugh
Emily Weaver
Jonathan Williamson
Matthew Whitehead
Danielle Wilcock
Laura Wilding
Emma Wiliams
Gail Williams
Hannah Wilson
Jonathan Wilson
Danny Wong
Andrew Woodgate
Jade Woolley
Caroline Wrey Brown
Retno Wulandari
Babel Zaheer
Ahmad Ziyad

Our thanks also to the other collaborators not listed above who work so hard at local level to deliver PQIP.

PQIP Project Team

Ramani Moonesinghe, Giuseppe Aresu, Sam Bampoe, Rachel Baumber, James Bedford, Matthew Bedford, Anne-Marie Bougeard, Alexandra Brent, Martin Cripps, Jenny Dorey, Sharon Drake, Helen Ellicott, David Gilhooly, James Goodwin, Aleksandra Ignacka, Sandy Jackson, Irene Leeman, Jose Lourtie, Peter Martin, Dorian Martinez, Dermot McGuckin, Arun Sahni, Katie Samuel, Cristel Santos, Pritam Singh, Mike Swart, Olga Tucker, Abigail Vallance, Cecilia Vindrola, Ravinder Vohra, Duncan Wagstaff, Samantha Warnakulasuriya, Karen Williams, Jonathan Wilson

PQIP is supported by the National Institute for Health Research's Clinical Research Network through portfolio adoption.

PQIP is funded by the Royal College of Anaesthetists, the Health Foundation, and the UCL/UCLH NIHR Surgical Outcomes Research Centre.

PQIP is delivered by the NIAA Health Services Research Centre and sponsored by University College London.

NIAA Health Services Research Centre
The Royal College of Anaesthetists
Churchill House
35 Red Lion Square
London WC1R 4SG

Published by the Royal College of Anaesthetists

Registered Charity No: 1013887 | Registered Charity in Scotland No: SCO37737 | VAT Registration No: GB 927 2364 18

www.pqip.org.uk

@PQIPNews

NHS
National Institute for Health Research