PQIP

Perioperative Quality Improvement Programme

Report 6

March 2024 to March 2025

RCoA Royal College of Anaesthetists | CR&I Centre for Research and Improvement

NIHR | Central London Patient Safety Research Collaboration

The Health Foundation

UCL source surgical outcomes research centre

PQIP Perioperative Quality Improvement Programme

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Dear reader,

It's a privilege to bring you our 6th Cohort report of the Perioperative Quality Improvement Programme. We have recruited more than 60,000 participants to the study so far, and now have our target recruitment of 70,000 in sight. Alongside that we are making plans for the future. This includes publishing more papers based on the Cohort we have recruited, fulfilling all of the ambitions of our original protocol and publication plans, and thinking about how we might turn PQIP formally into a clinical trials platform. The VITAL study collaboration with Joyce Yeung, Sham Jhanji and the Warwick Clinical Trials team has recently concluded, recruiting 2,500 participants from 40 PQIP hospitals – many congratulations to the VITAL team and thank you to all who contributed. We are always looking for new opportunities to collaborate on new studies so do get in touch with me directly if you want to chat about opportunities.

In the meantime, let's reflect on the work we still have to do. Similar themes emerge this year to past reports – while we continue to see improvements in DrEaMing rates and some of our outcome measures, we also remain challenged by some aspects of perioperative care which our patients should probably be able to take for granted – for example, individualised risk assessment before surgery, opportunities to have anaemia and diabetes optimised to reduce transfusion, complications and length of stay, and access to the right location of care after surgery. We hope that your individualised hospital report will give you insights to your particular situation and a starting point to focus on improvement efforts at local level.

Huge thanks to every one of our collaborators at local level and to the fantastic study team at the RCoA and UCL, particularly our study coordinator Dominic Olive, RCoA Research Manager, Christine Taylor, PQIP fellows past and present, James Durrand and Duncan Wagstaff, patient representatives, Irene Leemans and Jenny Dorey, and our amazing analyst Aiman Al-Eryani.

Thanks as always for your support and for your care for our patients.

Best wishes,

Ramani Moonesinghe
on behalf of the PQIP Project team

PQIP Perioperative Quality Improvement Programme

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Top 5 improvement priorities 2025–2026

1 Perioperative Patient Blood management

Key to reducing adverse outcomes and costs associated with preoperative anaemia and perioperative transfusion.

TIPS

- Establish a pathway for screening and management of anaemia.
- Work with pharmacy to ensure a supply of TXA in every operating / anaesthetic room
- Ensure the Safer Surgery checklist used for all inpatients includes blood management principles (e.g. check Hb, G&S, tranexamic acid).
- Consider a local opt-out rather than opt-in approach to TXA administration in inpatient surgery
- For every patient who has a group and save – make sure TXA administration is discussed

2 DrEaMing

A proven bundle of interventions to reduce length of stay and facilitate increased capacity in perioperative pathways.

TIPS

- Focus on key barriers: Treat preoperative anaemia, even when mild. Avoid tethering to the bed and address postoperative pain.
- Take a pathway specific approach to tackle specialty specific barriers
- Utilise the NHSE DrEaMing toolkit (September 2025)

3 QI and use of local data

PQIP collaborating sites continue to achieve measurable success through use of local data.

TIPS

- Identify local priorities at a surgical specialty level for targeted QI activity.
- Utilise the QI tools on the PQIP website to obtain, understand and share your data to key stakeholders.
- Monitor improvement and share this with the perioperative team
- Look out for your hospital-specific QI report based on your PQIP metrics!

4 Pain management

Effective postoperative pain management facilitates several other key process measures such as DrEaMing.

TIPS

- Anticipate a rebound increase in pain scores from recovery to postoperative day 1.
- Involve an acute pain service and ensure multimodal anticipatory plans are in place.
- Ensure epidural catheters are supported by the perioperative MDT approach to maintain effectiveness beyond theatre recovery.

5 Engage with PQIP related research activity

There are loads of opportunities for you and your colleagues to take part in PQIP-related research this year: for example...

TIPS

- Take part in the BEE-EPC survey which is looking to understand barriers to implementation of enhanced perioperative care services and how we can overcome them – follow QR code below.
- Express an interest in contributing to the HIPPOCRATES research study about how to improve postoperative outcomes for patients experiencing socioeconomic deprivation (email: hippocrates@ucl.ac.uk).
- If you are a resident doctor, nurse or AHP, joint the NIHR Associate PI scheme and become a local lead for PQIP.

Policy alert

DHSC/NHSE Reforming Elective Care for Patients

In January 2025, Reforming Elective Care for Patients was published advancing upon prior guidance for post-pandemic recovery of the elective backlog.

Over 60,000 people undergoing major surgery and counting: next stop 70,000

National recruitment: beyond the 60,000 milestone

- PQIP has now recruited over 60,000 patients.
- This achievement reflects the hard work of teams at 174 UK hospitals since 2016 with recruitment across all 6 Cohorts summarised in Table 1.
- This report focuses on the additional 5,573 patients in Cohort 6 (since March 2024).

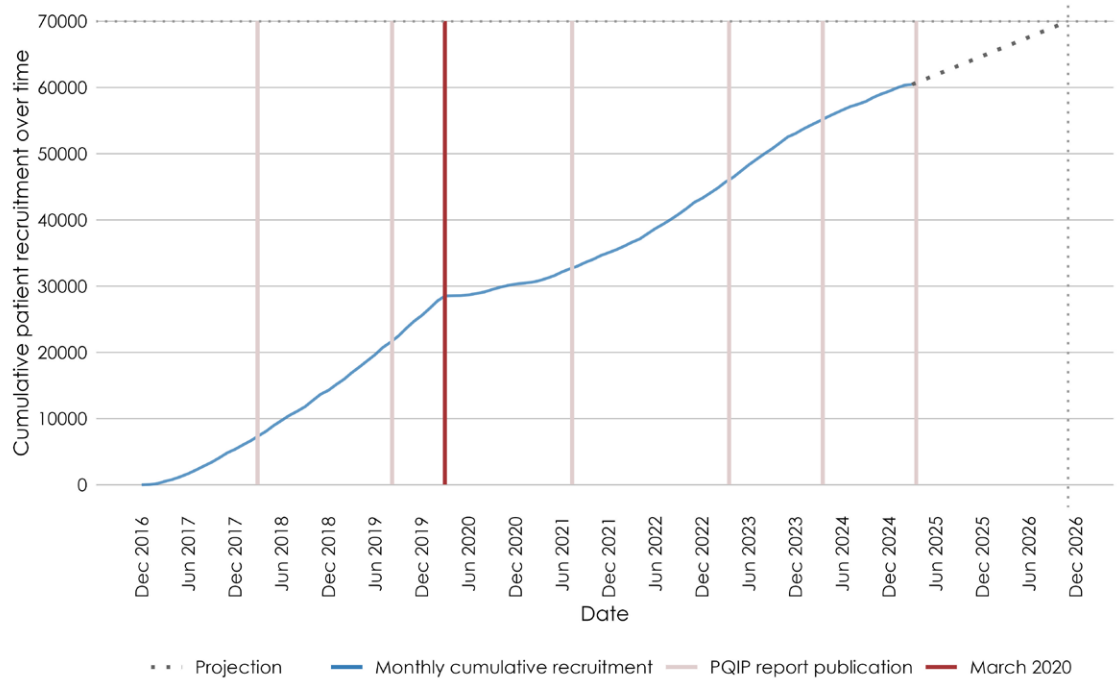
Table 1 Recruitment across PQIP Cohorts

	Start date	End date	Number of months study open	Number of completed episodes (n)
Cohort 1	1/11/2016	27/2/2018	15	6,643
Cohort 2	28/2/2018	6/8/2019	17	14,242
Cohort 3	07/08/2019	11/07/2021	23	11,422
Cohort 4	12/07/2021	17/03/2023	20	12,969
Cohort 5	18/03/2023	17/03/2024	12	9,385
Cohort 6	18/03/2024	17/03/2025	12	5,794
Total	1/12/2016	17/03/2024	99	60,455

Heading for 70,000

- With continued momentum (Figure 1) PQIP will reach its target of 70,000 recruited patients the largest and longest-term perioperative Cohort study of its kind and a powerful resource for ongoing improvement in perioperative care.

Figure 1 PQIP recruitment over time



Site recruitment spotlight

- Well done to the following top 5 recruiting sites for Cohort 6.
  - University College hospital.
  - Royal Berkshire Hospital.
  - Aintree University Hospital.
  - Royal Sussex County Hospital.
  - Darent Valley Hospital.
- A warm welcome to Liverpool Women's Hospital joining PQIP since the publication of Cohort 5.

Case study

Improving PQIP recruitment and data collection at Royal Sussex County Hospital

"PQIP has gone from strength to strength at RSCH, where 'it feels like it has become part of the fabric – just like NELA".

- By dedicating a research nurse to PQIP, the completeness of data collection has significantly improved. This has created a reliable dataset which is now regularly used when the department want to explore or improve an aspect of perioperative care.
- Resident Anaesthetists appointed as Associate PIs coordinate the project locally, benefiting from invaluable research, QI and management experience.
- Local data are fed back to the clinical department via tailored spreadsheets, inspired by the national dashboards. Data are also disseminated during regular intervals at governance meetings every two months alongside NELA feedback.
- Divisional managers and executives have taken an interest in the data, which are being used to explore variation in post-op LOS within the Trust. Our recent survey showed that only a minority of respondents (42%) were sharing PQIP data with local managers.

ROYAL SUSSEX COUNTY HOSPITAL

Improving PQIP recruitment and data collection

DATA UTILISATION

- Divisional Managers and Executives have taken an interest in local PQIP data
- They are using the data to explore variation in post-op LOS within the Trust.
- Our recent survey showed that only a minority of respondents (42%) were sharing PQIP data with local managers.

ASSOCIATE PRINCIPLE INVESTIGATORS

- Resident Anaesthetists appointed as Associate PIs coordinate the project locally
- They describe benefiting from invaluable research, QI and management experience.

DATA FEEDBACK PROCESS

- Local data are fed back to the clinical department via tailored spreadsheets, inspired by the national dashboards.
- Data are also disseminated at governance meetings every two months alongside NELA feedback

IMPROVED DATA COMPLETENESS

- Dedicating a research nurse improved data completeness.
- This created a **reliable dataset** for perioperative care improvements.

THE FINAL WORD

"PQIP HAS GONE FROM STRENGTH TO STRENGTH AT RSCH, WHERE 'IT FEELS LIKE IT HAS BECOME PART OF THE FABRIC – JUST LIKE NELA".

Tips for engagement

We appreciate local teams' efforts in recruiting patients to PQIP and hope the data sparks discussions and facilitates quality improvement. Despite varying departmental challenges, we believe that greater investment in PQIP yields more value in improvement in outcomes. Here are a few tips from our experience running this study:

- Use our automated poster generator to highlight your hospital's key results. Go to www.pqip.org.uk, login and go to the 'reports' menu - hit poster generator.

- Regularly feedback your PQIP results, using multiple channels. Posters, emails, departmental meetings and newsletters can all be effective. Sharing results across the MDT will support data collection and reduce the likelihood of duplication of efforts through overlapping local audits and QI.
- Present your data. Stimulate discussion of PQIP results to increase the whole team's awareness about PQIP, and also potentially help improve recruitment and data input.
- Highlight good practice. Celebrate the positive impact of the whole MDT's hard work, and use PQIP data to help the team to gain insight into where future QI efforts should be focused.

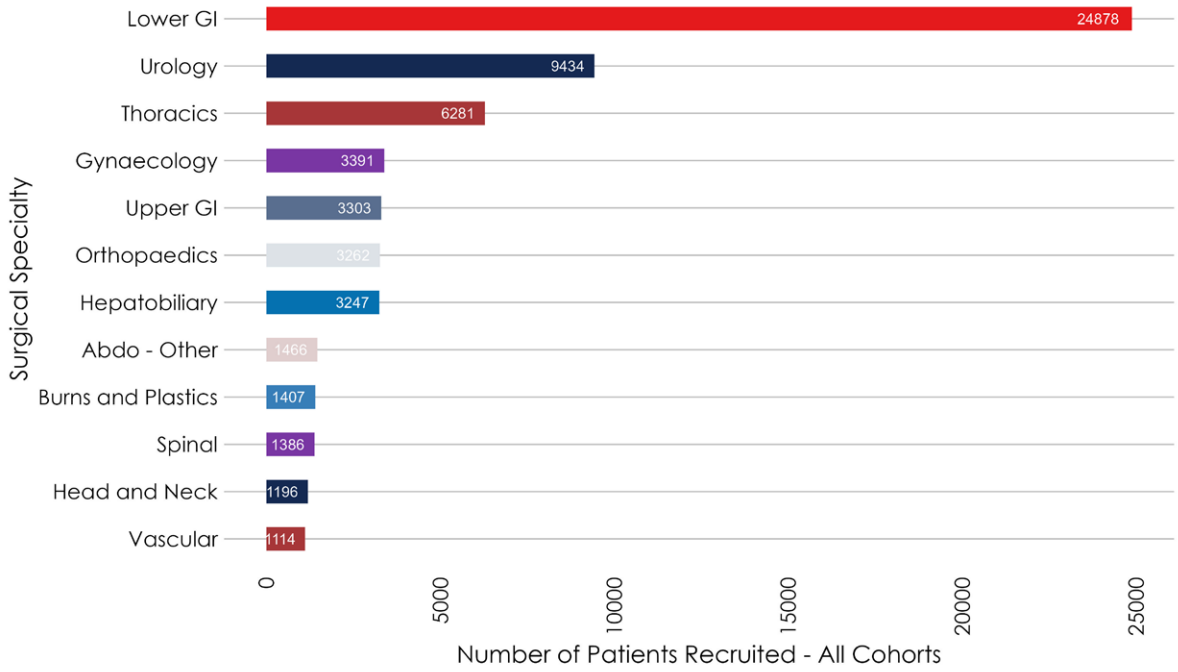
What do PQIP patients look like?

Table 2 PQIP Cohort demographics

Characteristic	Overall, N = 60,450[1]	Cohort 1, N = 6,640[1]	Cohort 2, N = 14,242[1]	Cohort 3, N = 11,420[1]	Cohort 4, N = 12,969[1]	Cohort 5, N = 9,385[1]	Cohort 6, N = 5,794[1]
Age (Years, Median; IQR)	66.0 (56.2–73.6)	67.2 (57.4–73.8)	66.2 (55.8–73.5)	65.7 (55.7–73.2)	65.9 (56.4–74.0)	65.6 (56.6–73.6)	65.3 (55.8–73.7)
Biological Sex (%)							
Female	45	39	42	46	47	47	50
Male	55	61	58	54	53	53	50
Intersex	NA	NA	NA	NA	NA	NA	NA
PNS	NA	NA	NA	NA	NA	NA	NA
BMI (Median; IQR)	27.4 (24.2–31.2)	27.0 (23.9–30.4)	27.2 (24.0–30.9)	27.4 (24.2–31.1)	27.5 (24.2–31.3)	27.8 (24.5–31.8)	28.0 (24.8–31.9)
Current Smoker (%)	11	11	11	11	11	10	9.8
ASA Physical Status (%)							
1	9.3	11	11	10	7.6	7.4	8.5
2	59	61	61	60	58	58	59
3	30	27	28	29	34	34	31
4	1.0	1.1	1.0	1.0	1.1	0.9	1.4
5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Surgical Complexity (%)							
Major	11	14	12	12	10	11	8.1
Complex Major	35	34	33	34	36	36	39
Complex	53	52	55	54	53	53	53
Surgical Urgency (%)							
Elective	92	88	90	91	93	95	95
Expedited	7.9	12	9.7	8.9	6.9	4.5	5.1
Cancer Diagnosis Within 5 Years (%)							
None	35	23	30	36	37	37	44
Solid, No Mets	53	59	54	53	52	52	47
Solid, Mets	12	17	15	10	11	11	8.3
Lymphoma	0.2	0.3	0.3	0.2	0.1	0.3	0.2
Leukaemia	0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1
Diabetes (%)							
None	87	87	87	87	86	86	87
Type I	0.6	0.7	0.7	0.5	0.5	0.6	0.5
Type II – Diet Control	2.9	2.9	3.1	2.9	2.9	3.0	2.9
Type II – Oral Agents	7.3	6.7	6.6	7.3	7.9	7.6	7.9
Type II – Insulin	2.4	2.6	2.9	2.2	2.3	2.4	2.1
NYHA Heart Failure Class (%)							
I	84	83	83	81	84	87	89
II	13	14	15	16	13	11	9.1
III	2.5	2.6	2.4	2.9	2.6	2.1	1.7
IV	0.1	0.2	0.1	0.2	0.1	0.2	0.1
Respiratory History	16	16	15	17	16	NA	NA
Respiratory Infection (Past Month)	3.4	4.0	3.2	3.2	3.0	NA	NA
Cardiac History	15	25	25	25	4.5	3.9	3.8
Abnormal ECG	22	23	22	21	9.1	NA	NA
Cerebrovascular Disease	4.0	3.9	4.1	3.8	3.6	4.1	4.8
Dementia	0.6	0.6	0.9	0.7	0.3	0.5	0.3
Liver Disease	1.0	1.3	1.0	0.8	0.9	1.9	0

[1]Median (IQR); %

Figure 2 Recruitment by surgical specialty



Complex surgery across multiple specialties

- In keeping with previous Cohorts, PQIP patients continue to undergo complex surgery.
- 60% of procedures take longer than three hours with 17% taking over six hours (Table 3).
- Table 4 summarises the top 3 most common procedures recorded.

Table 3 Duration of surgery in PQIP Cohorts over time

	Overall, N = 60,450[1]	Cohort 1, N = 6,640[1]	Cohort 2, N = 14,242[1]	Cohort 3, N = 11,420[1]	Cohort 4, N = 12,969[1]	Cohort 5, N = 9,385[1]	Cohort 6, N = 5,794[1]
Duration Surgery							
Less than 2hrs	5,506 (9.3%)	498 (7.5%)	1,095 (7.7%)	1,229 (11%)	1,355 (11%)	809 (8.8%)	520 (9.3%)
2 to 3hrs	14,709 (25%)	1,596 (24%)	3,466 (24%)	3,058 (27%)	3,102 (24%)	2,126 (23%)	1,361 (24%)
Greater than 3hrs	20,756 (35%)	4,528 (68%)	9,581 (68%)	6,637 (59%)	NA	NA	NA
3 to 4hrs	6,865 (12%)	NA	NA	156 (1.4%)	3,040 (24%)	2,305 (25%)	1,355 (24%)
4 to 6hrs	6,756 (11%)	NA	NA	109 (1.0%)	2,933 (23%)	2,272 (25%)	1,437 (26%)
Greater than 6hrs	4,862 (8.2%)	NA	NA	60 (0.5%)	2,227 (18%)	1,641 (18%)	932 (17%)

[1] n (%)

Table 4 Top 3 procedures by surgical specialty across all Cohorts

Procedure	Number
Abdominal (other)	
• Abdominal wall reconstruction	447
• Adrenalectomy (unilateral)	259
• Complex restoration of intestinal continuity	127
Burns and Plastics	
• Mastectomy with soft tissue reconstruction (to include pedicled reconstructions)	630
• Reconstruction of breast using flap	488
• Delayed reconstruction of breast using pedicled TRAM	195
Gynaecology	
• Vaginal hysterectomy including salpingo-oophorectomy (including laparoscopically assisted)	1,216
• Hysterectomy with excision/biopsy and or removal of omentum and adnexa for ovarian malignancy	806
• Radical hysterectomy and lymphadenectomy (Wertheim's)	669
Head and Neck	
• Selective dissection of cervical lymph nodes	251
• Extensive excision of mandible (+/- disarticulation/ reconstruction)	120
• Radical dissection of cervical lymph nodes	104
Hepatobiliary	
• Resection of lesion(s) of the liver	1,040
• Pancreatoduodenectomy and excision of surrounding tissue (Whipple's procedure)	897
• Hemihepatectomy (right)	346
Lower Gastrointestinal	
• Anterior resection	7,626
• Right hemicolectomy (with anastomosis)	7,032
• Excision of Sigmoid colon	1,539
Orthopaedics	
• Revision of total replacement of knee joint	1,157
• Revision of total hip replacement including insertion of reconstruction rings, plates, screws, etc., and/or impaction bone grafting to acetabulum and/or femur	863
• Revision of uncemented or cemented total hip replacement without adjunctive procedures	673
Spinal	
• Anterior discectomy, decompression and fusion (including bone grafting/multiple levels) (cervical region)	320
• Primary posterior fusion +/- decompression +/- discectomy (lumbar region)	197
• Combined anterior approach discectomy, decompression and fusion and posterior fusion (lumbar region)	162
Thoracics	
• VATS lobectomy	2,421
• VATS wedge resection of lung	1,080
• Pulmonary lobectomy including segmental resection	610
Upper Gastrointestinal	
• Oesophagectomy (total)/Oesophagogastrectomy	1,071
• Gastrectomy (Total or Partial) with excision of surrounding tissue	716
• Oesophagectomy (partial)	425
Urology	
• Radical prostatectomy	3,513
• Total nephrectomy (non-transplant)	1,397
• Nephrectomy and excision of perirenal tissue	1,391
Vascular	
• Endarterectomy of femoral artery	325
• Femoro-popliteal bypass using vein	149
• Open infrarenal abdominal aortic aneurysm tube graft	109

Socioeconomic deprivation in the PQIP Cohort

- Socioeconomic position impacts widely upon health over the course of life and deprivation is associated with poorer perioperative outcomes.
- Individual-level deprivation can be characterised using a number of measures, some of which PQIP patients tell us about in the baseline survey they undertake, including their occupation, living circumstances and educational history.
- Socioeconomic deprivation is more commonly measured and reported in the medical literature using an area-level measure, called the Index of Multiple Deprivation (IMD). The IMD ranks UK neighbourhoods using a composite of 7 domains: Income, Employment, Education, Health, Crime, Barriers to Housing and Services and Living Environment.
- Neighbourhoods are ranked and grouped into quintiles from IMD 1 (20% most deprived) to IMD 5 (20% least deprived).
- Table 5 describes the proportions of patients in each quintile recruited across the UK regions.

Table 5 Socioeconomic position of PQIP participants in all Cohorts by UK region

Region of UK	IMD Quintile					All PQIP participants
	1	2	3	4	5	
East Midlands	17.7	18.1	18.6	23.7	21.9	2.9
East of England	8.8	17.7	24.5	21.3	27.7	12.1
London	9.7	22.3	22.3	21.8	23.8	20.5
North East	25.4	20.5	18.8	20.1	15.2	4.4
North West	26.5	17.7	17.1	21.7	17.0	14.2
Scotland	28.6	21.4	20.0	18.6	11.4	0.1
South East	6.0	13.6	20.2	25.3	34.9	14.6
South West	7.8	19.6	29.4	25.0	18.3	10.8
Wales	18.0	19.1	18.5	20.7	23.7	5.7
West Midlands	19.9	17.4	23.0	21.6	18.1	9.2
Yorkshire and the Humber	20.8	16.7	20.0	23.4	19.1	5.5
All PQIP participants	**14.2**	**18.4**	**21.8**	**22.6**	**23.1**	**100.0**

Values are proportion of row.

- The PQIP 2025 spring webinar focussed on this area in greater detail. Recordings are available here.
- Work is ongoing to understand the impact of socioeconomic position on preoperative characteristics and postoperative outcomes in PQIP participants.

Upcoming study alert

HIPPOCRATES

Understanding how best to support patients facing greater socioeconomic deprivation is key to avoid widening of health inequalities in perioperative care.

The NIHR-funded HIPPOCRATES programme will co-design perioperative interventions specifically designed for individuals undergoing major surgery from the most socioeconomically deprived groups. During this initial phase of work, we will be working with a design consultancy and design academic, patients and public from deprived areas, and clinicians and subject matter experts. Three complex interventions will be developed, which we hope will be acceptable to patients, deliverable across the NHS, and of course, clinically effective and cost-effective.

A pilot platform randomised trial will test the three interventions against a single control group, recruiting a total of 420 patients from 12 hospitals. We will carefully evaluate whether the interventions work as planned, and what patients and clinicians think of them.

We will then select the most promising intervention or combination of interventions to go forward to a full randomised trial which will recruit over 2,500 participants in 40 hospitals, to evaluate its clinical and cost effectiveness.

The HIPPOCRATES team will be looking for centres to take part over the next 12 months. The study will build the evidence base for targeted interventions to reduce inequality and improve outcomes in perioperative care.

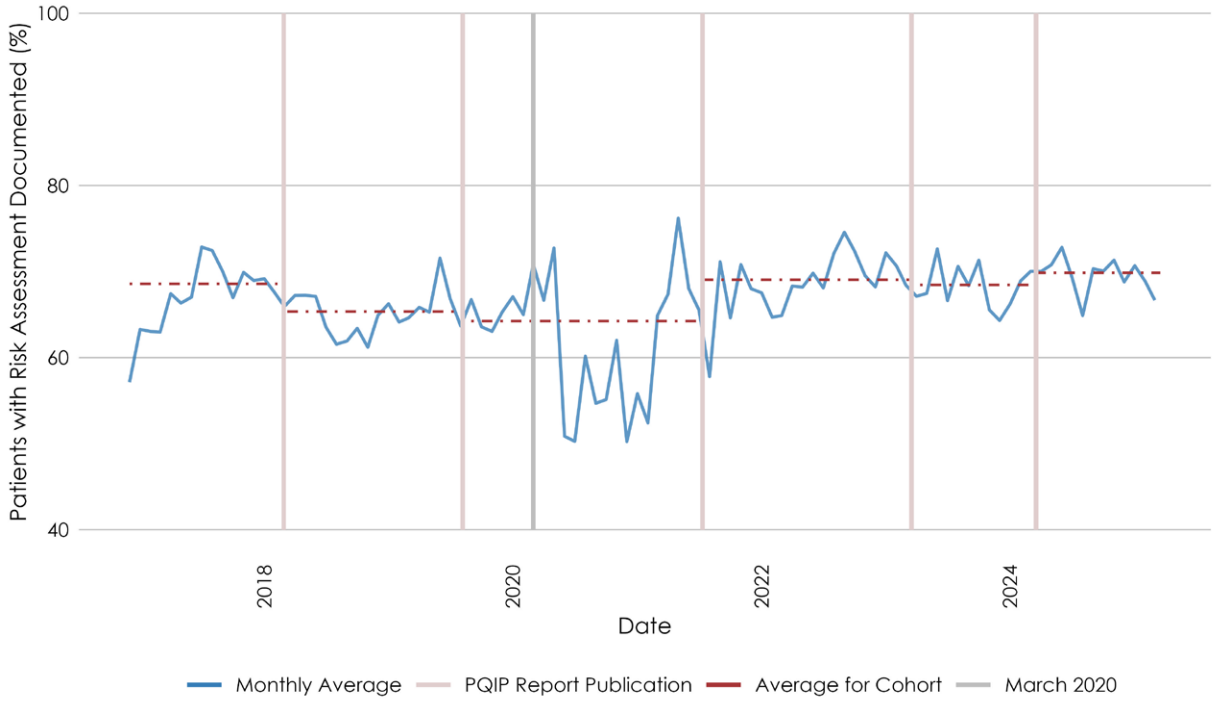
Sites interested in participating should contact: hippocrates@ucl.ac.uk

Individualised risk assessment: key to shared decision-making and risk reduction

An ongoing opportunity for improvement

- 30% of Cohort 6 did not have a documented individualised risk assessment. Although a small improvement on previous years, this is consistent across PQIP Cohorts and remains an ongoing opportunity for improvement (Figure 3).

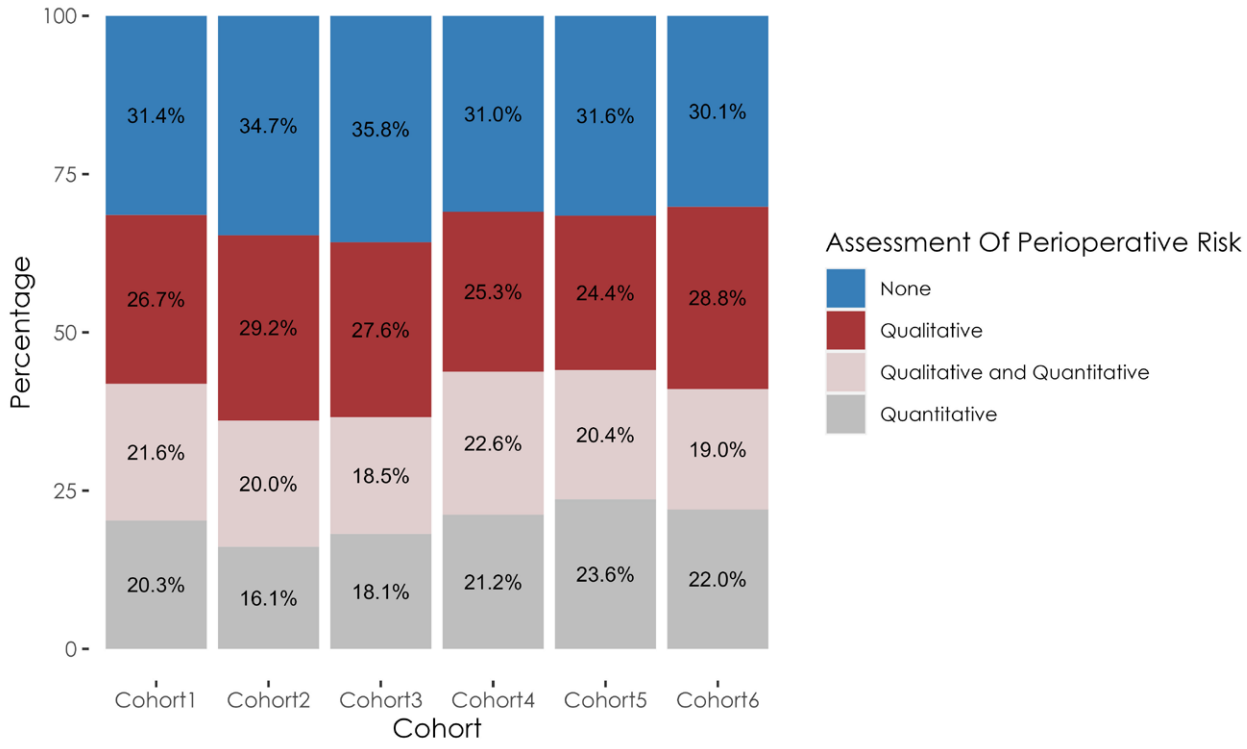
Figure 3 Trend in individualised risk assessment in PQIP Cohorts over time



Benefits of early individualised assessment

- Individualised assessment supported by recognised tools (Figure 4) is fundamental to surgical decision-making, informed consent and avoiding wrong patient surgery.

Figure 4 Methods of preoperative risk assessment in PQIP Cohorts over time



- For patients proceeding to surgery, opportunities to optimise preoperative health should be identified at the earliest opportunity. Perioperative resources including postoperative care destination can be better aligned with needs.
- There are five core principles of preoperative care underlined in the NHS England Perioperative Care Programme (see box).

NHS England Perioperative care programme 5 steps for preoperative screening and optimisation in inpatient pathways

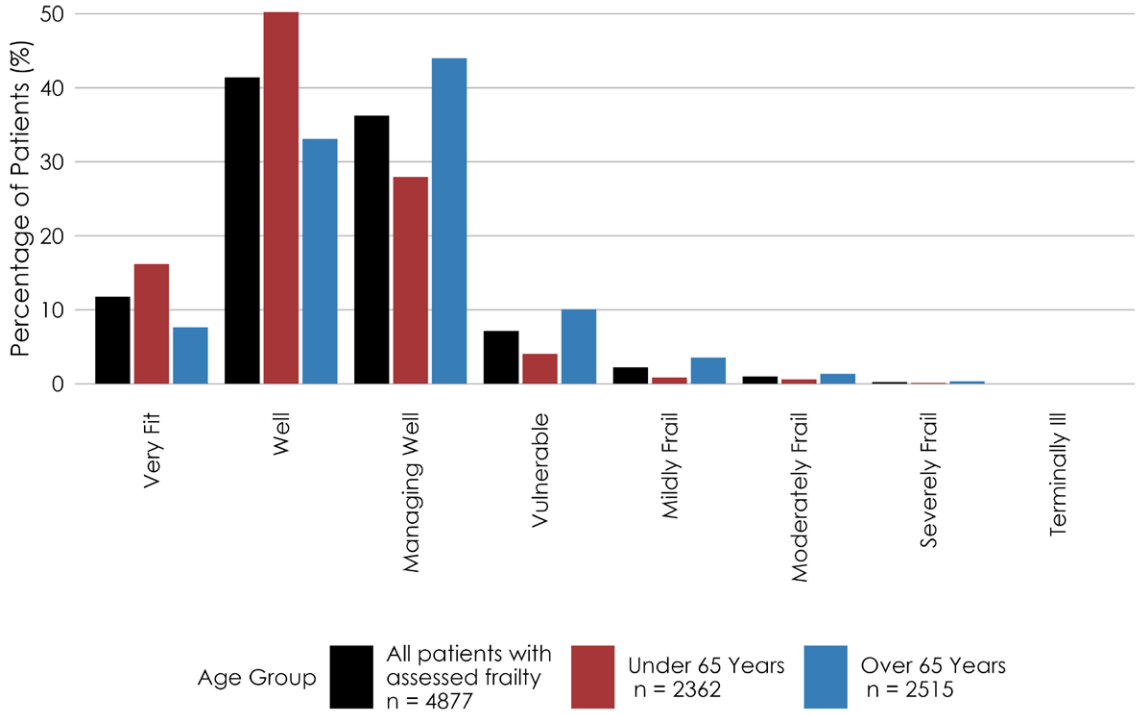
1 Early screening for comorbidities that may benefit from optimisation.
2 Provision of personalized health optimisation where required.
3 Contact with patients at least every 3 months while waiting, to ensure no change in health status or need for surgery.
4 Provision of a TCI date only once a patient is ready for surgery.
5 Embedding of shared decision-making throughout the pathway, including a two-stage consent process as recommended by the Paterson report.

Operational guidance for site preoperative assessment, listing and scheduling teams to achieve these steps within a high-quality preoperative assessment service.

Frailty screening and management: a multidisciplinary challenge

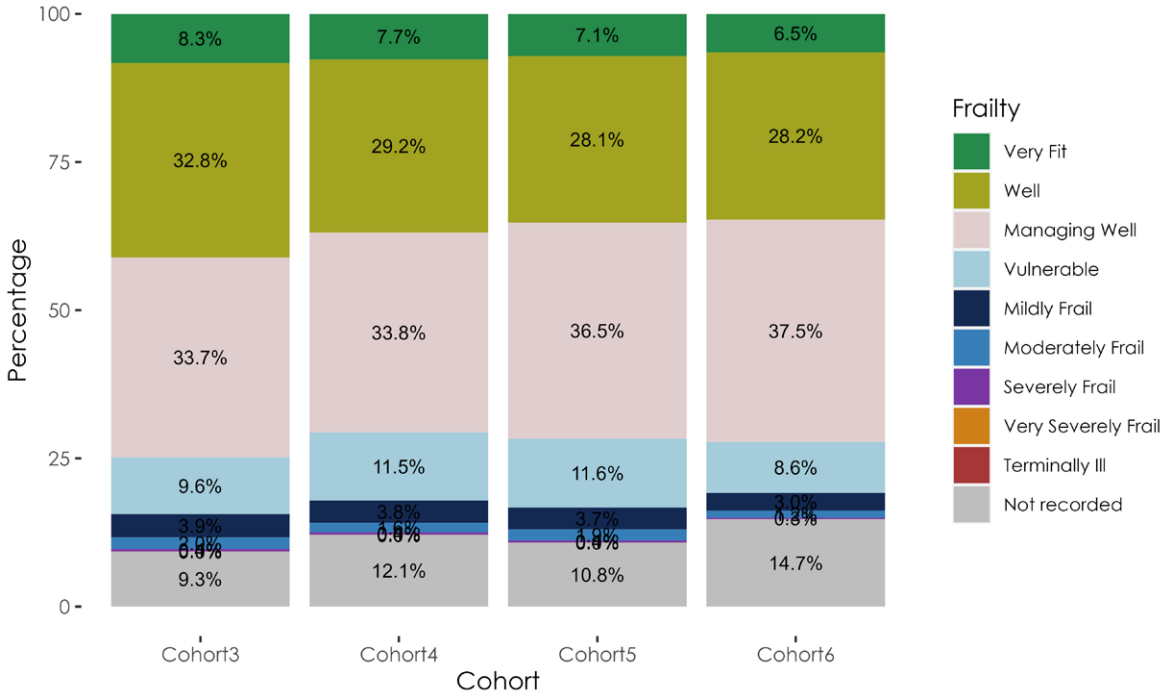
- A key objective of risk assessment prior to major surgery is identification of patients with the frailty syndrome.
- Frailty is more common in those over 65 years old, placing patients at increased risk of postoperative complications and a prolonged length of stay.
- Most patients over 65 in Cohort 6 (85%) received a recorded assessment of frailty. An important minority of patients continue undergo surgery after assessment as 'vulnerable' or 'frail' (Figure 5).

Figure 5 Rockwood Clinical Frailty Assessment by age group



- Over time, the proportion of frail patients in PQIP Cohorts has been stable, however there may be a gradual decrease in patients assessed in the lowest risk categories 'well' and 'very fit' (Figure 6). This is in the context of broader concerns around declining UK population health and aligns with findings from National Audit Project (NAP) activity surveys over time.

Figure 6 Frailty in PQIP Cohorts over time



- Frailer patients require a multidisciplinary approach to support shared decision making and mitigate their risk. Key steps are outline in comprehensive CPOC guidance on perioperative care of patients living with frailty.
- In addition, the proportion of patients without a recorded CFS increased to 14% in Cohort 6. As a key perioperative risk factor, it is important that frailty screening stays a core component of preoperative screening and assessment.

Body Mass Index (BMI) in PQIP participants: a teachable moment?

BMI patterns in the PQIP Cohort

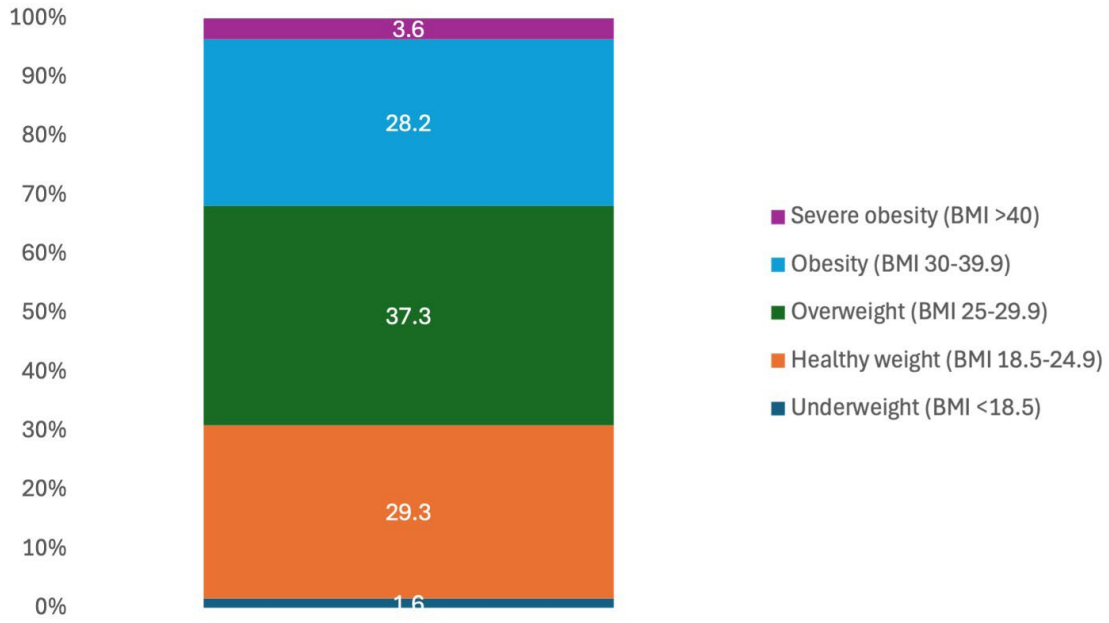
- The proportion of patients who are living with being overweight or with obesity continues to rise in UK adults. This poses a major public health challenge as a driver of key non-communicable diseases including cardiovascular disease, type 2 diabetes mellitus and solid organ cancer.
- BMI is also associated with perioperative risk. There is a J-shaped relationship between BMI and adverse postoperative outcomes, with underweight patients being at higher risk than those of a healthy weight, and risk increasing as BMI increases. The median BMI of patients in Cohort 6 was 28 and this has increased marginally across PQIP Cohorts (Table 6).

Table 6 Median BMI in PQIP participants over time

PQIP Cohort	Median BMI (IQR)
1	27 (23.9–30.4)
2	27.2 (24–30.9)
3	27.4 (24.2–31.1)
4	27.5 (24.2–31.3)
5	27.8 (24.5–31.8)
6	28 (24.8–31.9)

- Overall, a majority of PQIP participants are living with being overweight or obesity (Figure 7).
- It is now well accepted that patients living with obesity may also be malnourished.

Figure 7 BMI classification In PQIP participants (all Cohorts)



Supporting healthier behaviours

- The causes and management of obesity are multifactorial and complex, however poor diet quality and physical activity are frequently key contributors.
- Major surgery is a teachable moment where people may be more motivated to modify their health behaviours.
- A healthier diet and increased activity levels may also benefit efforts to optimise chronic health conditions including hypertension and type 2 diabetes.
- The centre for perioperative care provides excellent patient-facing resources supporting increased preoperative physical activity and better preoperative nutrition.

Study alert

Association between BMI and outcome after complex orthopaedic surgery

Understanding how best to support patients facing greater socioeconomic deprivation is key to avoid PQIP recruits patients having complex orthopaedic surgery including revision joint replacements.

There is evidence of health inequalities arising from some Integrated Health Systems (ICBs) setting thresholds for treating patients who could have a joint replacement, based on body mass index and/or commitment to weight loss. Watch this brilliant 3-minute video to find out more.

A new PQIP analysis has focused on the association between BMI and health-related quality of life, as reported by patients, after revision hip replacement.

We look forward to this being published later in 2025!

Preoperative diabetes screening and management

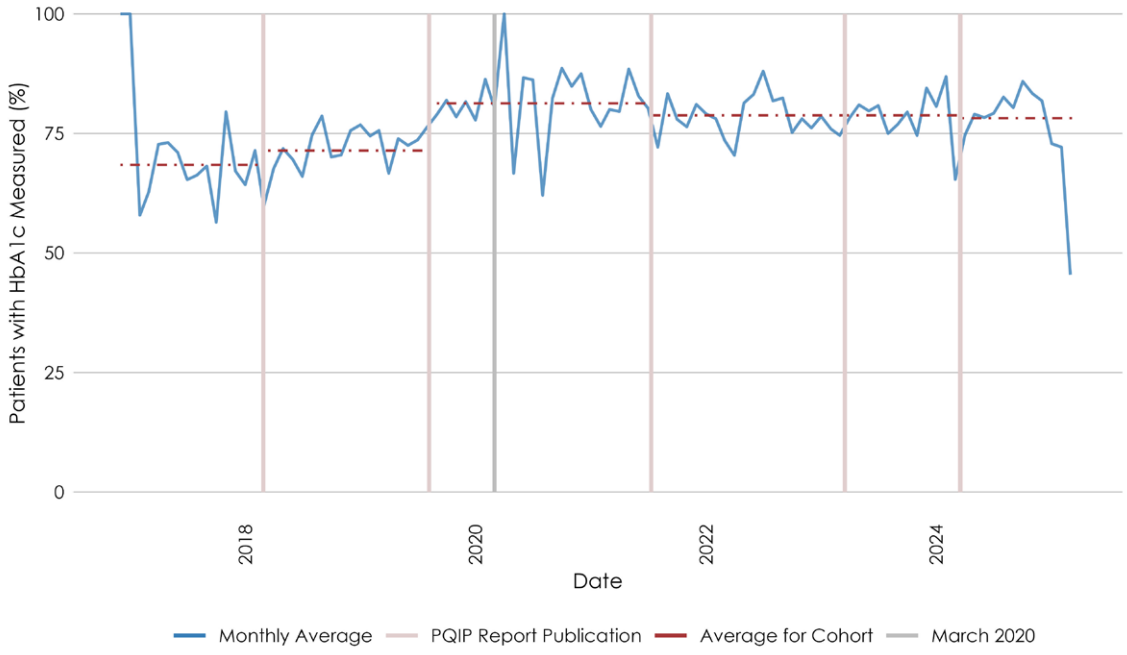
A public health and perioperative challenge

- Over 5.8 million people in the UK are currently living with diabetes. Diabetes UK estimates an additional 1.3 million people are undiagnosed with a further 6.3 million living at increased risk. Diabetes care currently accounts for 6% of annual NHS spending.
- Patients living with diabetes are at risk of longer hospital stays and higher rates of adverse postoperative outcomes.
- The proportion of PQIP participants living with diabetes in Cohort 6 is 13%. This has been stable across PQIP Cohorts.

Preoperative screening with HbA1c

- Patients living with diabetes undergoing surgery should have a HbA1c measured within 3 months of surgery as an estimate of average glycaemic control. This is a key first step in perioperative diabetes management.
- More than one in five (22%) patients with diabetes in Cohort 6 did not have their preoperative HBA1c measured, consistent with all prior Cohorts (Figure 8).
- HbA1c recording continues be especially challenging prior to thoracic surgery where preoperative timeframes are often very short. Only 43% of Cohort 6 patients ha a recorded measurement.

Figure 8 Patients living with diabetes with preoperative HbA1c measurement over time



Achievement of preoperative glycaemic control

- Of 605 patients living with diabetes who had a recorded HbA1c measurement, 25% were above the 8.5% threshold advised for elective surgery. This proportion has been stable across PQIP Cohorts and remains an opportunity for improvement.
- The highest incidence of poor diabetes control (HbA1c >8.5%) was also seen in patients undergoing thoracic surgery (52%). This was followed by head and neck, hepatobiliary, urological, and vascular surgery where 30–40% of patients had poor control (Table 7).

Table 7 Preoperative glycaemic control in patients living with diabetes by surgical specialty

Characteristic	<8.5%[1]	>8.5%[1]
Surgical Specialty		
Abdo – Other	11 (69%)	5 (31%)
Burns and Plastics	3 (100%)	0 (0%)
Gynaecology	40 (78%)	11 (22%)
Head and Neck	6 (60%)	4 (40%)
Hepatobiliary	9 (60%)	6 (40%)
Lower GI	184 (80%)	47 (20%)
Orthopaedics	40 (87%)	6 (13%)
Spinal	10 (100%)	0 (0%)
Thoracics	11 (48%)	12 (52%)
Upper GI	11 (79%)	3 (21%)
Urology	83 (70%)	36 (30%)
Vascular	41 (61%)	26 (39%)

[1] n (%)

Optimising perioperative diabetes care

- Optimal perioperative care of patients living with diabetes requires an individualised multidisciplinary and whole perioperative pathway approach.
- Achievement of optimal preoperative control supports all intraoperative and postoperative efforts to minimise risk of complications.
- CPOC guidance illustrates the key principles for achieving this.

Smoking: supporting patients to quit preoperatively

Impacts of smoking on surgical patients

- Smoking is associated with increased mortality and higher rates of major respiratory, cardiovascular, and wound complications. Patients who smoke experience prolonged lengths of stay as a result.
- Population rates have steadily declined from 2011 but now persist at 10–14% of UK adults. Concerningly Action on Smoking and Health (ASH) report rates are highest in 25 to 34-year-olds with implications for longer-term population health.
- 9.8% of patients in Cohort 6 were actively smoking, a stable proportion across PQIP Cohorts (Table 8).

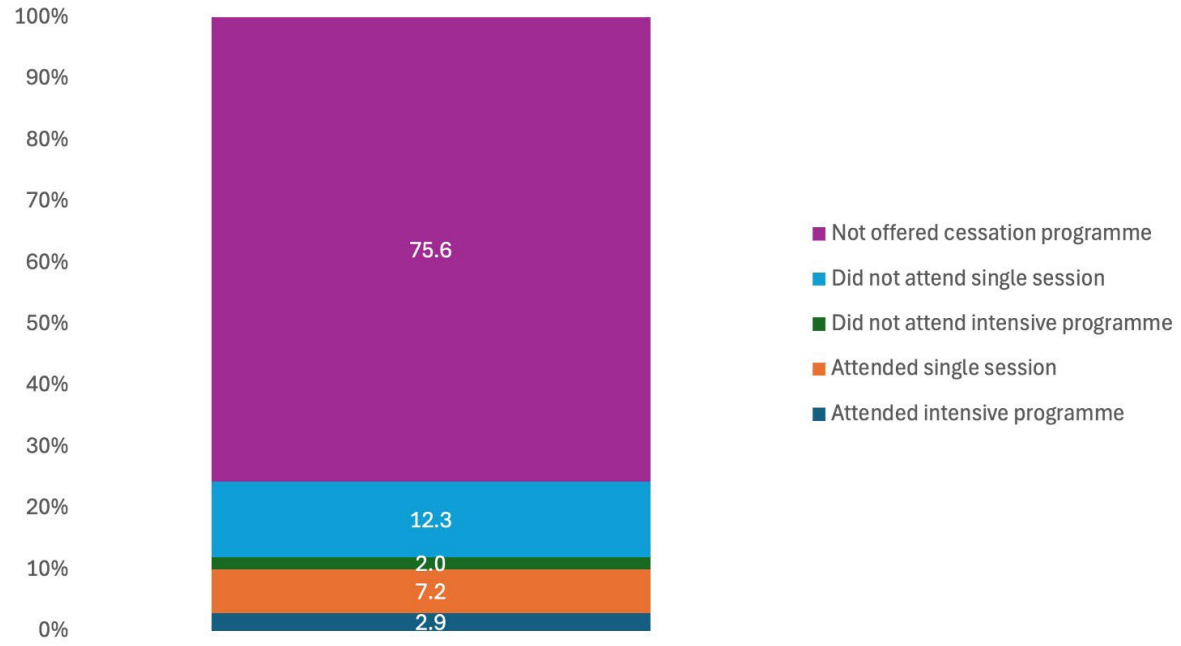
Table 8 Smoking status in PQIP participants over time

Characteristic	Cohort 1, N = 6,640[1]	Cohort 2, N = 14,242[1]	Cohort 3, N = 11,420[1]	Cohort 4, N = 12,969[1]	Cohort 5, N = 9,385[1]	Cohort 6, N = 5,794[1]
Smoking history						
Current smoker	720 (11%)	1,501 (11%)	1,277 (11%)	1,419 (11%)	940 (10%)	568 (9.8%)
Ex-smoker – stopped smoking <=6 months ago	385 (5.8%)	763 (5.4%)	512 (4.5%)	595 (4.6%)	436 (4.6%)	258 (4.5%)
Ex-smoker – stopped smoking > 6months ago	2,298 (35%)	4,625 (32%)	3,713 (33%)	4,052 (31%)	2,904 (31%)	1,748 (30%)
Missing	15 (0.2%)	17 (0.1%)	24 (0.2%)	35 (0.3%)	13 (0.1%)	11 (0.2%)
Never smoked	2,866 (43%)	6,797 (48%)	5,435 (48%)	6,355 (49%)	4,778 (51%)	3,014 (52%)
Not known	356 (5.4%)	539 (3.8%)	459 (4.0%)	513 (4.0%)	314 (3.3%)	195 (3.4%)

[1] n (%)

- Of current smokers in all PQIP Cohorts, over 75% had not been offered preoperative cessation support (Figure 9). This presents a clear opportunity for focussed QI activity.

Figure 9 Smoking cessation intervention in all PQIP participants



Benefits of preoperative cessation

- Patients supported to quit preoperatively rapidly experience physiological benefits and markedly reduced complication rates.
- Brief preoperative interventions are valuable can be performed by any MDT member and can capitalize on the preoperative teachable moment.
- However, quit rates are highest when patients have access to a structured cessation programme comprising both behavioural therapy and nicotine replacement therapy (NRT).

Guideline alert

Perioperative Treatment of Tobacco Dependence

CPOC guidance for support and management of patients actively smoking prior to surgery is now available.

Guidance for clinical teams that can be applied based on local context and available support for patients is available alongside dedicated patient facing materials.

A 4-step approach is described:

- Ask: Establish smoking status.
- Advise: Discuss any prior attempts to quit and what may work now.
- Act: Refer for further structured support.
- Act: Offer Nicotine replacement therapy.

Perioperative blood management: progress and opportunity

Preoperative anaemia

- Preoperative anaemia management remains a PQIP priority. Well established patient and system benefits of effective Patient Blood Management (PBM) are in focus following national shortages of blood products and patient and public concern following the infected blood enquiry.
- In keeping with the prior Cohort, 7.3% of Cohort 6 showed moderate-severe anaemia, a fall from 11.3% in Cohort 1.
- However, 65% of anaemic patients continue to receive no preoperative intervention (Table 9).
- Mild anaemia remains independently associated with poorer outcome including an adverse downstream effect on postoperative DrEaMing rates.
- QI activity focussed on this group is key to sustained progress.

Table 9 Proportions of anaemic Cohort 6 participants receiving preoperative treatment

Characteristic	Severe, N = 19[1]	Moderate, N = 397[1]	Mild, N = 1,352[1]	Overall, N = 1,768[1]
No Treatment	10 (52.63%)	157 (39.55%)	989 (73.15%)	1,156 (65.38%)
Intravenous Iron	6 (31.58%)	168 (42.32%)	201 (14.87%)	375 (21.21%)
Oral Iron	1 (5.26%)	66 (16.62%)	153 (11.32%)	220 (12.44%)
EPO	0 (0.00%)	1 (0.25%)	1 (0.07%)	2 (0.11%)
Blood Transfusion	3 (15.79%)	31 (7.81%)	17 (1.26%)	51 (2.88%)
B12	0 (0.00%)	2 (0.50%)	19 (1.41%)	21 (1.19%)
Folic Acid	0 (0.00%)	11 (2.77%)	12 (0.89%)	23 (1.30%)

[1] n (%)

Study alert

Provision of perioperative patient blood management strategies in the UK: A national survey of practice

- In 2023, The Research and Audit Federation of Trainees (RAFT) and The National Institute for Health and Care Research: Blood and Transplant Research Unit (NIHR: BTRU), teamed up to conduct a national survey exploring variation in local perioperative patient blood management infrastructure, pathways, and policies.
- The survey was conducted by RAFT local leads in conjunction with expert teams involved with perioperative patient blood management locally. 123 hospitals across the United Kingdom completed the survey.
- Results showed considerable variability in perioperative patient blood management strategies and supporting infrastructure. 37/123 (30%) sites did not report having normal elective anaemia pathways. There was variation between hospitals and surgical specialties in the use of tranexamic acid, with 49/122 (39%) hospitals reporting a policy for the use of perioperative tranexamic acid. Point-of-care coagulation testing was available at 62/123 (50%) sites.
- The results of this survey highlight the need for hospitals to review pathways of care offered to surgical patients, in order to implement current national recommendations.

Full open access article now published in Anaesthesia.

Use of Tranexamic acid

- The infected blood enquiry drew attention specifically to the role of tranexamic acid in reducing surgical bleeding.
- Alongside an established role in traumatic haemorrhage, evidence continues to build for the benefits of tranexamic acid in elective procedures, including reductions in both intraoperative blood loss and perioperative transfusion.
- Current recommendations advise inclusion on the surgical checklist to encourage consideration for any procedure where blood loss may exceed 500mls.
- Utilisation rates have increased in PQIP participants over time where actual blood loss exceeded 500mls and 1000mls (Table 10).

Table 10 Tranexamic acid use by actual intraoperative blood loss

Characteristic	Cohort 3	Cohort 4	Cohort 5	Cohort 6
	Received Tranexamic Acid[1]	Received Tranexamic Acid[1]	Received Tranexamic Acid[1]	Received Tranexamic Acid[1]
Blood loss				
>=1,001ml	203 (58%)	237 (62%)	173 (69%)	111 (63%)
501–1,000ml	305 (46%)	414 (53%)	290 (58%)	189 (65%)
101–500ml	859 (27%)	1,362 (33%)	1,196 (44%)	716 (45%)
<=100ml	547 (14%)	813 (18%)	876 (25%)	575 (26%)
Missing data	585 (17%)	534 (16%)	508 (21%)	380 (24%)

[1] n (%)

- In Cohort 6, over 30% of PQIP participants losing 500mls and 1,000mls did not receive TXA. This is a clear opportunity for improved patient blood management.
- Concern around increased thrombosis may be a barrier to utilisation. However, this is not supported by increased rates of thrombosis in the largest studies of use in major elective cardiac and non-cardiac surgery.
- This observation may reflect TXAs action as a fibrinolysis inhibitor outside of the coagulation cascade, reducing bleeding without an automatic reciprocal increase in thrombosis. In addition, this observation may be explained by the reduction in pro-thrombotic blood transfusion that occurs with TXA use. Further discussion is available here.

Study alert

Understanding variation in the use of TXA

- Despite strong evidence supporting the use of tranexamic acid (TXA) to reduce surgical blood loss, a third of eligible patients still do not receive it, leading to poorer outcomes and longer hospital stays.
- The data-driven NIHR Blood and Transplant Research Unit (BTR) has worked directly with perioperative teams to understand the key behavioural influences affecting TXA use and identify strategies to drive change. The 8 key influences they identified were:
  - Availability in theatres
  - Ease of administration
  - Cost effectiveness
  - Inclusion in the WHO checklist
  - Education and familiarity of staff with guidelines
  - Local understanding of TXA's pharmacology
  - Training
  - Speciality specific risk factors.

Full details available here.

- Table 11 describes the proportions of all PQIP participants who received TXA by surgical specialty.

Table 11 TXA utilisation by degree of blood loss across surgical specialties in all PQIP Cohorts. Values are n (proportion) of patients with that degree of blood loss who were administered TXA

Surgical Specialty	>=1001ml	501–1000ml	101–500ml	<=100ml	Missing data
Abdo – Other	40 (39%)	40 (33%)	89 (21%)	38 (8.3%)	44 (12%)
Burns and Plastics	2 (40%)	8 (33%)	541 (78%)	204 (68%)	201 (52%)
Gynaecology	91 (73%)	112 (52%)	409 (33%)	197 (15%)	141 (26%)
Head and Neck	1 (9.1%)	11 (11%)	40 (12%)	44 (16%)	50 (10%)
Hepatobiliary	86 (31%)	150 (31%)	232 (24%)	77 (11%)	90 (11%)
Lower GI	135 (41%)	211 (23%)	777 (11%)	682 (7.4%)	651 (8.9%)
Orthopaedics	264 (75%)	424 (76%)	754 (78%)	434 (76%)	562 (68%)
Spinal	17 (57%)	55 (54%)	222 (45%)	145 (35%)	122 (35%)
Thoracics	17 (47%)	33 (29%)	256 (21%)	512 (16%)	109 (6.4%)
Upper GI	39 (35%)	66 (22%)	179 (14%)	114 (13%)	101 (14%)
Urology	106 (41%)	182 (26%)	901 (25%)	515 (16%)	137 (8.4%)
Vascular	18 (11%)	6 (5.3%)	7 (3.0%)	0 (0%)	16 (3.3%)
Unknown				0	0

- With the caveat that total numbers of patients were small in several categories, utilisaiton appears to vary substantially at specialty level.
- Use was greater in most specialties with escalating blood loss, notably once 1,000mls was exceeded.
- Orthopaedic surgery is an outlier where usage is commonplace appears more routine regardless of blood loss. This may reflect its place as a longer established therapy in trauma and elective orthopaedic surgery, with NICE guidance recommending it be used in all hip, knee and shoulder arthroplasties. Use is also commonplace in plastic surgery at lower levels of blood loss and in gynaecological surgery overall which may reflect spillover from obstetric practice in managing peripartum haemorrhage.
- Vascular surgery is also an outlier where use was minimal even once bleeding exceeded 1,000mls. Possible explanations include concern about specialty specific thrombotic complications (eg graft occlusions) or that TXA may not be useful in the context of active bleeding from a vessel defect.

Think! Opportunities to improve tranexamic acid administration

What do you think about:

Taking an opt-out rather than opt-in approach to administering TXA in inpatient surgery?

Considering TXA administration in all patients who have a group and save done before surgery?

One to discuss in your local governance meetings?

Let us know what you think!
pqip@rcoa.ac.uk

Preoperative carbohydrate loading: still an opportunity missed?

Marginal gains from a simple intervention

- Preoperative carbohydrate loading is a recommended component of ERAS pathways for non-diabetic patients undergoing major surgery in seven specialties (Table 12).
- Carbohydrate loading is associated with a reduction in the surgical stress response and insulin resistance, and minimised protein catabolism. This is reflected in improved postoperative patient wellbeing and a small reduction in length of stay compared to usual fasting.

Table 12 ERAS recommendations for Carbohydrate loading

Strong recommendation	Moderate recommendation	Consider
• Colorectal • Gynaecology • Thoracic • Urology	• Vascular	• Hepatobiliary • Head and Neck

Opportunities for improvement

- In Cohort 6, the proportion of non-diabetic PQIP patients undergoing surgery where carbohydrate loading is recommended, who actually received it, was 31%. This has remained at 20–30% across PQIP Cohorts.
- Inter-specialty variation also persists with over 60% of vascular surgical patients not receiving preoperative carbohydrate drinks in comparison to 18% of patients undergoing lower GI surgery (Table 13). An opportunity therefore remains for specialty focussed QI activity in several areas.

Table 13 Proportions of non-diabetic PQIP participants in Cohort 6 receiving preoperative carbohydrate loading where recommended by surgical specialty

Characteristic	No, N = 8,087[1]	Not Known, N = 4,197[1]	Yes, N = 17,652[1]
Surgical Specialty			
Gynaecology	663 (47%)	245 (17%)	494 (35%)
Head and Neck	136 (39%)	67 (19%)	150 (42%)
Hepatobiliary	412 (24%)	225 (13%)	1,055 (62%)
Lower GI	3,211 (18%)	2,571 (14%)	12,513 (68%)
Thoracics	1,698 (52%)	324 (9.9%)	1,257 (38%)
Urology	1,864 (39%)	729 (15%)	2,155 (45%)
Vascular	103 (62%)	36 (22%)	28 (17%)

[1] n (%)

DrEaMing: Drinking Eating and Mobilising within 24h of surgery

- DrEaMing is a care bundle encompassing the key elements of in-depth ERAS protocols. This includes Drinking (free fluids), Eating (a soft diet), and Mobilising (from bed to chair) within 24 hours of surgery.
- Through sustained QI effort, PQIP sites have demonstrated consistent improvement in dreaming rates for their patients over time and this is again the case in Cohort 6 (Table 14), a fantastic achievement.
- DrEaMing is independently associated with reduced length of inpatient stay. This is reflected in its establishment as an NHSE CQUIN and endorsement as a marker of care quality by GIRFT and the RCoA.

Table 14 DrEaMing within 24 hours of surgery, and key related process measures

	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Drinking	52,527 (91%)	5,036 (82%)	11,858 (89%)	10,104 (92%)	11,650 (93%)	8,529 (94%)	5,350 (95%)
Eating	43,649 (76%)	3,970 (64%)	9,482 (71%)	8,451 (77%)	9,877 (78%)	7,249 (80%)	4,620 (82%)
Mobilising	46,358 (80%)	4,788 (78%)	10,526 (79%)	8,870 (81%)	10,135 (80%)	7,449 (82%)	4,590 (81%)
Dreaming	38,042 (66%)	3,489 (56%)	8,262 (62%)	7,340 (67%)	8,589 (68%)	6,390 (70%)	3,972 (70%)
No Drain Present	32,290 (56%)	3,628 (59%)	8,144 (61%)	7,057 (64%)	6,058 (48%)	4,514 (50%)	2,889 (51%)
No Nasogastric Tube	51,267 (89%)	5,186 (84%)	11,543 (87%)	9,757 (89%)	11,306 (90%)	8,249 (91%)	5,226 (93%)

[1] n (%)

Where next?

- There is significant variation between surgical specialties in achievement of the DrEaMing bundle and its specific components, reflecting specific procedural and pathway challenges (Table 15).
- The success achieved to date means further improvement may require targeted QI effort to address these challenges.

Table 15 DrEaMing within 24 hours of surgery by specialty. By PQIP Report Cohort and Specialty

	N	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Abdo – Other								
Drinking	1,227	1,066 (87%)	149 (74%)	320 (91%)	165 (89%)	171 (91%)	164 (85%)	97 (89%)
Eating	1,227	787 (64%)	110 (55%)	236 (67%)	118 (63%)	120 (64%)	130 (67%)	73 (67%)
Mobilising	1,227	924 (75%)	147 (74%)	294 (84%)	145 (78%)	130 (70%)	129 (67%)	79 (72%)
Dreaming	1,227	679 (55%)	95 (48%)	216 (61%)	99 (53%)	98 (52%)	109 (56%)	62 (57%)
No Drain Present	1,227	585 (48%)	105 (52%)	188 (53%)	92 (49%)	73 (39%)	83 (43%)	44 (40%)
No Nasogastric Tube	1,227	1,030 (84%)	163 (82%)	310 (88%)	155 (83%)	154 (82%)	160 (83%)	88 (81%)
Burns and Plastics								
Drinking	1,406	1,400 (100%)	0 (NA%)	296 (100%)	322 (99%)	397 (99%)	243 (100%)	142 (100%)
Eating	1,406	1,382 (98%)	0 (NA%)	289 (97%)	316 (97%)	395 (99%)	240 (99%)	142 (100%)
Mobilising	1,406	1,287 (92%)	0 (NA%)	256 (86%)	283 (87%)	382 (96%)	233 (96%)	133 (94%)
Dreaming	1,406	1,280 (91%)	0 (NA%)	254 (86%)	281 (86%)	379 (95%)	233 (96%)	133 (94%)
No Drain Present	1,407	345 (25%)	0 (NA%)	123 (41%)	139 (43%)	33 (8.2%)	29 (12%)	21 (15%)
No Nasogastric Tube	1,404	1,395 (99%)	0 (NA%)	296 (100%)	321 (99%)	398 (100%)	240 (99%)	140 (100%)
Gynaecology								
Drinking	3,385	3,293 (97%)	0 (NA%)	112 (95%)	542 (98%)	1,123 (97%)	843 (97%)	673 (98%)
Eating	3,385	3,098 (92%)	0 (NA%)	106 (90%)	501 (90%)	1,047 (90%)	792 (92%)	652 (95%)
Mobilising	3,385	2,973 (88%)	0 (NA%)	105 (89%)	491 (89%)	1,006 (87%)	757 (88%)	614 (89%)
Dreaming	3,385	2,841 (84%)	0 (NA%)	99 (84%)	461 (83%)	958 (83%)	726 (84%)	597 (87%)
No Drain Present	3,391	2,840 (84%)	0 (NA%)	103 (87%)	459 (83%)	970 (84%)	733 (85%)	575 (83%)
No Nasogastric Tube	3,383	3,201 (95%)	0 (NA%)	108 (92%)	509 (92%)	1,094 (94%)	830 (96%)	660 (96%)

	N	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Head and Neck								
Drinking	743	507 (68%)	103 (72%)	112 (63%)	53 (72%)	96 (63%)	97 (76%)	46 (66%)
Eating	743	474 (64%)	90 (63%)	108 (61%)	50 (68%)	88 (58%)	93 (73%)	45 (64%)
Mobilising	743	605 (81%)	120 (84%)	139 (79%)	68 (92%)	120 (79%)	100 (79%)	58 (83%)
Dreaming	743	451 (61%)	87 (61%)	100 (56%)	48 (65%)	83 (55%)	89 (70%)	44 (63%)
No Drain Present	747	430 (58%)	139 (97%)	168 (94%)	70 (93%)	19 (12%)	29 (23%)	5 (7.0%)
No Nasogastric Tube	744	509 (68%)	89 (62%)	118 (66%)	54 (73%)	102 (67%)	97 (76%)	49 (70%)
HPB								
Drinking	2,207	1,922 (87%)	341 (79%)	717 (87%)	313 (89%)	301 (92%)	191 (91%)	59 (87%)
Eating	2,207	1,470 (67%)	266 (62%)	560 (68%)	256 (73%)	218 (67%)	138 (65%)	32 (47%)
Mobilising	2,207	1,561 (71%)	295 (68%)	585 (71%)	249 (71%)	229 (70%)	157 (74%)	46 (68%)
Dreaming	2,207	1,200 (54%)	210 (49%)	471 (57%)	205 (58%)	171 (52%)	119 (56%)	24 (35%)
No Drain Present	2,223	597 (27%)	145 (33%)	211 (25%)	98 (28%)	84 (26%)	51 (24%)	8 (12%)
No Nasogastric Tube	2,207	1,451 (66%)	277 (64%)	536 (65%)	251 (71%)	238 (73%)	123 (58%)	26 (38%)
Lower GI								
Drinking	24,737	22,691 (92%)	2,774 (85%)	5,730 (92%)	4,255 (93%)	4,626 (94%)	3,267 (93%)	2,039 (92%)
Eating	24,733	16,430 (66%)	2,090 (64%)	4,104 (66%)	3,080 (67%)	3,384 (68%)	2,306 (66%)	1,466 (66%)
Mobilising	24,733	19,489 (79%)	2,572 (79%)	4,959 (79%)	3,640 (80%)	3,814 (77%)	2,752 (79%)	1,752 (79%)
Dreaming	24,731	14,288 (58%)	1,824 (56%)	3,599 (58%)	2,693 (59%)	2,878 (58%)	2,016 (58%)	1,278 (58%)
No Drain Present	24,789	14,072 (57%)	1,877 (57%)	3,600 (57%)	2,659 (58%)	2,820 (57%)	1,933 (55%)	1,183 (53%)
No Nasogastric Tube	24,729	22,325 (90%)	2,982 (91%)	5,659 (91%)	4,119 (90%)	4,446 (90%)	3,125 (89%)	1,994 (90%)

	N	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Orthopaedics								
Drinking	3,152	3,132 (99%)	0 (NA%)	650 (99%)	839 (99%)	717 (99%)	552 (99%)	374 (100%)
Eating	3,152	3,109 (99%)	0 (NA%)	638 (97%)	839 (99%)	712 (99%)	547 (98%)	373 (99%)
Mobilising	3,152	1,944 (62%)	0 (NA%)	429 (65%)	572 (68%)	439 (61%)	319 (57%)	185 (49%)
Dreaming	3,152	1,932 (61%)	0 (NA%)	427 (65%)	567 (67%)	436 (60%)	318 (57%)	184 (49%)
No Drain Present	3,154	2,863 (91%)	0 (NA%)	651 (99%)	827 (98%)	562 (78%)	473 (85%)	350 (93%)
No Nasogastric Tube	3,150	3,131 (99%)	0 (NA%)	651 (99%)	837 (99%)	719 (100%)	552 (99%)	372 (99%)
Spinal								
Drinking	1,264	1,233 (98%)	0 (NA%)	396 (98%)	392 (96%)	210 (100%)	158 (99%)	77 (97%)
Eating	1,264	1,193 (94%)	0 (NA%)	387 (95%)	374 (92%)	202 (96%)	155 (97%)	75 (95%)
Mobilising	1,264	935 (74%)	0 (NA%)	290 (71%)	285 (70%)	178 (84%)	118 (74%)	64 (81%)
Dreaming	1,264	912 (72%)	0 (NA%)	286 (70%)	275 (67%)	174 (82%)	116 (72%)	61 (77%)
No Drain Present	1,268	1,056 (83%)	0 (NA%)	396 (97%)	396 (97%)	131 (62%)	88 (55%)	45 (56%)
No Nasogastric Tube	1,265	1,221 (97%)	0 (NA%)	392 (96%)	391 (96%)	205 (97%)	155 (97%)	78 (100%)
Thoracics								
Drinking	6,262	6,148 (98%)	646 (94%)	1,248 (98%)	1,105 (98%)	1,507 (99%)	1,123 (99%)	519 (98%)
Eating	6,261	6,074 (97%)	640 (93%)	1,224 (96%)	1,086 (97%)	1,494 (98%)	1,115 (99%)	515 (98%)
Mobilising	6,262	5,918 (95%)	622 (90%)	1,202 (95%)	1,077 (96%)	1,454 (95%)	1,075 (95%)	488 (93%)
Dreaming	6,261	5,805 (93%)	593 (86%)	1,172 (92%)	1,050 (94%)	1,442 (95%)	1,065 (94%)	483 (92%)
No Drain Present	6,281	2,991 (48%)	665 (96%)	1,221 (96%)	1,042 (92%)	27 (1.8%)	18 (1.6%)	18 (3.4%)
No Nasogastric Tube	6,234	6,124 (98%)	683 (99%)	1,234 (99%)	1,083 (97%)	1,504 (99%)	1,107 (98%)	513 (97%)

	N	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Upper GI								
Drinking	2,894	1,021 (35%)	162 (31%)	316 (35%)	157 (32%)	178 (32%)	153 (48%)	55 (61%)
Eating	2,895	484 (17%)	72 (14%)	147 (16%)	69 (14%)	86 (15%)	74 (23%)	36 (40%)
Mobilising	2,894	1,763 (61%)	280 (54%)	535 (59%)	313 (63%)	351 (62%)	219 (68%)	65 (72%)
Dreaming	2,892	419 (14%)	64 (12%)	126 (14%)	60 (12%)	68 (12%)	68 (21%)	33 (37%)
No Drain Present	2,909	1,114 (38%)	267 (52%)	391 (43%)	228 (45%)	90 (16%)	97 (30%)	41 (44%)
No Nasogastric Tube	2,898	833 (29%)	119 (23%)	263 (29%)	123 (25%)	146 (26%)	133 (42%)	49 (54%)
Urology								
Drinking	9,414	9,084 (96%)	861 (92%)	1,909 (95%)	1,757 (97%)	1,996 (97%)	1,562 (98%)	999 (99%)
Eating	9,412	8,217 (87%)	702 (75%)	1,635 (81%)	1,585 (87%)	1,836 (90%)	1,502 (94%)	957 (95%)
Mobilising	9,409	8,224 (87%)	752 (81%)	1,693 (84%)	1,593 (88%)	1,800 (88%)	1,468 (92%)	918 (91%)
Dreaming	9,408	7,548 (80%)	616 (66%)	1,475 (74%)	1,461 (80%)	1,685 (82%)	1,418 (89%)	893 (88%)
No Drain Present	9,434	4,787 (51%)	430 (46%)	1,048 (52%)	868 (48%)	1,064 (52%)	879 (55%)	498 (49%)
No Nasogastric Tube	9,416	9,044 (96%)	873 (94%)	1,925 (96%)	1,716 (94%)	1,990 (97%)	1,555 (98%)	985 (98%)
Vascular								
Drinking	1,110	1,030 (93%)	0 (NA%)	52 (98%)	204 (92%)	328 (93%)	176 (91%)	270 (94%)
Eating	1,110	931 (84%)	0 (NA%)	48 (91%)	177 (80%)	295 (84%)	157 (81%)	254 (88%)
Mobilising	1,110	735 (66%)	0 (NA%)	39 (74%)	154 (69%)	232 (66%)	122 (63%)	188 (65%)
Dreaming	1,110	687 (62%)	0 (NA%)	37 (70%)	140 (63%)	217 (61%)	113 (58%)	180 (62%)
No Drain Present	1,114	610 (55%)	0 (NA%)	44 (81%)	179 (80%)	185 (52%)	101 (52%)	101 (35%)
No Nasogastric Tube	1,108	1,003 (91%)	0 (NA%)	51 (96%)	198 (89%)	310 (88%)	172 (89%)	272 (95%)

[1] n (%)

The Dreaming Toolkit – Supporting Implementation

NHS England have developed a DrEaMing Toolkit, scheduled for publication in autumn 2025, to provide practical support for perioperative teams. The toolkit is designed to facilitate widespread and sustainable adoption of DrEaMing (Drinking, Eating and Mobilising within 24 hours of surgery) across surgical pathways, including both new and established Enhanced Recovery (ERAS) programmes.

It will offer:

- Practical support for the implementation of perioperative pathways that embed DrEaMing.
- Guidance for organisations with existing Enhanced Recovery pathways, as well as those establishing new surgical hubs or perioperative services.
- A clear outline of the key enablers for successful DrEaMing integration into perioperative care.
- Case studies showcasing examples of good practice which other centres may wish to adapt or adopt.

The toolkit is intended as a resource for clinical teams, managers, and improvement leaders working to optimise surgical recovery, reduce complications, and improve patient outcomes through early mobilisation, nutrition, and hydration.

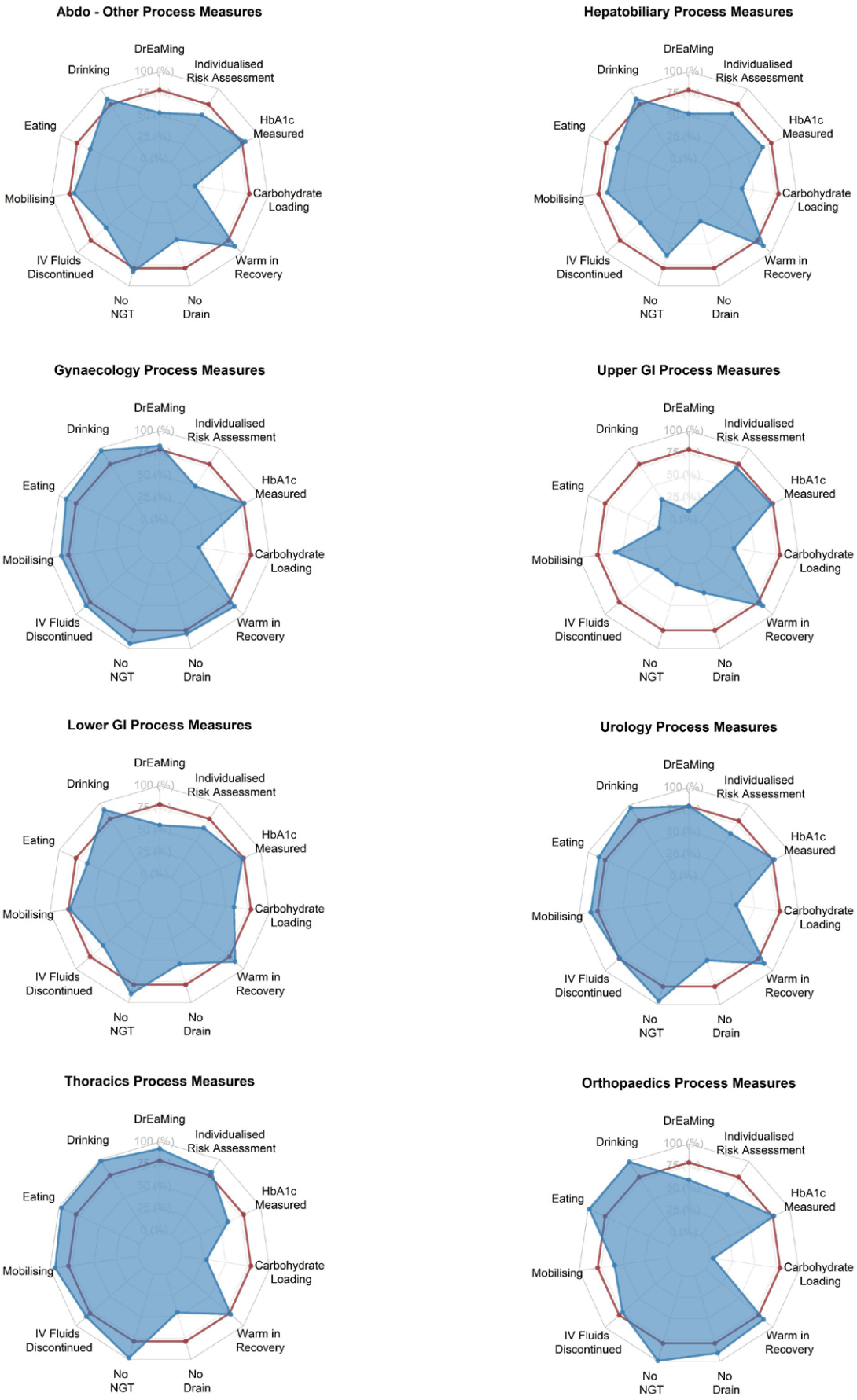
Top tips for Quality Improvement in DrEaMing

- **Use your data to understand opportunities for improvement and drive change:** DrEaMing metrics are available via the PQIP dashboard.
- **Understand specialty and pathway specific barriers and get the team on board:** every specialty needs a surgical, anaesthetic and postoperative nursing champion.
- **Focus on the major barriers to DrEaMing:**
  - **preoperative anaemia –** link to preoperative assessment services and the early screening and optimisation pathway
  - **tethering to the bed** through unnecessary use of abdominal drains, nasogastric tubes and epidurals – working with surgeons, anaesthetists and ward nurses
  - **postoperative pain** – through regular review of pain data and adherence to local protocols.

The improvement radar: tracking key process measures of perioperative care

- Prior Cohort reports and ERAS research has identified key processes that drive improved patient and system outcomes.
- Radar plots provide a summary snapshot of progress against these at a specialty level, providing an ideal start point for focussed QI effort. Sites should target 80% achievement, identified by the red line.
- Progress in one area frequently yields additional benefit in others, eg NGT and IVT removal promote earlier drinking.
- Cohort level plots presented in Figure 10 are a valuable start. However, sites with 10 or more specialty cases will receive individualised plots reflecting local context updating with intervention and easily disseminated to the wider perioperative care team to demonstrate progress.

Figure 10 RADAR plots of key perioperative care process measures by specialty



The right destination: critical and enhanced perioperative care admission

A changing postoperative care landscape

- Aligning higher-risk patients with higher-level postoperative care is key to both perioperative outcomes and management of finite critical care capacity.
- Appropriate preoperative planning can also help avoid late cancellations on day of surgery where lack of planned critical care beds are a key driver.
- Postoperative care, including enhanced and critical care guidance from the Centre for Perioperative Care (CPOC) and the Faculty of Intensive Care Medicine (FICM) aims to match patients to the most appropriate level of postoperative care based on their perioperative risk.
- Enhanced Perioperative Care (EPC) offers an intermediate level of care between the ward and level 2/3 care, focusing on key enhanced recovery processes, optimisation of comorbidities, and monitoring after high-risk procedures, such as free flap surgery. EPC is playing an increasing role in preventing cancellations and releasing critical care capacity.

Risk stratification using objective tools

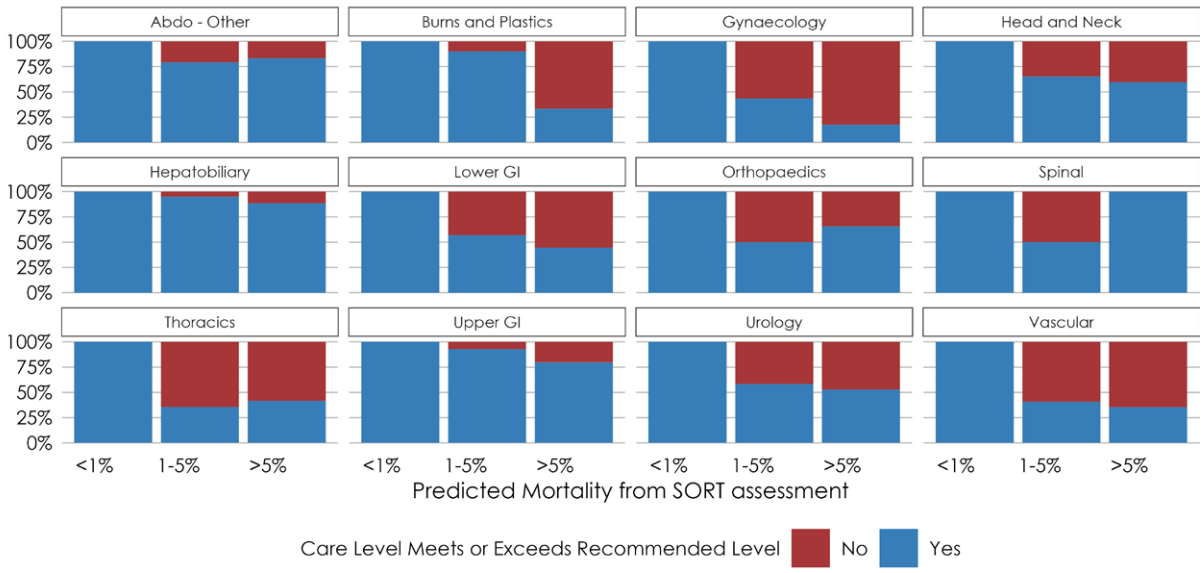
- Individualised risk assessment incorporating a quantitative tool supports stratification to postoperative destination. PQIP data allows the SORT predicted mortality score to be calculated.
- CPOC and FICM recommend using formal risk stratification tools to guide care planning: patients with a ≥5% predicted 30-day mortality risk should be considered for level 2/3 care, while those with a 1–5% risk may benefit from Enhanced Perioperative Care (EPC).
- Table 16 presents all Cohort 6 participants divided by SORT score into risk categories and their actual postoperative destination.
- Figure 11 demonstrates where actual destination aligned or exceeded that recommended based on the preoperative risk assessment by surgical specialty (recommended allocations: <1% ward or higher, 1–5% enhanced care or higher, >5% critical care).

Table 16 Postoperative destination according to SORT-defined preoperative risk profile

	Predicted Mortality – SORT Risk Assessment Tool			
	<1% (n = 42,144, 70%)[1]	**1–5% (n = 15,232, 25.3%)[1]**	**5–10% (n = 2,049, 3%)[1]**	**>10% (n = 809, 1%)[1]**
Postoperative Care Level Grouped				
Ward Care	24,326 (58%)	6,516 (43%)	738 (36%)	256 (32%)
Enhanced Care	7,513 (18%)	2,628 (17%)	384 (19%)	112 (14%)
ITU	10,126 (24%)	6,057 (40%)	922 (45%)	438 (54%)

[1]n (%)

Figure 11 Proportions of patients where postoperative destination meets recommended minimum standard, by surgical specialty



- In keeping with Cohort 5, less than 50% of patients in Cohort 6 with a predicted mortality exceeding 5% were admitted to critical care. Utilisation of Enhanced care was very consistent across risk groups.
- This picture varies significantly between surgical specialty groups where, as previously observed, hepatobiliary surgery had greater alignment than gynaecological, thoracic or vascular surgery.
- Nationally, the total availability of higher-level postoperative care capacity continues to be a fundamental problem. However, interpretation of these data at local level is most useful, where site and specialty structural and process factors can be taken into account.
- This approach allows local solutions to facilitate accommodation of more higher-risk patients and supports justification of resources where increased capacity is needed.
- The availability and utilisation of EPC is also difficult to interpret. These units are not yet universal but developing rapidly across the UK.

Study alert

BEE-EPC

Implementation of EPC remains variable. The BEE-EPC (Barriers to Equitable Enhanced Perioperative Care) project is an observational study exploring why almost half of hospitals in England lack enhanced perioperative care (EPC) services.

The first phase of this study is a mixed-methods survey, which is currently seeking responses from all those involved in providing perioperative care to patients undergoing major surgery. This will inform further focused interviews exploring key barriers to EPC implementation.

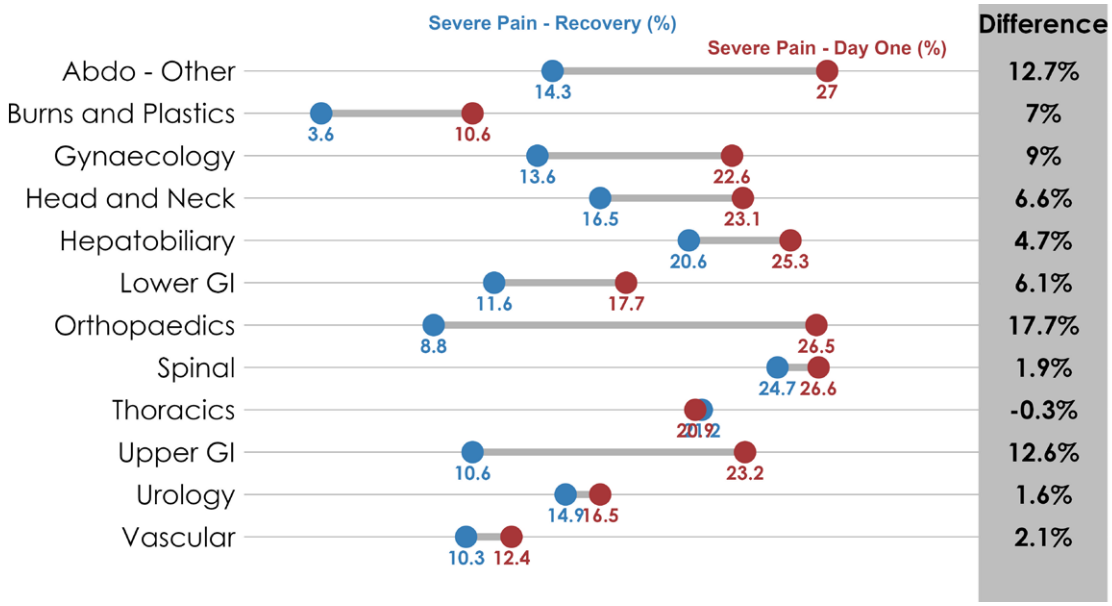
PQIP collaborators are ideally placed to contribute, please scan the QR code below to contribute via a brief (less than 5 minute) survey.

Will I be in pain afterwards? Achieving high quality individualised pain management

Anticipating a rebound effect?

- Effective pain management matters to patients and facilitates several other key perioperative process outcomes.
- Poorly controlled pain contributes to cardiorespiratory stress, postoperative nausea and vomiting (PONV), later mobilisation and the risk of persistent postsurgical pain and poor longer-term outcomes.
- Pain scores are dynamic in the short-term postoperative period. A persistent finding across PQIP Cohorts is an increase in pain scores from the recovery room to 24 hours postoperatively. This is likely rebound from loss of effect from central neuraxial and peripheral regional anaesthetic techniques. In Cohort 6, this is again most marked in major orthopaedic surgery (Figure 12).

Figure 12 Postoperative pain scored from recovery to 24 hours postoperatively by specialty



- This consistent finding continues to underline the need for multimodal and anticipatory analgesic plans acute pain team follow-ups for at-risk patients and clear handover that allows plans to be delivered across multiple postoperative care settings.
- Despite this, a very low proportion of patients report dissatisfaction with their pain control on day 1 (Table 17).

Table 17 Patient perception of quality of pain management on day 1 over time (Bauer questionnaire)

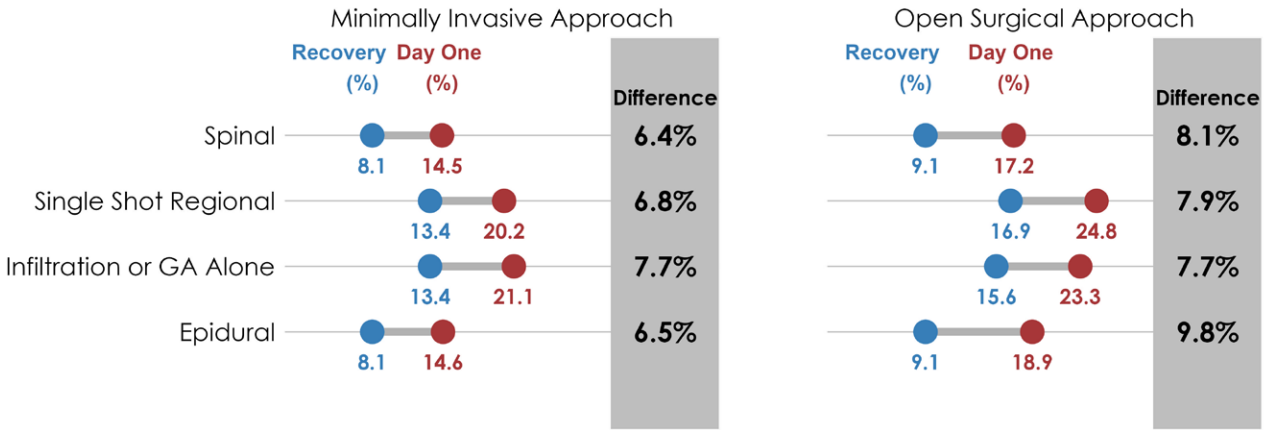
	Overall, N = 60,452[1]	Cohort 1, N = 6,640[1]	Cohort 2, N = 14,244[1]	Cohort 3, N = 11,420[1]	Cohort 4, N = 12,969[1]	Cohort 5, N = 9,385[1]	Cohort 6, N = 5,794[1]
Patient's Satisfaction Level							
Very Satisfied	28,903 (66%)	3,181 (65%)	6,328 (64%)	5,387 (67%)	6,314 (67%)	4,858 (67%)	2,835 (66%)
Satisfied	12,485 (29%)	1,437 (29%)	2,893 (29%)	2,243 (28%)	2,666 (28%)	2,009 (28%)	1,237 (29%)
Dissatisfied	1,900 (4.3%)	240 (4.9%)	495 (5.0%)	311 (3.9%)	392 (4.1%)	299 (4.1%)	163 (3.8%)
Very Dissatisfied	426 (1.0%)	44 (0.9%)	107 (1.1%)	77 (1.0%)	89 (0.9%)	68 (0.9%)	41 (1.0%)

[1] n (%)

Neuraxial anaesthesia and postoperative pain

- For major lower GI procedures, neuraxial techniques continue to achieve the lowest rates of severe pain. This is the case for open and laparoscopic surgery and in recovery and on postoperative day 1 (Figure 13).
- In minimally invasive procedures, local infiltration or GA alone was associated with a greater increase in severe pain from recovery to day 1.
- In minimally invasive procedures, spinal and epidural anaesthesia achieved near identical rates of severe pain in recovery and on day 1.
- Severe pain rates in recovery were also identical for neuraxial techniques in open procedures, however the increase in pain scores on day 1 was greater for epidural catheters.
- This highlights the need for active management of catheters and regular acute pain team involvement to achieve their full effect.
- Epidural anaesthesia must also be supported with an MDT approach to avoid tethering to bed and maintain comparable postoperative DrEaMing rates.

Figure 13 Frequency of severe pain in recovery and on day 1 for lower GI patients in all Cohorts, by surgical approach and analgesic technique



Keeping the aim in sight: reducing complications

- Surgical complications are the key driver of postoperative mortality.
- At the individual level, patients developing a major complication experience extended lengths of stay and increased risk of readmission. The effects project for months to years beyond discharge, compromising postoperative functional status, threatening independence and undermining quality of life, with knock-on impacts on families and caregivers.
- Effects are felt across the wider health and social care system. In addition to increased cost of the primary hospital admission, there is greater utilisation of primary and community healthcare services. Younger patients may also be less able to return to the workforce in the same capacity.
- In the context of the elective recovery plan, the need to prioritise flow of patients through perioperative and an ageing and increasingly comorbid population, minimising complication rates is critical.
- This is the central driver of QI activity encouraged by this report. Where are the opportunities in your centre to apply evidence-based principles that minimise preventable complications?

Length of inpatient stay

- Mean length of stay (LOS) has progressively decreased in PQIP Cohorts over time. This is presented by specialty in table 18.
- The progressive reduction in LOS has continued in Cohort 6. Average overall hospital length of stay (LOS) is now 5.7 days from 8.9 in Cohort 1.
- Specialty variation continues. LOS appears to have plateaued in hepatobiliary and plastic surgery. As with previous reports caution should be taken in interpretation of the raw data due to lack of adjustment for case mix or complexity.

Table 18 Inpatient length of stay in PQIP participants over time. By Specialty and Cohort

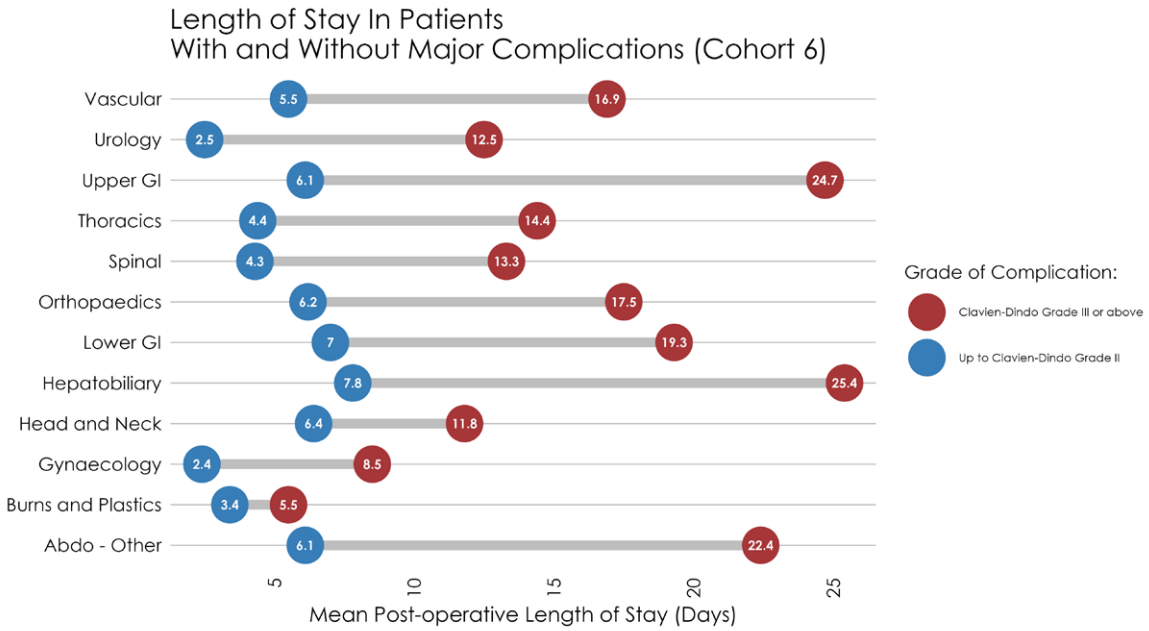
	Overall[1]	Cohort 1[1]	Cohort 2[1]	Cohort 3[1]	Cohort 4[1]	Cohort 5[1]	Cohort 6[1]
Abdo – Other	9.7	11.0	10.1	9.3	9.7	9.6	6.8
Burns and Plastics	3.6	NA	4.9	3.4	3.0	3.1	3.5
Gynaecology	3.2	NA	3.5	3.7	3.6	3.0	2.5
Head and Neck	10.8	12.9	10.7	10.9	10.0	10.2	7.0
Hepatobiliary	10.1	9.7	10.3	9.5	10.1	10.7	10.3
Lower GI	8.4	9.0	8.7	8.5	8.1	8.0	7.8
Orthopaedics	7.9	NA	9.6	7.6	7.6	7.9	6.7
Spinal	5.7	NA	5.8	5.7	6.4	4.9	4.6
Thoracics	5.2	5.4	5.2	5.2	5.0	5.3	4.7
Upper GI	12.8	13.4	13.3	13.3	12.7	11.7	7.0
Urology	4.4	6.1	5.3	4.5	4.4	3.1	2.7
Vascular	7.5	NA	4.8	7.9	8.2	8.0	6.5
Original PQIP Specialties	7.7	8.9	8.4	7.7	7.4	6.9	6.2
All PQIP Patients	7.3	8.9	8.3	7.3	6.9	6.5	5.7

[1] Mean

The impact of major complications

- Figure 14 demonstrates the profound impact of a single major complication on length of stay in comparison no or to less severe morbidity.
- In Cohort 6, a single major complication at Clavien-Dindo Grade III or above (defined by requiring surgical, endoscopic or radiological intervention) conferred a 3–4 fold increase in LOS.
- These negative effects are felt across specialties but are particularly pronounced for upper GI and hepatobiliary cases where a major complication extends length of stay from approximately 1 week to a month in hospital.

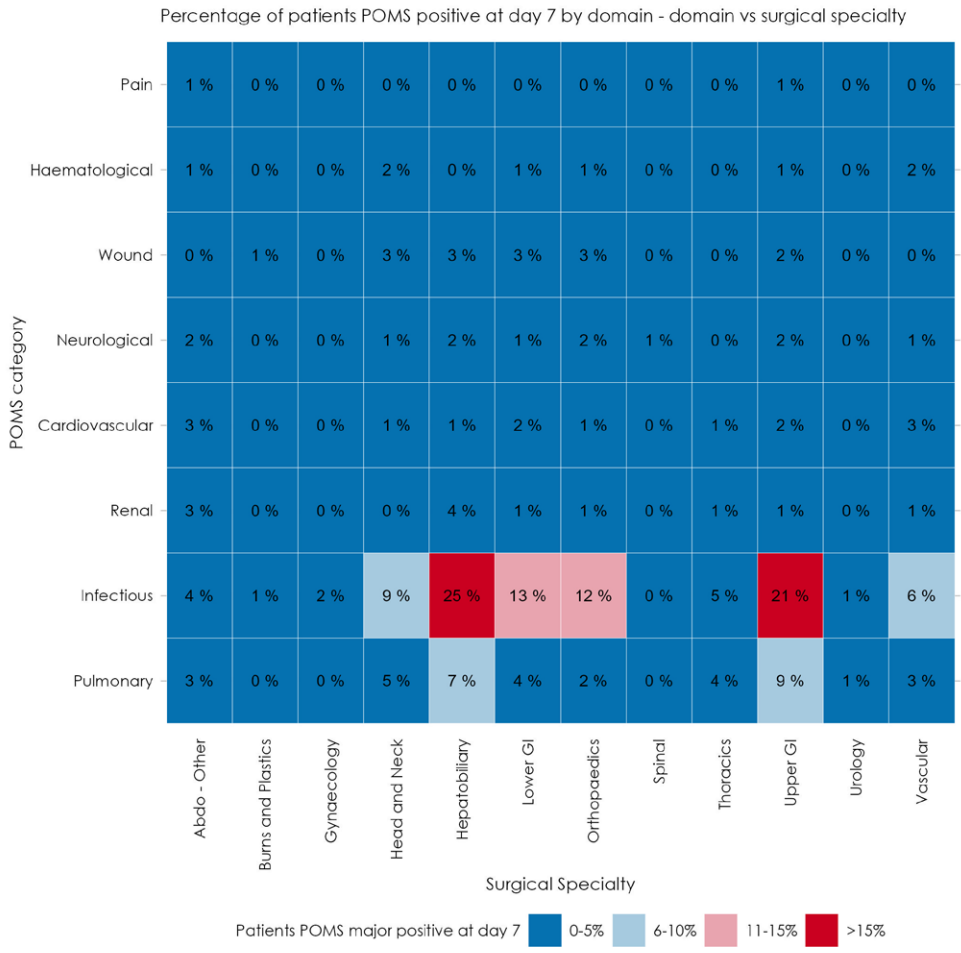
Figure 14 Mean postoperative length of stay in Cohort 6 patients with and without major complications



Sources of morbidity and major morbidity

- PQIP captures morbidity on postoperative day 7 using the postoperative morbidity survey (POMS). POMS records morbidity across 9 domains. POMS major is equivalent to a Clavien-Dindo Grade III or higher complication in that domain.
- Figure 15 describes the proportions of patients in each specialty developing a POMS major complication across the 9 domains.
- Infection continues to be the primary source of morbidity in Cohort 6 notably in hepatobiliary and upper GI surgery. Upper GI patients also continue to experience higher rates of pulmonary complications.

Figure 15 Major postoperative morbidity by specialty in Cohort 6



- Cohort 6 demonstrated a continued fall in Postoperative morbidity and major morbidity across PQIP Cohorts. As with LOS data, this was not adjusted for case-mix.
- As described in Table 19. 15% of patients in Cohort 6 experienced a complication with 11% experiencing a major complication. In keeping with prior Cohorts, the gastrointestinal and infection domains were the most common sources of morbidity.

Table 19 Day 7 POMS morbidity in PQIP participants over time (all specialties)

Morbidity Domain	Overall, N = 60,450[1]	Cohort 1, N = 6,640[1]	Cohort 2, N = 14,242[1]	Cohort 3, N = 11,420[1]	Cohort 4, N = 12,969[1]	Cohort 5, N = 9,385[1]	Cohort 6, N = 5,794[1]
Pulmonary							
Complication	4.5%	6.1%	5.5%	4.5%	3.8%	3.8%	3.1%
No Complication	25%	36%	29%	24%	22%	21%	19%
Discharged	70%	58%	66%	71%	74%	75%	78%
Gastrointestinal							
Complication	9.5%	15%	12%	8.8%	7.8%	7.1%	6.5%
No Complication	20%	27%	22%	20%	18%	18%	16%
Discharged	70%	58%	66%	71%	74%	75%	78%
Cardiac							
Complication	2.0%	2.7%	2.4%	2.1%	1.6%	1.8%	1.3%
No Complication	28%	39%	32%	27%	24%	23%	21%
Discharged	70%	58%	66%	71%	74%	75%	78%
Neurological							
Complication	1.5%	2.4%	2.0%	1.4%	1.2%	1.1%	1.1%
No Complication	28%	39%	32%	27%	25%	24%	21%
Discharged	70%	58%	66%	71%	74%	75%	78%
Wound							
Complication	2.7%	4.6%	3.6%	2.2%	2.1%	1.9%	1.6%
No Complication	27%	37%	31%	27%	24%	23%	21%
Discharged	70%	58%	66%	71%	74%	75%	78%
Haematological							
Complication	0.8%	0.8%	1.0%	0.6%	0.7%	0.7%	0.8%
No Complication	29%	41%	33%	28%	25%	24%	21%
Discharged	70%	58%	66%	71%	74%	75%	78%
Pain							
Complication	0.6%	0.8%	0.9%	0.6%	0.5%	0.5%	0.3%
No Complication	29%	41%	33%	28%	26%	24%	22%
Discharged	70%	58%	66%	71%	74%	75%	78%
Renal							
Complication	1.0%	1.5%	1.1%	1.1%	0.9%	1.0%	0.9%
No Complication	29%	40%	33%	28%	25%	24%	21%
Discharged	70%	58%	66%	71%	74%	75%	78%
Infection							
Complication	10%	13%	12%	10%	9.2%	9.1%	8.1%
No Complication	19%	29%	22%	18%	17%	16%	14%
Discharged	70%	58%	66%	71%	74%	75%	78%
Any Complication	20%	28%	24%	20%	17%	17%	15%
Major Complication	14%	19%	17%	14%	13%	13%	11%

Measured using the POMS major definition which includes any type of POMS defined morbidity of more than or equal to 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. *J Clin Epi* 2007;**60**:917–928 and Wong et al. *Brit J Anaes* 2017;**119(1)**:95–105.

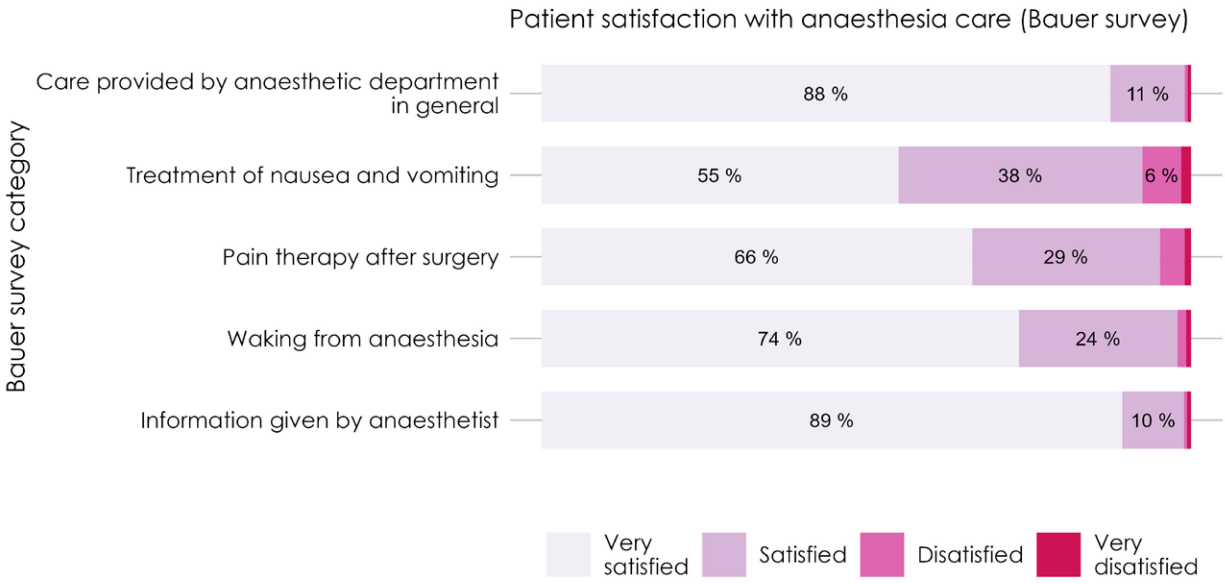
Patient reported outcome and experience measures: PROMS and PREMS

- The patient perspective of care quality is central to drive improvement in perioperative care. Measurement of clinically relevant and patient-centred outcomes is key.
- The PQIP dataset incorporates several measures capturing patient satisfaction and the impacts of surgery and perioperative care on quality of life and functional status.

Patient satisfaction with anaesthetic care

- The Bauer survey assesses patient satisfaction and experience with anaesthesia services, across several domains, including preoperative information, comfort and pain management, and professionalism.
- As presented in Figure 16, Cohort 6 patients continue to be overwhelmingly satisfied or very satisfied with their anaesthetic care a reflection of the ongoing hard work delivered by participating site teams.

Figure 16 Patient satisfaction with anaesthetic care in Cohort 6

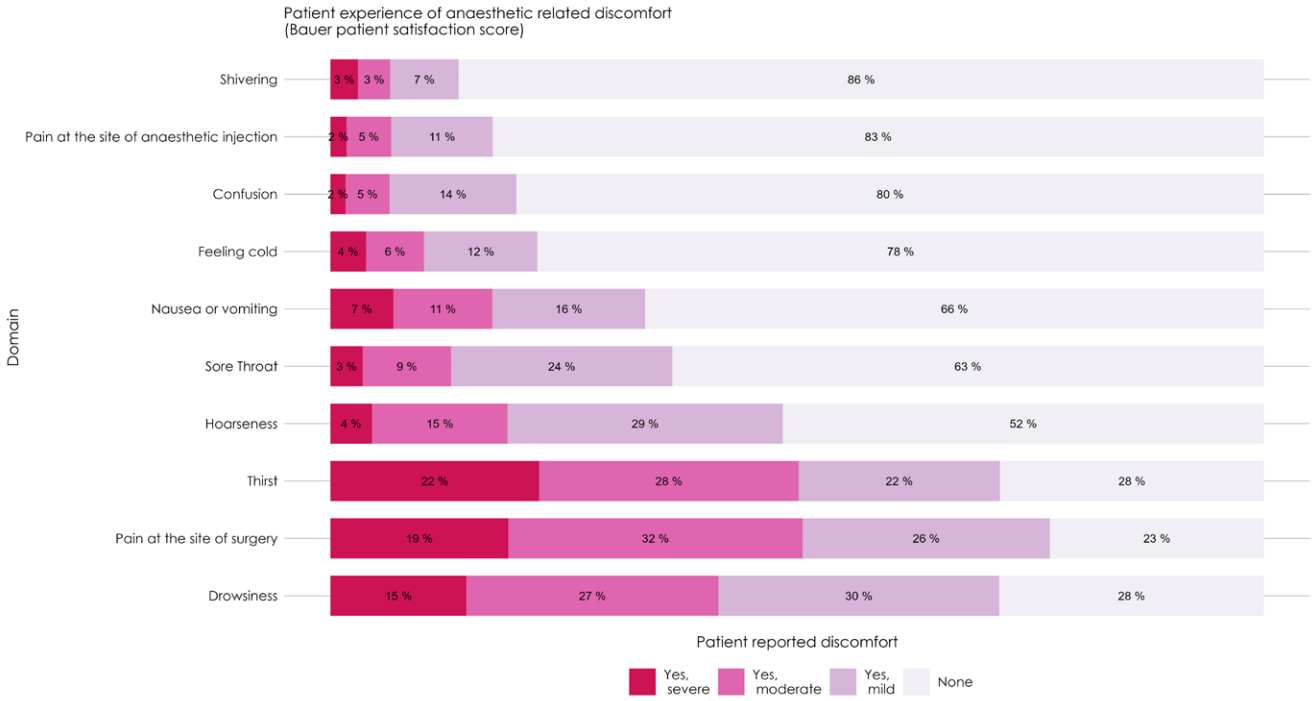


- In keeping with prior Cohorts, satisfaction with communication continues to be a particular strength with 99% of participants satisfied with their preoperative information.
- In comparison treatment of nausea and vomiting remains an area of lower patient satisfaction although 93% remain at least satisfied.
- This may reflect the significance of this source of anaesthetic discomfort to patients given prevalence of severe symptoms are lower than for other sources of discomfort such as thirst, pain and drowsiness.

Key sources of discomfort

- The Bauer survey also captures specific sources patient-reported surgical and anaesthetic discomfort in the 24 hours following surgery highlighting opportunities for focussed QI.
- Figure 17 describes the prevalence of postoperative symptoms in each area.

Figure 17 Cohort 6 Bauer patient satisfaction score

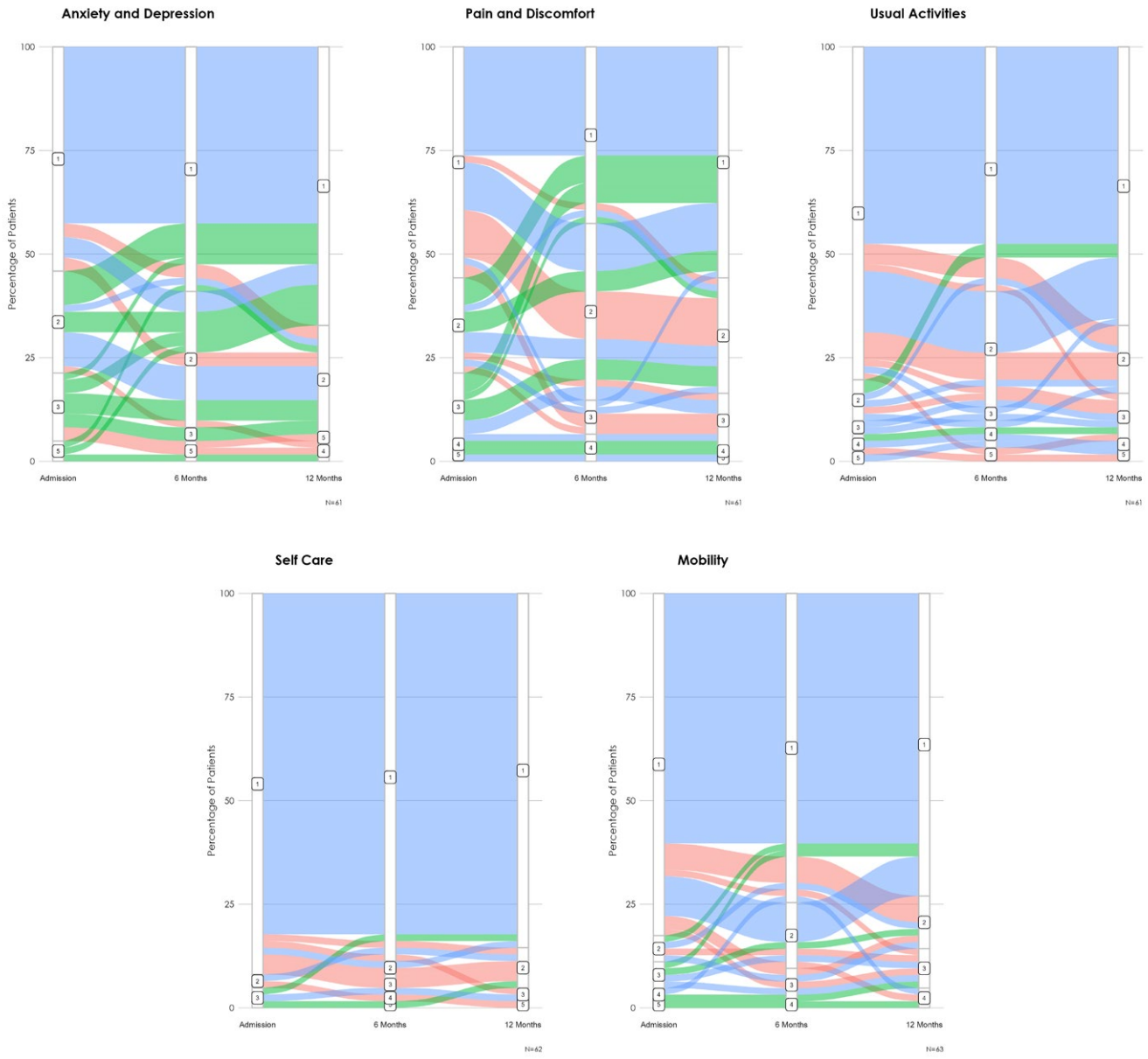


- Pain at the surgical site remains an ongoing and the most common postoperative issue in Cohort 6. 19% continue to report severe pain in the 1st 24 hours, associated with poorer postoperative outcomes.
- This may be avoidable and amenable to focussed QI activity. Strategies including preoperative educational intervention and expectation management alongside early acute pain team review can be implemented.
- Thirst remains a commonly reported and the proportion of patients reporting symptoms of severe thirst continues to decline. Where appropriate, 'Sip til send' initiatives are one route to mitigating this in conjunction with early offers of water or ice in recovery.

Health related quality of life

- The EQ5D-5L evaluates patients' health-related quality of life (HRQOL) across five domains.
- Severity of limitation is graded in across 5 levels from 'no problem' to 'unable to do/extreme pain or anxiety' with an overall global health rating provided on a visual analogue scale.
- Completion of the survey preoperatively and at 6 and 12 months postoperatively measures the longer-term postoperative impacts of surgery.
- Postoperative disability data measured using the WHO-DAS 2.0 tool is also collected with peer reviewed publications in draft.
- The trajectories participants completing the questionnaire across all 3 time points are presented as alluvial plots in Figure 17.
- Each EQ-5D-5L domain is presented separately, with numbers at each time point reflecting the severity of limitation. 1 indicates highest level function (no problem) and 5 indicates lowest level function (unable/ severe symptoms).
- Colour coding indicates changes over time: blue indicates that the patient's score has remained constant over the time interval in that domain, red indicates deterioration, and green indicates improvement.

Figure 18 Changes in scores across EQ-5D-5L domains from baseline to 6 and 12 months postoperatively

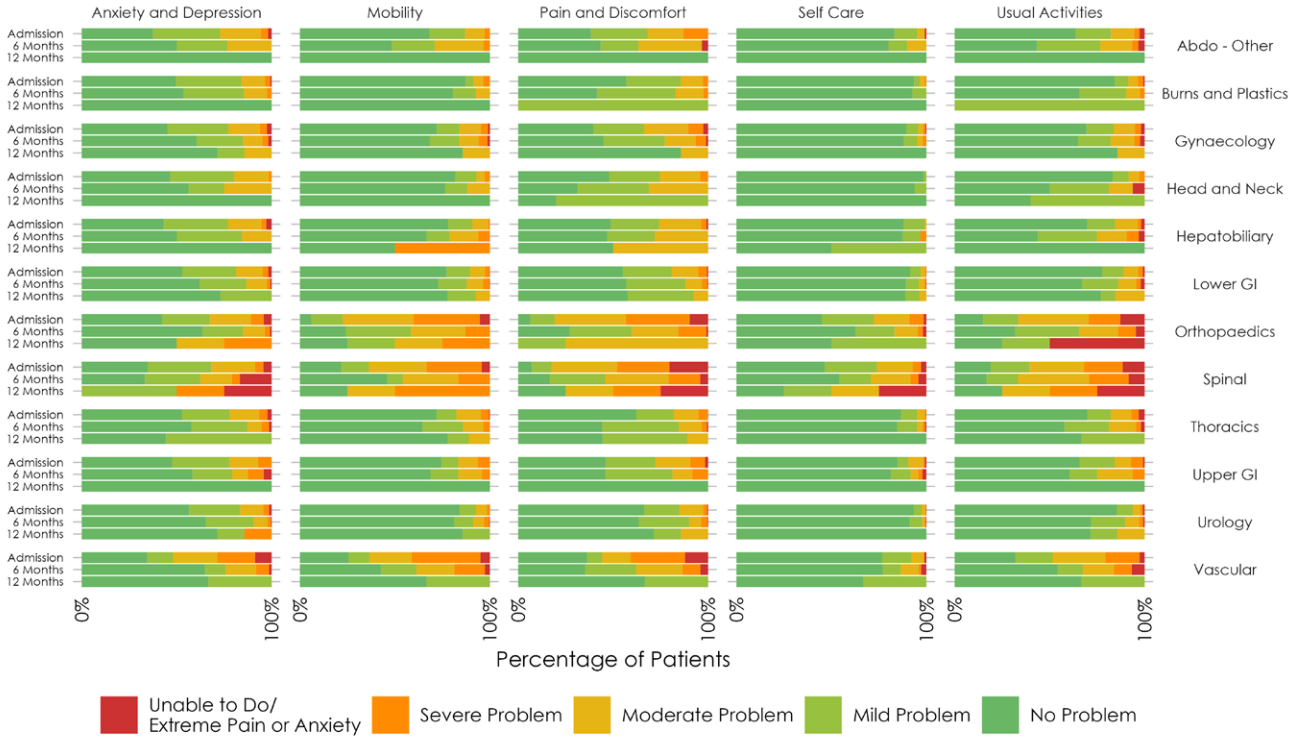


- As noted in previous Cohorts, trajectories vary across the domains.
- Anxiety, depression or pain are more common at baseline, but a high proportion of these patients experience improvement by 6 and 12-months, this may reflect the preoperative impact of a frightening diagnosis, neoadjuvant treatment and the benefits of resolving the primary surgical problem.
- Conversely, significant proportions of patients report that they have not returned to baseline activity and mobility levels within 12 months of surgery. This may reflect the ongoing impact of the physiological stress of surgery and any postoperative complications.

Variation across specialties

- Figure 19 presents these data as stacked bar charts broken down by surgical specialty across the PQIP specialties.
- Most patients experience consistent improvement across the 5 domains from baseline to 12 months with reductions in the proportions of patients reporting severe or extreme limitation. An important minority of patients continue to present for surgery with extreme symptoms of Anxiety/depression and pain. These patients may benefit from focussed preoperative support to address these issues including structured preoperative education and targeted therapies such as hypnosis for preoperative anxiety. RCoA resources in collaboration with the British Society for Clinical and Academic Hypnosis are available here.
- In keeping with prior Cohorts, orthopaedic and spinal patients continue to be an exception.
- In Cohort 6, the proportion of spinal patients reporting severe or extreme limitation in their usual increased from baseline to 12 months. This pattern was consistent across all EQ-5D-5L domains. Given the intent of these procedures, this is important for preoperative expectation management and shared decision-making given in each domain, around 50% continue to report severe or extreme impairment at 12 months.
- For orthopaedic patients, the proportion of patients reporting extreme impairment fell from baseline to 12 months, with the important exception of usual activities where there was a marked increase. This should also inform preoperative discussion particularly for higher-risk patients.

Figure 19 Responses to Euro-Quality of Life (EQ5D) questionnaire at admission, 6 months and 12 months by surgical specialty



The QI in PQIP – using your local data to create change

- Successful QI can create sustained systemic change that increases the performance and productivity of clinical systems. This in turn tends to improve patient outcomes by reducing variation and inequalities in care.
- However, QI can be challenging, with multiple potential barriers to improvement. Poorly planned, unsustainable 'tick box' QI may discourage future QI engagement. Successful interventions require multidisciplinary collaboration to understand the barriers and enablers that influence implementation.
- Local context heavily influences success, as interventions must align with unique organisational behaviours and practices. While no single intervention guarantees quality improvement, collaboration at a local, regional or national level fosters success.
- Our recent survey showed that although a small majority (58%) of respondents agreed they used PQIP data to set local improvement priorities, only a minority (42%) were using these data to monitor the impact of local QI projects.

Case study

PQIP data in action at Kingston Hospital

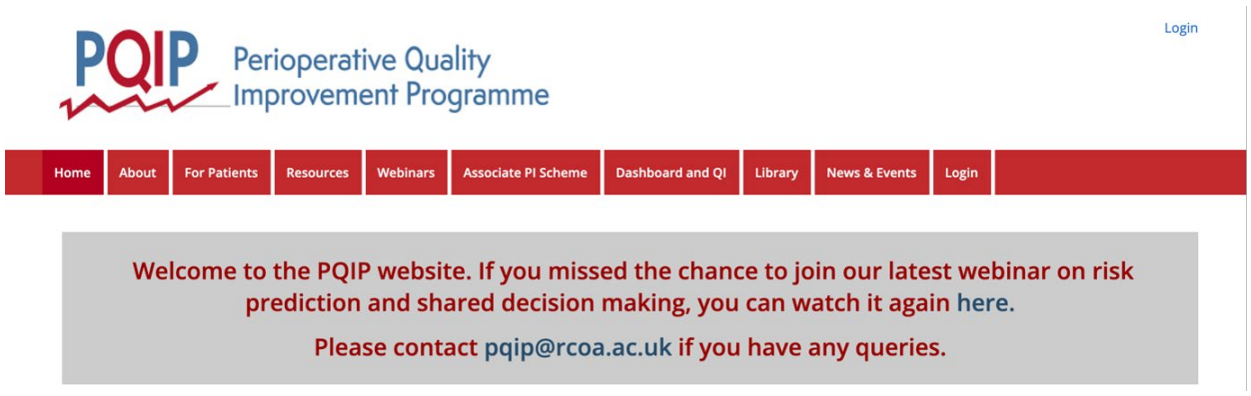
"Kingston Hospital are using Bauer Day 1 data and DrEaMing Day 1 data for improvement in patient care."

Initiatives that the PI and Anaesthetic team have put in place to improve better outcomes in patient care after surgery include the below.

- **DrEaMing patient information sheet:** created and issued to patients before surgery, then discussed with patients regarding range and control of symptoms on the day of surgery.
- **POCU patients:** we have increased physiotherapy engagement through use of an updated physiotherapy job plan for all POCU patients, not just selected POCU patients, on Day 1 post surgery and beyond.
- **Bauer Day 1, moderate pain and severe pain reported by patients on Day 1 post surgery:** findings have been reported at the Anaesthesia staff monthly team meeting to increase awareness and consider 'how we can do better' with this element of patient care.

Top tips on using PQIP data to support local QI

- Identify local priorities. Most hospitals will benefit from focusing on one of our high impact priority areas:
  - anaemia and blood management
  - diabetes management
  - individualised risk assessment
  - DrEaMing within 24h.
- **Get a login for the PQIP webtool** to be able to access all your local data, automated run charts and other really useful QI tools and data. Speak to your local PI to get support for a new login.
- **Focus data collection on a few specialties**, so that you build up your patient numbers quickly. But remember, you only need a small sample to demonstrate if your processes are reliable!
- **Use the free tools on our QI pages** to further develop your project.



PQIP and the Associate Principal Investigator Scheme

- The NIHR's Associate Principal Investigator (API) Scheme aims to support healthcare professionals to become involved in research and is open to all non-consultant grade doctors, nursing staff and allied health professionals.
- The scheme provides a 6-month programme where research and quality improvement can be integrated into clinical training.
- So far, PQIP has benefitted from over 120 enthusiastic APIs who have been invaluable to recruitment, consent, follow up, data input, data dissemination and local quality improvement. Thank you for all your hard work!
- Recruiting local APIs can not only offer the API trainees an opportunity, but also help with the running of PQIP locally by adding another member to your PQIP team.
- If you haven't already had an API, it is worth thinking about how this role could contribute to your PQIP team and remember, any member of the perioperative team can apply to be an API.

Case study

The benefits of being a PQIP associate PI

"Over the past year, I have had the privilege of being an Associate Principal Investigator (API) for the Perioperative Quality Improvement Programme (PQIP) at the Royal Sussex County and Princess Royal Hospitals. This role, part of the NIHR Associate PI Scheme, has provided a fantastic opportunity to develop leadership, organisational, and research skills while actively contributing to perioperative quality improvement. A key aspect of my role has been recruiting and training fellow anaesthetic trainees to enhance patient recruitment and data collection.

Working alongside our PQIP team, we have increased engagement with PQIP, ensuring consistent data collection and patient follow-up. We've introduced a theatre PQIP board to highlight local data trends and benchmark them against national figures, improving visibility and driving discussions within the department. Quarterly updates are presented at clinical governance meetings, and our data is now being used for multiple audits and quality improvement projects. This experience has been incredibly rewarding, and I would strongly encourage other anaesthetic trainees to consider becoming an API for PQIP within their trust."

Positive deviance

Anaemia Management: National target >80% with preoperative Hb > 130

>80% of all patients having elective surgery in these hospitals had an Hb of >130: Medway Maritime Hospital, Princess Royal Hospital, Royal Berkshire Hospital, Sunderland Royal Hospital.

>80% of male patients having elective surgery in these hospitals had an Hb of >130: Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cleveland Clinic – London, Lister Hospital, Medway Maritime Hospital, Princess Royal Hospital, Queen Victoria Hospital, Royal Albert Edward Infirmary, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Sunderland Royal Hospital, Tunbridge Wells Hospital, University College Hospital.

>80% of patients having elective surgery in these hospitals who had a blood loss of >500ml had an Hb of >130: Glan Clwyd Hospital, Hereford County Hospital, Musgrove Park Hospital, Princess Royal Hospital, Royal Albert Edward Infirmary, Royal Blackburn Hospital, Royal Glamorgan Hospital, St Richard's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, The James Cook University Hospital, Tunbridge Wells Hospital, University College Hospital, University Hospital North Tees, Worthing Hospital

Diabetes (HbA1c measurement): National target 100%

These hospitals recruited at least five patients with diabetes and recorded HbA1c in 100% of those patients: Hereford County Hospital, Hillingdon Hospital, Royal Berkshire Hospital, St Richard's Hospital, Sunderland Royal Hospital, Worthing Hospital

Individualised Risk Assessment: National target >80%

Sites with >80% of patients having individualised risk assessment: Basildon University Hospital Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cumberland Infirmary, Hereford County Hospital, Hillingdon Hospital, Lister Hospital, Princess Royal University Hospital (PRUH), Queen Victoria Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Blackburn Hospital, Royal Glamorgan Hospital, Royal National Orthopaedic Hospital, Southend University Hospital, St George's Hospital, St Thomas' Hospital, Tunbridge Wells Hospital, University College Hospital, Worthing Hospital, Wrightington Hospital

Carbohydrate loading: National target >80%

These hospitals gave >80% of all their PQIP patients preoperative carbohydrate loading:

Basildon University Hospital, King's Mill Hospital, Princess Royal University Hospital (PRUH), Queen Victoria Hospital, Royal Berkshire Hospital

These hospitals gave >80% of all their PQIP patients in specific specialties preoperative carbohydrate loading:

Lower GI: Darent Valley Hospital, Hereford County Hospital, Hereford County Hospital, Princess Royal University Hospital, Royal Albert Edward Infirmary, Royal Berkshire Hospital, Worthing Hospital

Gynaecology: King's Mill Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary

Burns and Plastics: Queen Victoria Hospital

Head and Neck: Queen Victoria Hospital

Urology: Royal Berkshire hospital

Drinking within 24hrs of surgery: National target >90%

>90% of patients in these hospitals were drinking within 24hrs: Aintree University Hosptial, Basildon University Hospital, Blackpool Victoria Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Cumberland Infirmary, Darent Valley Hospital, Glan Clwyd Hospital, Hereford County Hospital, King's Mill Hospital, Leighton Hospital, Lister Hospital, Medway Maritime Hospital Musgrove Park Hospital, Princess Royal Hospital, Princess Royal University Hospital (PRUH), Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Albert Edward infirmary, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal National Orthopaedic Hospital, Southend University Hospital, St George's Hospital, St Richard's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, Tunbridge Wells Hospital, University College Hospital, University Hospital North Tees, Wrightington Hospital, Ysbyty Gwynedd Hospital

By specialty – these are the hospitals where >90% of patients in specific specialties were drinking within 24h of surgery:

Lower GI: Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cleveland Clinic – London, Cumberland Infirmary, Glan Clwyd Hospital, Hereford County Hospital, King's Mill, Leighton Hospital, Musgrove Park Hospital, Princess Royal University Hospital (PRUH), Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Blackburn Hospital, Southend University Hospital, St Richard's Hospital, Sunderland Royal Hospital, The James Cook University Hospital, Tunbridge Wells Hospital, University Hospital North Tees, Worthing Hospital, Yeovil District Hospital, Ysbyty Gwynedd Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, St Thomas' Hospital, University College Hospital

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Darent Valley Hospital, Hereford County Hospital, Lister Hospital, Medway Maritime Hospital, Musgrove Park Hospital, Princess Royal Hospital, Rotheram General Hospital, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Liverpool University Hospital, Southend University Hospital, St George's Hospital, Sunderland Royal Hospital, University College Hospital, University Hospital North Tees

Orthopaedics: Cleveland Clinic – London, Cumberland Infirmary, Princess Royal Hospital, Rotherham General Hospital, Royal National Orthopaedic Hospital, Wrightington Hospital

Spinal: Musgrove Park Hospital, Royal National Orthopaedic Hospital, Royal Sussex County Hospital

Upper GI: Darent Valley Hospital, Tunbridge Wells Hospital

Gynaecology: Blackpool Victoria Hospital, Glan Clwyd Hospital, King's Mill Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Glamorgan Hospital, Royal Sussex County Hospital, Southend University Hospital, The James Cook university Hospital, Ysbyty Gwynedd Hospital

Vascular: Aintree University Hospital, Cumberland Infirmary, Glan Clwyd Hospital, Musgrove Park Hospital

Hepatobiliary: Royal Albert Edward Infirmary

Abdo – Other: Darent Valley Hospital

Eating within 24hrs of surgery: National target >80%

>80% of patients in these hospitals were eating within 24hrs: Aintree University Hospital, Basildon University Hospital, Blackpool Victoria Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Cumberland Infirmary, Glan Clwyd Hospital, Hereford County Hospital, Lister Hospital, Medway Maritime Hospital, Musgrove Park Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Liverpool University Hospital, Royal National Orthopaedic Hospital, St George's Hospital, St Richard's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, University College Hospital, University Hospital North Tees, Wrightington Hospital

By specialty – these are the hospitals where >80% of patients in specific specialties were eating within 24h of surgery:

Vascular: Aintree University Hospital, Cumberland Infirmary, Glan Clwyd Hospital, Musgrove Park Hospital

Lower GI: Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Glan Clwyd Hospital, Hereford County Hospital, Musgrove Park Hospital, Rotherham General Hospital, St Richard's Hospital, The James Cook University Hospital, University Hospital North Tees, Worthing Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, St George's Hospital, St Thomas' Hospital, University College Hospital.

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Cleveland Clinic – London, Darent Valley Hospital, Hereford County Hospital, Lister Hospital, Medway Maritime Hospital, Musgrove Park Hospital, Princess Royal Hospital, Rotheram General, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Liverpool University Hospital, Southend University Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal, University College Hospital, University Hospital North Tees

Orthopaedics: Cleveland Clinic – London, Cumberland infirmary, Princess Royal Hospital, Rotherham General Hospital, Royal National Orthopaedic Hospital, Wrightington Hospital

Spinal: Musgrove Park Hospital, Royal National Orthopaedic Hospital, Royal Sussex County Hospital

Upper GI: Darent Valley Hospital

Gynaecology: Blackpool Victoria Hospital, Glan Clwyd Hospital, King's Mill Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Royal Sussex County Hospital, The James Cook University Hospital, Ysbyty Gwynedd Hospital

Hepatobiliary: Royal Albert Edward Infirmary

Mobilising within 24hrs of surgery: National target >85%

>85% of patients in these hospitals were mobilising within 24hrs: Basildon University Hospital, Blackpool Victoria Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Hereford County Hospital, Leighton Hospital, Musgrove Park Hospital, Princess Royal Hospital, Princess Royal University Hospital (PRUH), Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Royal Albert Edward Infirmary, Royal Berkshire Hospital, Southend University Hospital, St George's Hospital, St Richard's Hospital St Thomas' Hospital, Sunderland Royal Hospital, Tunbridge Wells Hospital, University College Hosptial, University Hospital North Tees

By specialty – these are the hospitals where >85% of patients in specific specialties were mobilising within 24h of surgery:

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, St George's Hospital, St Thomas' Hospital, University College Hospital

Lower GI: Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cleveland Clinic – London, Cumberland Infirmary, Hereford County Hospital, Leighton Hospital, Musgrove Park Hospital, Princess Royal University Hospital (PRUH), Queen's Hospital Burton upon Trent, Royal Berkshire Hospital, St Richard's Hospital,Tunbridge Wells Hospital, University College Hospital, University Hospital North Tees

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Cleveland Clinic – London, Darent Valley Hospital, Hereford County Hospital, Lister Hospital, Musgrove Park Hospital, Princess Royal Hospital, Royal Berkshire Hospital, Royal Liverpool University Hospital, Southend University Hospital, St George's Hospital, Sunderland Royal, University College Hospital, University Hospital North Tees

Hepatobiliary: Royal Albert Edward Infirmary

Upper GI: Darent Valley Hospital, Tunbridge Wells Hospital

Spinal: Musgrove Park Hospital, Royal Sussex County Hospital

Gynaecology: Blackpool Victoria Hospital, Glan Clwyd Hospital, King's Mill Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Glamorgan Hospital, Southend University

DrEaMing within 24hrs of surgery: National target >80%

>80% of patients in these hospitals were DrEaMing within 24hrs: Basildon University Hospital, Blackpool Victoria Hospital, Bristol Royal Infirmary, Hereford County Hospital, Musgrove Park Hospital, Princess Royal Hospital, Queen Victoria Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Berkshire Hospital, St George's Hospital, St Richard's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, University College Hospital, University Hospital North Tees

By specialty – these are the hospitals where >80% of patients in specific specialties were DrEaMing within 24h of surgery:

Lower GI: Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Hereford County Hospital, Musgrove Park Hospital, St Richard's Hospital, University Hosptial North Tees

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, St George's Hospital, St Thomas' Hospital, University College Hospital

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Urology: Broomfield Hospital, Cleveland Clinic – London, Darent Valley Hospital, Hereford County Hospital, Lister Hospital, Musgrove Park Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Berkshire Hospital, Royal Blackburn Hospital, Royal Liverpool University Hospital, Southend University Hospital, St George's Hospital, Sunderland Royal Hospital, University College Hospital, University Hospital North Tees

Upper GI: Darent Valley Hospital

Gynaecology: Blackpool Victoria Hospital, Glan Clwyd Hospital, King's Mill Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Albert Edward Infirmary, Royal Glamorgan Hospital, Southend University Hospital

Spinal: Musgrove Park Hospital, Royal Sussex County Hospital

Hepatobiliary: Royal Albert Edward Infirmary

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