PQIP

Perioperative Quality Improvement Programme

Report 5

March 2023 to March 2024

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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Centre for Research and Improvement
Royal College of Anaesthetists, Churchill House, 35 Red Lion Square, London WC1R 4SG

Published by the Royal College of Anaesthetists

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

pqip.org.uk
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Cover Illustration

Top left: members of St Thomas' Hospital, London PQIP team. Photo provided by the team and used with their consent.

Top right: image taken at Charing Cross Hospital, London (© 2019 Royal College of Anaesthetists).

Bottom left: image taken at the Royal London Hospital (© 2017 Royal College of Anaesthetists).

Bottom right: members of the Royal Berkshire Hospital PQIP team. Photo provided by the team and used with their consent.

PQIP Perioperative Quality Improvement Programme

Dear collaborators, colleagues, patients and public,

It is a privilege to present this 5th PQIP Cohort report to you.

Yet again, the team are blown away by the efforts of our collaborators at the 173 hospitals which have provided high quality data to PQIP. Even more so, we are grateful and humbled by the trust which 53,478 patients have placed in us, consenting to participate in PQIP and completing patient-reported data.

We are living in times of change. I am writing this in early June – by the time you read it, we will have a new government, whatever its political leanings.

However, there are challenges in the NHS which will persist beyond the election, and which perioperative care has the opportunity to help meet.

The waiting list continues to rise, population health continues to decline and yet we are all working harder and faster than ever before.

For this to be sustainable, and for patient care and outcomes to improve despite these challenges, we need to implement the highest quality principles of perioperative care.

Our top improvement priorities, again highlight some high impact interventions which can support two key goals: reducing late cancellations and postponements before surgery, and reducing complications and length of stay after surgery. If we achieve these goals, we create capacity to reduce the size of the waiting list.

Every PQIP hospital team will have its own challenges and priorities, but from a national perspective we continue to highlight:

- anaemia and perioperative blood management
- diabetes care
- individualised risk assessment
- DrEaMing as a simplified approach to Enhanced Recovery
- using data for improvement.

Thank you to all our collaborators for their efforts, and thank you to the PQIP central team for the hard work they put into compiling this report, particularly Adam, Aiman, Dom and Eimhear.

We look forward to working with you on delivering the ambitions set out in this report.

Very best regards,

Ramani Moonesinghe
PQIP Chief Investigator

PQIP Perioperative Quality Improvement Programme

Top 5 improvement priorities 2024–2025

1 Individualised risk assessment including early screening and optimisation

Guidelines from the Centre for Perioperative Care recommend that all patients undergoing surgery should have an individualised risk assessment. National policy from NHS England's Perioperative Care Programme mandates all trusts to screen patients awaiting inpatient surgery for health issues early in the perioperative care pathway.

TOP TIPS

- Consistently used a locally-agreed tool (eg SORT) to provide an objective estimate of patients' perioperative risk.
- Use the results of this risk assessment to guide perioperative care decisions, including, for example postoperative destination postoperative care destination (eg intensive care admission for patients with risk estimates >5%).

2 Diabetes management

Diabetes is the most common endocrine condition, and poor control is associated with higher perioperative risk. HbA1c testing is a straightforward indicator of the levels of control, but a significant minority of patients enrolled in PQIP are not tested prior to surgery.

TOP TIPS

- Implementation of the NHSE Early Screening, Risk Assessment and Optimisation guidance should support better identification of patients with diabetes early in their pathway, and give time for treatment.
- CPOC guidance gives excellent advice on how to care for patients with diabetes once they have been admitted.

3 Patient blood management

Reduce the adverse outcomes associated with anaemia and transfusion in the perioperative period.

TOP TIPS

- Implement early screening for anaemia.
- Establish and follow local protocols on investigation and replacement iron, B12 and folate.
- Improve compliance with the evidence-based administration of tranexamic acid.
- Our new infographic suggests how local pathways could be developed to support diabetes optimisation before surgery.

4 DrEaMing – is there more you can do?

DrEaMing implementation is a highly effective intervention to reduce complications and LOS – and this will reduce surgical waiting lists, which is the biggest challenge faced by perioperative teams. Little interventions could make a big difference, particularly if surgically led.

TOP TIPS

- Operation notes to specify when patients can drink and eat.
- Avoidance of 'tethering' and 'PJ paralysis'.
- Careful attention to avoid the things we know reduce the likelihood of DrEaMing.

5 The QI in PQIP

PQIP is about more than just data collection – a principal aim is to support local quality improvement (QI).

TOP TIPS

- Consider focusing recruitment in a single or small number of surgical specialties to ensure data are meaningful in driving QI.
- Attend the PQIP webinar series to learn from experts in perioperative medicine, and explore focused areas for QI in greater depth.
- Encourage colleagues, particularly trainees, nurses and AHPs, to join the NIHR Associate Principal Investigator Scheme, to help with recruitment, data collection, and dissemination.

Milestone: >50,000 patients helping us to improve future perioperative care

National PQIP recruitment

- Since PQIP started, 173 hospitals have recruited patients to the study – more than 80% of eligible hospitals across the UK.
- Of these, 135 hospitals have recruited patients in this report cycle (since 18 March 2023), across England (124) (9), Wales and Scotland (2), within the NHS and independent sector.

Number of hospitals participating in PQIP

In this report we focus on data from the fifth Cohort of PQIP patients (Table 1), but comparison is also made across all Cohorts to date, including a total of 53,478 patients who have had major surgery.

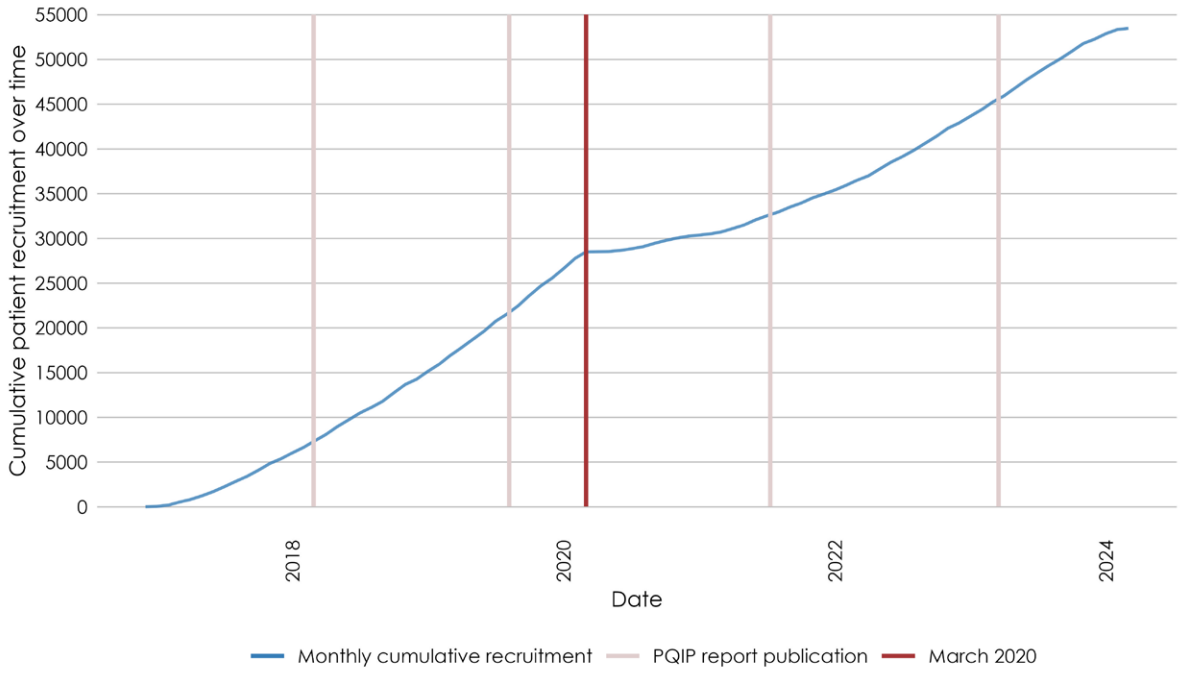
Table 1 Cohort start and end dates, with total included patients (with completed episodes of care)

	Start date	End date	Number of months study open	Number of completed episodes (n)
Cohort 1	1/12/2016	27/2/2018	15	6,644
Cohort 2	28/2/2018	6/8/2019	17	14,238
Cohort 3	07/08/2019	11/07/2021	23	11,350
Cohort 4	12/07/2021	17/03/2023	20	12,612
Cohort 5	18/03/2023	17/03/2024	12	8,634
Total	**1/12/2016**	**17/03/2024**	**87**	**53,478**

Recruitment patterns over time

The COVID-19 pandemic had a significant impact on hospitals' ability to recruit to research studies, including PQIP, however looking at recruitment cumulatively, the rate of recruitment appears to be returning to pre-pandemic trends (Figure 1).

Figure 1 Cumulative PQIP recruitment



Individual site recruitment

- The top recruiting site for Cohort 5 was University College Hospital, with 539 patients. Other high recruiting sites are St Thomas' Hospital, Lister Hospital, Royal Berkshire Hospital, Musgrove Park Hospital, Royal Liverpool University Hospital, Royal Sussex County Hospital, Basildon University Hospital, Rotherham General Hospital, Sunderland Royal Hospital, and Bristol Royal Infirmary. Well done on all your hard work!
- We are delighted to welcome the following new sites to PQIP since the publication of the Cohort 4 report in 2023: Blackpool Victoria Hospital, King George Hospital, Princess Royal University Hospital (PRUH), and Queen's Hospital Romford.

Making the most of your local effort: tips for engagement

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.

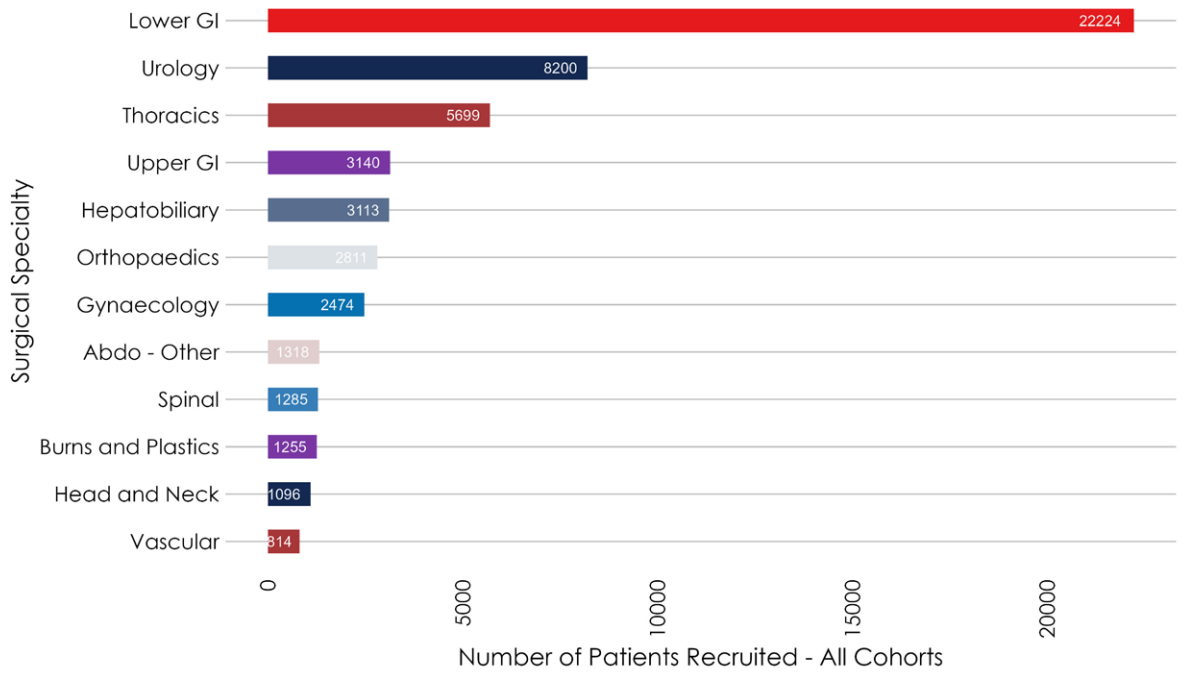
- Regularly feedback your PQIP results, using multiple channels. Posters, emails, departmental meetings and newsletters can all be effective. Sharing results across the MDT will support data collection and reduce the likelihood of duplication of efforts through overlapping local audits and QI.
- Present 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 Patient Demographics – General Overview

Characteristic	Overall, n = 53,474	Cohort 1, N = 6,640	Cohort 2, N = 14,238	Cohort 3, N = 11,350	Cohort 4, N = 12,612	Cohort 5, N = 8,634
Age (Years, Median; IQR)	66.1 (56.3–73.6)	67.2 (57.4–73.8)	66.2 (55.8–73.5)	65.7 (55.7–73.2)	65.8 (56.4–73.9)	65.6 (56.7–73.6)
Biological Sex (%)						
Female	45	39	42	46	47	47
Male	55	61	58	54	53	53
Intersex	NA	NA	NA	NA	NA	NA
PNS	NA	NA	NA	NA	NA	NA
BMI (Median; IQR)	27.4 (24.2–31.1)	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 (24.5–31.7)
Current Smoker (%)	11	11	11	11	11	10.0
ASA Physical Status (%)						
1	9.4	11	11	10	7.6	7.3
2	59	61	61	60	58	58
3	30	27	28	29	34	34
4	1.0	1.1	1.0	1.0	1.1	1.0
5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Surgical Complexity (%)						
Major	12	14	12	12	11	11
Complex Major	35	34	33	34	37	36
Complex	53	52	55	54	53	52
Surgical Urgency (%)						
Elective	92	88	90	91	93	95
Expedited	8.4	12	9.7	8.9	7.1	4.7
Cancer Diagnosis Within 5 Years (%)						
None	33	23	30	36	37	37
Solid, No Mets	54	59	54	53	52	52
Solid, Mets	13	17	15	10	11	11
Lymphoma	0.2	0.3	0.3	0.2	0.1	0.3
Leukaemia	0.1	0.2	<0.1	<0.1	0.2	<0.1
Diabetes (%)						
None	87	87	87	87	86	86
Type I	0.6	0.7	0.7	0.5	0.6	0.6
Type II – Diet Control	3.0	2.9	3.1	2.9	2.9	3.0
Type II – Oral Agents	7.2	6.7	6.6	7.3	7.8	7.5
Type II – Insulin	2.5	2.6	2.9	2.2	2.3	2.4
NYHA Heart Failure Class (%)						
I	84	83	83	81	85	87
II	14	14	15	16	13	11
III	2.6	2.6	2.4	2.9	2.7	2.2
IV	0.1	0.2	0.1	0.2	0.1	0.2
Respiratory History	16	16	15	17	16	NA
Respiratory Infection (Past Month)	3.4	4.0	3.2	3.2	3.0	NA
Cardiac History	17	25	25	25	4.3	3.8
Abnormal ECG	22	23	22	21	9.1	NA
Cerebrovascular Disease	3.9	3.9	4.1	3.8	3.7	4.1
Dementia	0.6	0.6	0.9	0.7	0.3	0.5
Liver Disease	1.0	1.3	1.0	0.8	0.9	1.6

Figure 2 Patient recruitment by specialty



What operations are PQIP patients having?

PQIP patients are having complex surgery, with over 60% of procedures in Cohort 5 taking longer than three hours and around 20% taking over six hours. This includes a wide variety of procedures – the five most frequent procedures for each specialty are listed in Table 4.

Table 3 Duration of surgery by Cohort

	Overall, n = 53,474	**Cohort 1, N = 6,640**	**Cohort 2, N = 14,238**	**Cohort 3, N = 11,350**	**Cohort 4, N = 12,612**	**Cohort 5, N = 8,634**
Less than 2hrs	4,876 (9.3%)	498 (7.5%)	1,095 (7.7%)	1,224 (11%)	1,316 (11%)	743 (8.9%)
2 to 3hrs	13,040 (25%)	1,597 (24%)	3,466 (24%)	3,043 (27%)	2,991 (24%)	1,943 (23%)
Greater than 3hrs	20,750 (39%)	4,527 (68%)	9,580 (68%)	6,633 (59%)	NA	NA
to 4hrs	5,218 (9.9%)	NA	NA	132 (1.2%)	2,951 (24%)	2,127 (25%)
4 to 6hrs	5,021 (9.5%)	NA	NA	102 (0.9%)	2,858 (23%)	2,056 (25%)
Greater than 6hrs	3,787 (7.2%)	NA	NA	58 (0.5%)	2,205 (18%)	1,522 (18%)

Table 4 Top 5 Procedures by Specialty

Abdo – Other	n	Burns and Plastics	n	Gynaecology	n	Head and Neck	n
Abdominal wall reconstruction	376	Mastectomy with soft tissue reconstruction (to include pedicled reconstructions)	539	Vaginal hysterectomy including salpingo-oophorectomy (including laparoscopically assisted)	947	Selective dissection of cervical lymph nodes	232
Adrenalectomy (unilateral)	248	Reconstruction of breast using flap	449	Hysterectomy with excision/biopsy and or removal of omentum and uterine adnexa for ovarian malignancy	648	Extensive excision of mandible (+/- disarticulation / reconstruction)	113
Complex restoration of intestinal continuity	125	Delayed reconstruction of breast using pedicled TRAM	180	Anterior (+/- posterior) colporrhaphy with vaginal hysterectomy (including primary repair of enterocele and cystoscopy)	440	Total laryngectomy	102
Total exenteration of pelvis	118	Partial reconstruction of breast using pedicled perforator flap	52	Radical hysterectomy and lymphadenectomy (Wertheim's)	355	Partial or Hemi maxillectomy for malignancy	91
Laparotomy + excision of sarcoma tumour	114	Microvascular free tissue transfer	17	Radical vulvectomy (including block dissection of inguinal gland)	21	Radical dissection of cervical lymph nodes	89
Laparotomy + restoration of intestinal continuity	101	Lumpectomy and immediate partial reconstruction of breast using pedicled perforator flap	12	Total exenteration of pelvis	17	Mediastinal thyroidectomy/parathyroidectomy with sternotomy	74
Hepatobiliary	**n**	**Lower GI**	**n**	**Orthopaedics**	**n**	**Spinal**	**n**
Resection of lesion(s) of liver	1,015	Anterior resection	6,780	Revision of total replacement of knee joint	1,017	Anterior discectomy, decompression and fusion (including bone grafting/multiple levels) (cervical region)	298
Pancreatoduodenectomy and excision of surrounding tissue (Whipple's procedure)	867	Right hemicolectomy (with anastamosis)	6,220	Revision of total hip replacement including insertion of reconstruction rings, plates, screws, etc., and/or impaction bone grafting to acetabulum and/or femur	698	Primary posterior fusion +/- decompression +/- discectomy (lumbar region)	189
Hemihepatectomy (right)	339	Excision of sigmoid colon	1,383	Revision of uncemented or cemented total hip replacement without adjunctive procedures	574	Combined anterior approach discectomy, decompression and fusion and posterior fusion (lumbar region)	142
Pancreatectomy (partial/distal)	287	Reversal of Hartmann's procedure	1,003	Removal of total hip replacement	104	Anterior discectomy (cervical region)	86
Hemihepatectomy (left)	187	Abdominoperineal (AP) resection with end colostomy	844	2 stage revision of total knee replacement for infection – first stage	70	Posterior correction of scoliosis with instrumentation +/- fusion	75
Partial Hepatectomy	158	Right hemicolectomy (with ileostomy)	742	Distal Femoral Replacement	62	Primary posterior fusion with instrumentation +/- decompression +/- discectomy (including graf stabilisation and all fusion approaches) (lumbar region)	64

Thoracics	n	Upper GI	n	Urology	n	Vascular	n
VATS lobectomy	2,167	Oesophagectomy (total)/ Oesophagogastrectomy	1,045	Radical prostatectomy	2,959	Endarterectomy of femoral artery	244
VATS wedge resection of lung	989	Gastrectomy (Total or Partial) with excision of surrounding tissue	676	Total nephrectomy (non-transplant)	1,342	Femoro-popliteal bypass using vein	106
Pulmonary lobectomy including segmental resection	560	Oesophagectomy (partial)	409	Cystectomy	1,159	Open infrarenal abdominal aortic aneurysm tube graft	89
VATS pleurodesis/pleurectomy	452	Pancreatoduodenectomy and excision of surrounding tissue (Whipple's procedure)	145	Nephrectomy and excision of perirenal tissue	1,083	Femoro-femoral bypass	57
VATS bullectomy (unilateral)	219	[REMOVED] Partial gastrectomy (+/- excision of surrounding tissue)	133	Nephroureterectomy	583	Aorto-iliac, aorto-femoral, ilio-femoral bypass	43
VATS excision lesion of mediastinum including thymectomy	219	Total or Partial gastrectomy and excision of surrounding tissue	96	Percutaneous nephrolithotomy (including cystoscopy and retrograde catheterisation)	294	Open infrarenal abdominal aortic aneurysm bifurcation graft	42

Avoiding wrong person surgery: individualised risk assessment

Where are we now?

- The proportion of PQIP patients without a documented individualised risk assessment remains around 30%, a figure which has persisted since PQIP started.
- Given the magnitude of the surgical procedures included in PQIP, this represents a real opportunity for improvement.

Figure 3 Trend in individualised risk assessment over the course of PQIP

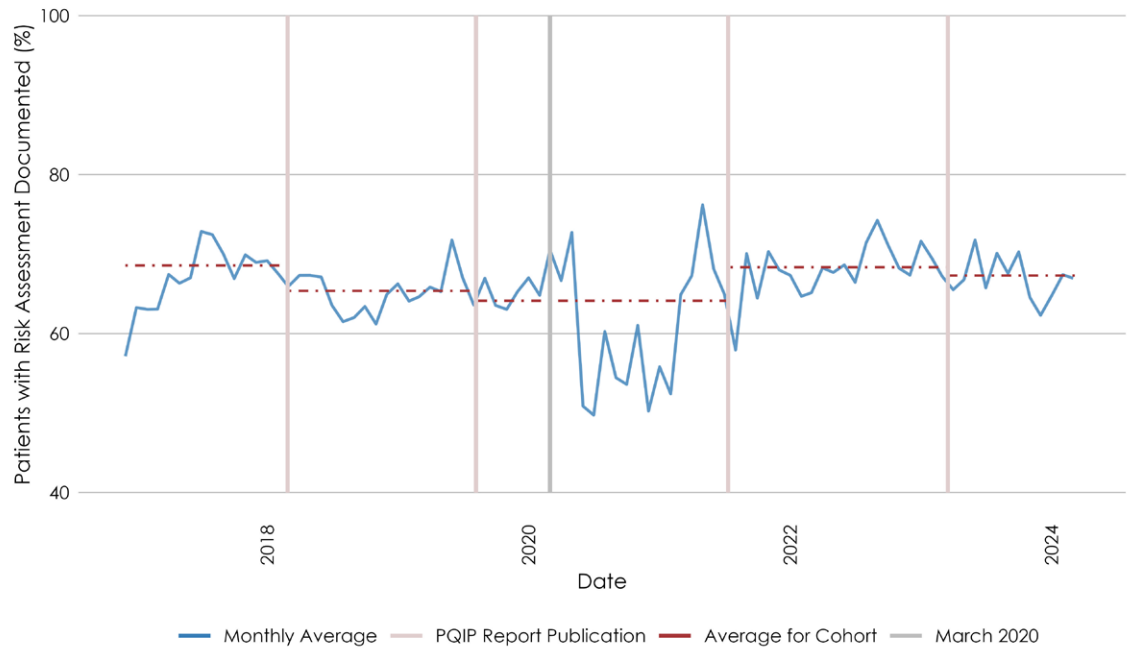
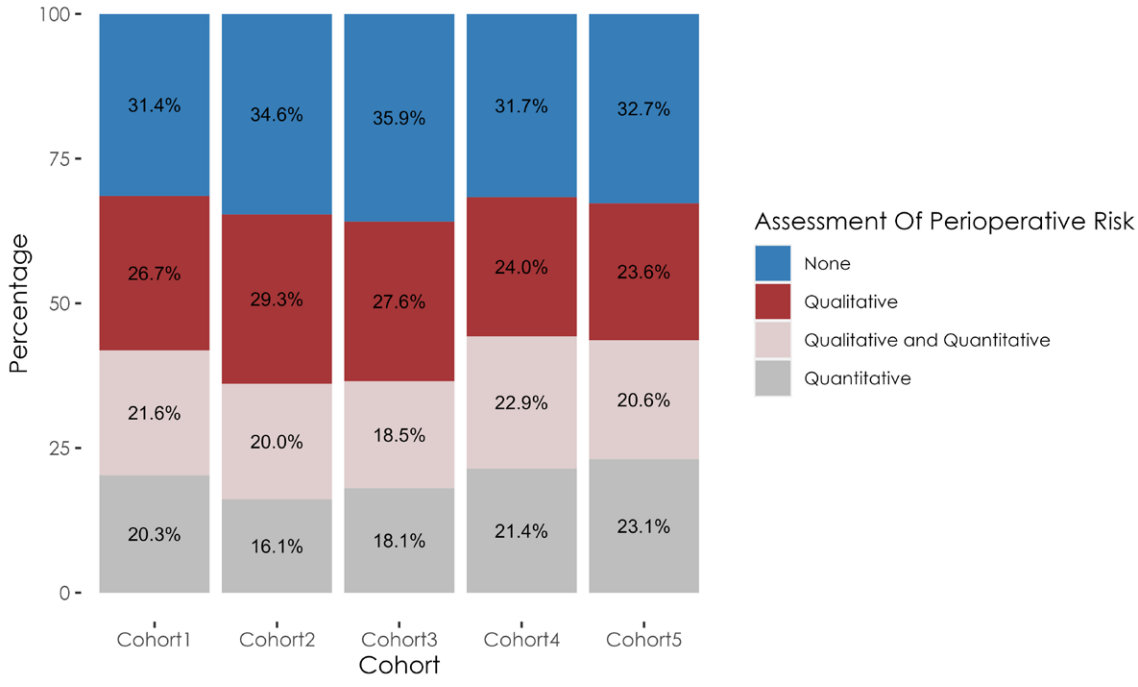


Figure 4 Methods of preoperative risk assessment (all Cohorts)



Why is individualised risk assessment important?

- Risk assessment facilitates shared decision making and open communication of risk, core components of patient centred care and informed consent, and may help to improve patients' adherence to treatment.
- Its importance is emphasized by the Montgomery ruling and GMC guidance. The Royal College of Anaesthetists' risk information series can also be used to support shared decision making and consent discussions.
- Quantitative risk assessment ensures appropriate resource allocation, such as preoperative optimisation or postoperative enhanced care.

Policy and Guideline alert

In 2023, NHS England's Perioperative Care Programme mandated **five core requirements for preoperative screening and optimisation in inpatient pathways**. This has been built into the standard contract between NHS England and acute care providers – so it is mandatory, and funding should be available to help you achieve this.

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 three 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.

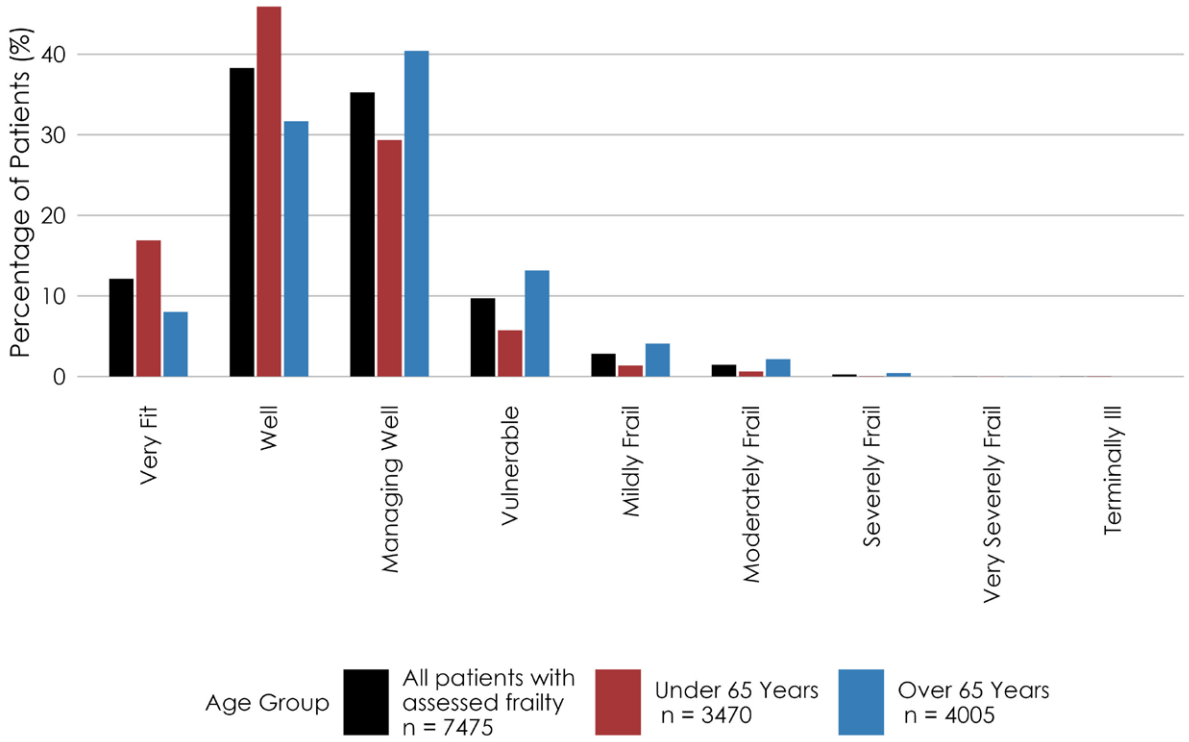
To support implementation of this contractual requirement, NHSE published guidance on what is required which includes information on the core information which should be shared between primary and secondary care, and how to bring perioperative care coordinators into the preoperative assessment workforce.

Further operational guidance targeted at preassessment, booking and scheduling teams, and based on feedback from clinicians on the ground, aims to support delivery of the five core requirements and a high quality preoperative assessment service in practice.

Improving care of the most vulnerable: frailty screening and management

- Frailty is an age-related syndrome that reflects a reduced physiological reserve when facing stressors such as major surgery, increasing vulnerability to adverse outcomes.
- In older patients (>65y) frailty is associated with an increased risk of complications and prolonged hospital stays.
- Frailty assessment supports the holistic assessment and management of these patients to support shared decision making, and to mitigate risk for those who proceed to surgery.
- In Cohort 5, 7,475 patients (86%) had a recorded frailty assessment of which 3,470 were over 65 years of age. Most patients are not frail at baseline and are assessed as 'Managing Well' or better. However, a significant minority are identified as vulnerable or frail.

Figure 5 Rockwood Clinical Frailty Assessment by age group



Guideline alert

In September 2021 the Centre for Perioperative Care (CPOC) published a comprehensive guideline on perioperative care for people living with frailty.

Key points include:

- all patients aged over 65 years, as well as younger patients deemed to be at risk of frailty, should have frailty status assessed using the Rockwood Clinical Frailty Scale upon referral for elective surgery
- patients identified as living with frailty should then receive comprehensive frailty and cognitive assessments and be under the care of a perioperative frailty team.

More information here.

Reducing avoidable harm: preoperative diabetes screening and management

- Diabetes is the most common metabolic disorder; by 2025, Diabetes UK estimates 5.3 million people in the UK will be diagnosed with the condition.
- Patients living with diabetes are at risk of longer hospital stays and higher rates of adverse postoperative outcomes.
- Consistent with previous reports, 14% of patients in PQIP Cohort 5 had a diagnosis of diabetes.
- Measuring HbA1c within three months of surgery and intervention when the result exceeds this threshold is a key step in perioperative diabetes management.
- In Cohort 5, 700 of 929 (75%) of diabetic patients had an HbA1c measured prior to surgery – this proportion remains essentially unchanged since first measured in Cohort 1.
- HbA1c recording was lowest in patients undergoing thoracic surgery: this may reflect short timeframes between decision to operate and date of surgery for patients undergoing lung cancer surgery.
- The highest incidence of poor diabetes control (HbA1c >69 mmol/mol) seen in patients undergoing gynaecological surgery, where 34% of these patients had a HbA1c >69 mmol/mol, most of which were not having cancer surgery.

Figure 6 HbA1c assessment – proportion of diabetic patients with HbA1c measured prior to surgery

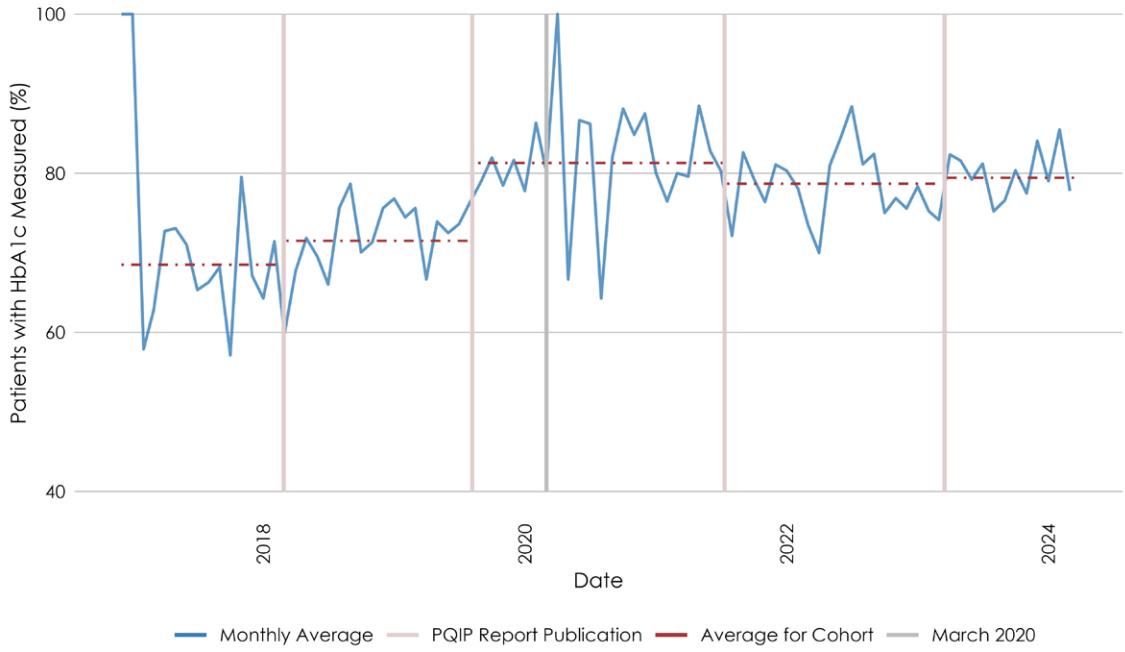


Table 5 Proportion of diabetic patients with HbA1c measurement taken in each surgical specialty

Characteristic	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Surgical Specialty					
Abdo – Other	23 (74%)	53 (84%)	25 (89%)	22 (85%)	23 (82%)
Head and Neck	27 (61%)	18 (58%)	11 (79%)	24 (89%)	10 (71%)
Hepatobiliary	53 (54%)	158 (65%)	84 (80%)	73 (81%)	48 (70%)
Lower GI	292 (72%)	606 (74%)	503 (83%)	555 (82%)	383 (82%)
Thoracics	61 (73%)	94 (63%)	88 (70%)	137 (61%)	83 (56%)
Upper GI	46 (61%)	113 (73%)	71 (81%)	78 (84%)	39 (95%)
Urology	83 (72%)	200 (72%)	189 (85%)	213 (86%)	180 (89%)
Gynaecology			33 (79%)	87 (82%)	56 (86%)
Orthopaedics		49 (80%)	104 (87%)	76 (76%)	37 (76%)
Spinal		29 (62%)	33 (73%)	27 (87%)	20 (91%)
Vascular		14 (82%)	43 (72%)	55 (64%)	46 (75%)

Table 6 Percentage of Diabetic Patients with measured HbA1c who have HbA1c > 8.5% by Cohort

Characteristic	Overall, n = 5,391	Cohort 1, N = 580	Cohort 2, N = 1,345	Cohort 3, N = 1,189	Cohort 4, N = 1,348	Cohort 5, N = 929
HbA1C Controlled						
<8.5%	4,127 (77%)	445 (77%)	1,030 (77%)	945 (79%)	1,007 (75%)	700 (75%)
>8.5%	1,264 (23%)	135 (23%)	315 (23%)	244 (21%)	341 (25%)	229 (25%)

Table 7 Percentage of Diabetic Patients with measured HbA1c who have HbA1C > 8.5% by Surgical Specialty – Cohort 5

Characteristic	<8.5%	>8.5%
Surgical Specialty		
Abdo – Other	19 (83%)	4 (17%)
Burns and Plastics	4 (80%)	1 (20%)
Gynaecology	37 (66%)	19 (34%)
Head and Neck	8 (80%)	2 (20%)
Hepatobiliary	33 (69%)	15 (31%)
Lower GI	291 (76%)	92 (24%)
Orthopaedics	33 (89%)	4 (11%)
Spinal	15 (75%)	5 (25%)
Thoracics	65 (79%)	17 (21%)
Upper GI	29 (74%)	10 (26%)
Urology	133 (74%)	47 (26%)
Vascular	33 (72%)	13 (28%)

Guideline alert

The Centre for Perioperative Care (CPOC) provides guidelines for a clear approach to team-based screening and optimization of the management of diabetic patients.

- Waiting list time can be used to measure and act on abnormal HbA1c readings.
- Optimising diabetes preoperatively ensures an individualised diabetes plan is made for each patient on their admission, facilitating smooth progression through the perioperative care pathway.

More information from the CPOC website.

A national priority: perioperative blood management

- Anaemia management has been a high priority across all PQIP reports to date.
- Shortages of blood available for transfusion, and the infected blood inquiry have both highlighted the importance of perioperative anaemia and blood loss management.
- Despite some improvements, a large proportion of anaemic patients still receive no treatment for their anaemia in the months before surgery.
- Nonetheless, over time the proportion of patients who are presenting for surgery with moderate to severe anaemia (defined as last measured haemoglobin prior to surgery <110g/L) has continued to fall, decreasing from 11.3% in Cohort 1 to 7.4% in the current Cohort.

Table 8 Percentage of anaemic patients who have received treatment – by level of anaemia and overall – Cohort 5

Characteristic	Severe, n = 26	Moderate, n = 604	Mild, n = 2,167	Overall, n = 2,797
No Treatment	8 (30.77%)	240 (39.74%)	1,619 (74.71%)	1,867 (66.75%)
Intravenous Iron	12 (46.15%)	264 (43.71%)	333 (15.37%)	609 (21.77%)
Oral Iron	1 (3.85%)	77 (12.75%)	205 (9.46%)	283 (10.12%)
EPO	0 (0.00%)	6 (0.99%)	4 (0.18%)	10 (0.36%)
Blood Transfusion	8 (30.77%)	68 (11.26%)	23 (1.06%)	99 (3.54%)
B12	0 (0.00%)	19 (3.15%)	27 (1.25%)	46 (1.64%)
Folic Acid	0 (0.00%)	17 (2.81%)	27 (1.25%)	44 (1.57%)

- We want to strive for even better compliance. Even mild anaemia is an independent risk factor for increased adverse outcomes following surgery. Patients with preoperative anaemia are also less likely to DrEaM within 24 hours after surgery.
- PQIP collects data on how well preoperative anaemia is managed, being a modifiable process where QI efforts can be focused.
- Although fewer patients are presenting to surgery anaemic, there are still a significant proportion of anaemic patients who receive no anaemia treatment prior to surgery.
- Similar to previous Cohorts, 67% of anaemic patients had no treatment for preoperative anaemia, including 31% of patients with severe anaemia.
- Our figures for tranexamic acid use also appear to show room for improvement, with significant proportions of patients with >500ml blood loss not receiving perioperative tranexamic acid (Table 9).

Table 9 Tranexamic acid use by actual blood loss during surgery

Characteristic	Cohort 3	Cohort 4	Cohort 5
Blood loss			
>=1001ml	203 (58%)	234 (62%)	156 (70%)
501–1000ml	304 (46%)	408 (54%)	255 (57%)
101–500ml	854 (27%)	1,328 (33%)	1,084 (43%)
<=100ml	547 (15%)	768 (18%)	792 (24%)
Missing data	583 (17%)	522 (16%)	462 (21%)

Breaking news

Recommendations on tranexamic acid administration from the Infected Blood Inquiry

The Infected Blood Inquiry, chaired by Sir Brian Langstaff, was established to examine the circumstances in which men, women and children treated by the NHS in the United Kingdom were given infected blood and infected blood products.

Its findings and recommendations were reported in May 2024. These were wide-ranging, but included some of specific relevance to perioperative care.

In particular, there were a number of recommendations relating to the administration of tranexamic acid:

In England

- Hospital Transfusion Committees and transfusion practitioners take steps to ensure that consideration of tranexamic acid be on every hospital surgical checklist.
- Hospital Medical Directors be required to report to their board and the Chief executive of their Trust as to the extent of its use.
- That the Board report annually to NHS England as to the percentage of eligible operations which have involved its use.
- If the percentage is below 80% of has dropped since the previous year, this should be accompanied with an explanation for the failure to use more tranexamic acid and thereby reduce the risk to patient safety that comes with using a transfusion opf blood or red blood cells.

In Scotland, Wales and Northern Ireland:

- Offering the use of tranexamic acid should be considered a treatment of preference in respect of all eligible surgery.

That consideration be given to standardising and benchmarking transfusion performance between hospitals in order to deliver better patient blood management.

Low hanging fruit? Preoperative carbohydrate loading – still room for improvement

Preoperative carbohydrate loading is recommended in non-diabetic patients undergoing certain types of major surgery. There are well-documented benefits, including improved patient well-being and satisfaction, a reduction in the surgical stress response and insulin resistance, and minimised protein catabolism. A Cochrane systematic review from 2014 found that although carbohydrate loading has not been shown to decrease postoperative complications, it is associated with a small reduction in length of stay compared to usual fasting.

Table 10 ERAS recommendations for Carbohydrate loading for PQIP surgical specialties

Strong recommendation	Moderate recommendation	Consider	Not recommended	No ERAS guidance
Colorectal	Vascular (non-diabetic)	Hepatobiliary	Orthopaedics	Upper GI
Gynaecology		Head and Neck	Spinal	Burns and Plastics
Thoracic			Oesophagectomy	
Urology				

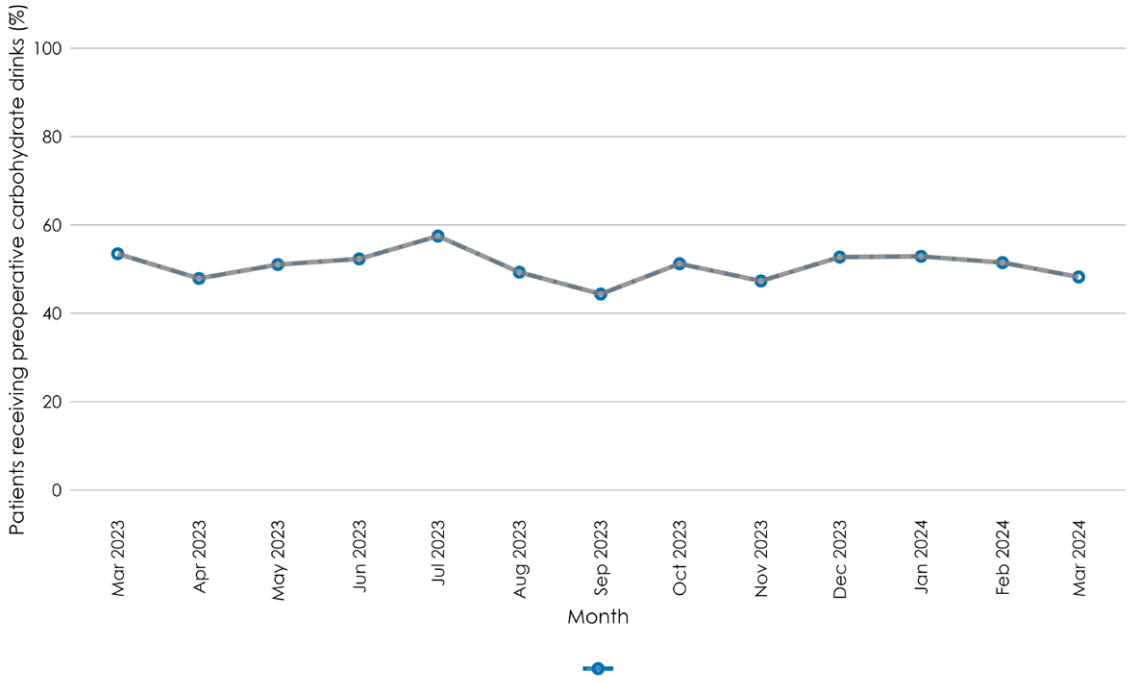
Improvement is still needed to increase the proportion of eligible non-diabetic patients receiving preoperative carbohydrate loading to meet ERAS guideline recommendations, which currently stands about 50%. Figure 7 shows the percentage of patients in this group receiving preoperative carbohydrate drinks by month of surgery over the duration of Cohort 5.

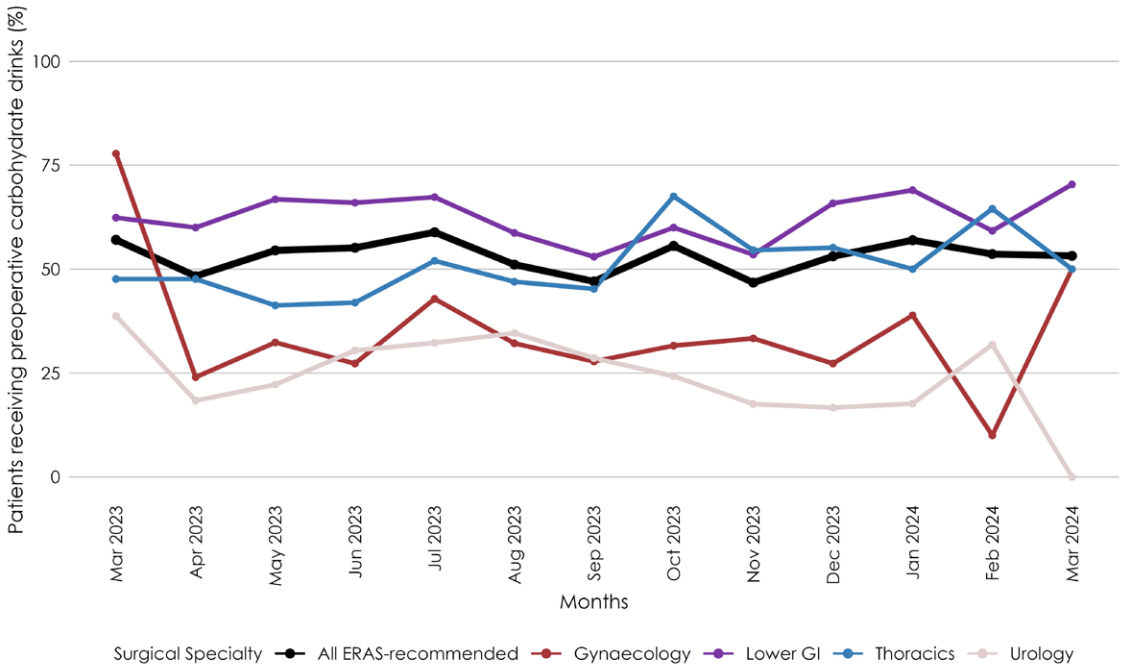
Looking at individual specialties in which carbohydrate loading is recommended, there is significant variability to the extent to which this ERAS recommendation is being carried out (Table 11).

Table 11 Proportion of patients receiving carbohydrate loading by specialty where ERAS-recommended

Surgical specialty	Carbohydrate loading (N = 16,215)	No carbohydrate loading (N = 6,824)	Unknown (N = 3,533)
Lower GI	11,437 (70%)	2,761 (17%)	2,129 (13%)
Hepatobiliary	1,031 (63%)	390 (24%)	220 (13%)
Urology	2,081 (50%)	1,451 (35%)	636 (15%)
Head and neck	142 (43%)	128 (38%)	63 (19%)
Gynaecology	408 (42%)	395 (40%)	177 (18%)
Thoracics	1,088 (36%)	1,614 (54%)	284 (9.5%)
Vascular	28 (20%)	85 (62%)	24 (18%)

Figure 7a and b Percentage of patients receiving preoperative carbohydrate loading – overall and by specialty where there is a strong recommendation





PQIP Perioperative Quality Improvement Programme

How can we improve our perioperative anaemia management?

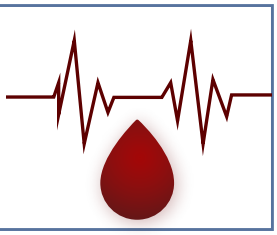
Patient blood management

- The Centre for Perioperative Care (CPOC) and Getting It Right First Time (GIRFT) recommend applying a Patient Blood Management (PBM) approach for optimizing anaemia before surgery.
- PBM improves patient outcomes and reduces healthcare cost.
- PBM is patient-centric, and endorsed by the World Health Organization (WHO) and NHS Blood and Transplant (NHSBT).

Identify anaemia early

- Anaemia should be identified as early as possible in the perioperative journey and management initiated promptly.
- The PREVENTT trial authors support treating patients with absolute iron deficiency (ferritin <30 µg/L or MCV <80 fL).
- Comparison of dosing regimens suggests that every other day oral iron might improve absorption and reduce side effects compared to twice daily dosing.

Minimise blood loss



- Avoid perioperative hypothermia.
- Administer tranexamic acid when estimated blood loss exceeds 500 mL.
- Cell salvage should be used where appropriate, as supported by a 2023 Cochrane review.

Reducing the frequency of blood transfusions

- Reducing blood transfusion frequency lowers the risk of adverse reactions, such as incompatibility and infection, and helps maintain blood availability.
- Blood shortages remain an issue, as highlighted by the amber alert issued in October 2022.
- NICE QS 138 emphasizes the need for reassessment after each unit transfused to avoid over-transfusion.

Integration

- Resources are available from NHSBT to support audit and quality improvement (QI) on topics related to PBM.
- Care bundles are effective – recent evidence from Germany supports this approach.

DrEaMs *can* come true: steady improvement in Drinking Eating and Mobilising within 24h of surgery

- DrEaMing refers to Drinking (free fluids), Eating (a soft diet), and Mobilising (from bed to chair) within 24 hours of surgery.
- The DrEaMing care bundle distils the core elements from more in-depth enhanced recovery pathways, aiming to focus on key modifiable barriers to recovery after surgery.
- DrEaMing has been a PQIP priority since the first Cohort report was published in 2018 and is supported by Getting It Right First Time and the Royal College of Anaesthetists.
- PQIP data suggest a sustained improvement in DrEaMing rates over time that has continued in this Cohort, reflecting the excellent work being done by local teams to improve consistency in this area.
- There is good evidence that DrEaMing is independently associated with a reduced length of hospital stay, and its importances underscored by its selection as an NHS England Commissioning for Quality and Innovation (CQUIN) Indicator for the past three years.

Table 12 DrEaMing within 24 hours of surgery, and key related processes

	Overall	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Drinking	46,109 (90%)	5,036 (82%)	11,858 (89%)	10,055 (92%)	11,324 (92%)	7,836 (94%)
Eating	38,087 (75%)	3,970 (64%)	9,480 (71%)	8,406 (77%)	9,578 (78%)	6,653 (80%)
Mobilising	40,800 (80%)	4,788 (78%)	10,526 (79%)	8,823 (81%)	9,824 (80%)	6,839 (82%)
Dreaming	33,217 (65%)	3,489 (57%)	8,260 (62%)	7,302 (67%)	8,304 (68%)	5,862 (70%)
No Drain Present	28,718 (56%)	3,628 (59%)	8,144 (61%)	7,018 (64%)	5,826 (48%)	4,102 (49%)
No Nasogastric Tube	44,995 (88%)	5,185 (84%)	11,542 (87%)	9,711 (89%)	10,979 (90%)	7,578 (91%)

Table 13 DrEaMing Overview – Proportion of Patients DrEaMing on Day One Postoperatively by PQIP Report Cohort and Specialty

	N	Overall	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Abdo – Other							
Drinking	1,085	943 (87%)	149 (74%)	320 (91%)	165 (89%)	163 (92%)	146 (86%)
Eating	1,085	695 (64%)	110 (55%)	236 (67%)	118 (63%)	114 (64%)	117 (69%)
Mobilising	1,085	822 (76%)	147 (74%)	294 (84%)	145 (78%)	123 (69%)	113 (67%)
Dreaming	1,085	600 (55%)	95 (48%)	216 (61%)	99 (53%)	92 (52%)	98 (58%)
No Drain Present	1,086	528 (49%)	105 (52%)	188 (53%)	92 (49%)	69 (39%)	74 (44%)
No Nasogastric Tube	1,085	917 (85%)	163 (82%)	310 (88%)	155 (83%)	146 (82%)	143 (85%)
Burns and Plastics							
Drinking	1,253	1,247 (100%)	0 (NA%)	296 (100%)	322 (99%)	397 (99%)	232 (100%)
Eating	1,253	1,229 (98%)	0 (NA%)	289 (97%)	316 (97%)	395 (99%)	229 (99%)
Mobilising	1,253	1,143 (91%)	0 (NA%)	256 (86%)	283 (87%)	382 (96%)	222 (96%)
Dreaming	1,253	1,136 (91%)	0 (NA%)	254 (86%)	281 (86%)	379 (95%)	222 (96%)
No Drain Present	1,255	323 (26%)	0 (NA%)	123 (41%)	139 (43%)	33 (8.2%)	28 (12%)
No Nasogastric Tube	1,254	1,245 (99%)	0 (NA%)	296 (100%)	321 (99%)	398 (100%)	230 (99%)
Gynaecology							
Drinking	2,472	2,399 (97%)	0 (NA%)	112 (95%)	532 (98%)	1,025 (97%)	730 (98%)
Eating	2,472	2,227 (90%)	0 (NA%)	106 (90%)	492 (90%)	949 (89%)	680 (91%)
Mobilising	2,471	2,144 (87%)	0 (NA%)	105 (89%)	481 (88%)	909 (86%)	649 (87%)
Dreaming	2,471	2,031 (82%)	0 (NA%)	99 (84%)	452 (83%)	861 (81%)	619 (83%)
No Drain Present	2,474	2,081 (84%)	0 (NA%)	103 (87%)	451 (83%)	887 (84%)	640 (86%)
No Nasogastric Tube	2,473	2,318 (94%)	0 (NA%)	108 (92%)	500 (92%)	997 (94%)	713 (95%)
Head and Neck							
Drinking	665	455 (68%)	103 (72%)	112 (63%)	52 (71%)	96 (63%)	92 (77%)
Eating	665	424 (64%)	90 (63%)	108 (61%)	49 (67%)	88 (58%)	89 (74%)
Mobilising	665	541 (81%)	120 (84%)	139 (79%)	67 (92%)	120 (79%)	95 (79%)
Dreaming	665	403 (61%)	87 (61%)	100 (56%)	47 (64%)	83 (55%)	86 (72%)
No Drain Present	669	425 (64%)	139 (97%)	168 (94%)	70 (95%)	19 (12%)	29 (24%)
No Nasogastric Tube	668	455 (68%)	89 (62%)	118 (66%)	54 (73%)	102 (67%)	92 (76%)
HPB							
Drinking	2,127	1,854 (87%)	342 (79%)	717 (87%)	313 (89%)	300 (92%)	182 (91%)
Eating	2,127	1,428 (67%)	267 (62%)	559 (68%)	256 (73%)	217 (67%)	129 (65%)
Mobilising	2,127	1,507 (71%)	296 (69%)	585 (71%)	249 (71%)	228 (70%)	149 (75%)
Dreaming	2,127	1,168 (55%)	211 (49%)	470 (57%)	205 (58%)	170 (52%)	112 (56%)
No Drain Present	2,143	587 (27%)	145 (33%)	211 (25%)	98 (28%)	83 (25%)	50 (25%)
No Nasogastric Tube	2,127	1,417 (67%)	277 (64%)	536 (65%)	251 (71%)	237 (73%)	116 (58%)
Lower GI							
Drinking	22,080	20,243 (92%)	2,773 (85%)	5,729 (92%)	4,230 (93%)	4,511 (94%)	3,000 (94%)
Eating	22,075	14,650 (66%)	2,089 (64%)	4,103 (66%)	3,057 (67%)	3,288 (68%)	2,113 (66%)
Mobilising	22,075	17,381 (79%)	2,571 (79%)	4,958 (79%)	3,619 (80%)	3,711 (77%)	2,522 (79%)
Dreaming	22,072	12,732 (58%)	1,823 (56%)	3,598 (58%)	2,676 (59%)	2,792 (58%)	1,843 (57%)
No Drain Present	22,140	12,632 (57%)	1,877 (57%)	3,600 (57%)	2,638 (58%)	2,748 (57%)	1,769 (55%)
No Nasogastric Tube	22,074	19,935 (90%)	2,981 (91%)	5,658 (91%)	4,094 (90%)	4,330 (90%)	2,872 (90%)

	N	Overall	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Orthopaedics							
Drinking	2,707	2,688 (99%)	0 (NA%)	650 (99%)	839 (99%)	709 (99%)	490 (99%)
Eating	2,707	2,666 (98%)	0 (NA%)	638 (97%)	839 (99%)	704 (99%)	485 (98%)
Mobilising	2,707	1,705 (63%)	0 (NA%)	429 (65%)	572 (68%)	432 (61%)	272 (55%)
Dreaming	2,707	1,694 (63%)	0 (NA%)	427 (65%)	567 (67%)	429 (60%)	271 (55%)
No Drain Present	2,710	2,454 (91%)	0 (NA%)	651 (99%)	827 (98%)	556 (78%)	420 (85%)
No Nasogastric Tube	2,705	2,689 (99%)	0 (NA%)	651 (99%)	837 (99%)	711 (100%)	490 (99%)
Spinal							
Drinking	1,170	1,141 (98%)	0 (NA%)	396 (98%)	392 (96%)	210 (100%)	143 (99%)
Eating	1,170	1,103 (94%)	0 (NA%)	387 (95%)	374 (92%)	202 (96%)	140 (97%)
Mobilising	1,170	861 (74%)	0 (NA%)	290 (71%)	285 (70%)	178 (84%)	108 (74%)
Dreaming	1,170	841 (72%)	0 (NA%)	286 (70%)	275 (67%)	174 (82%)	106 (73%)
No Drain Present	1,173	1,001 (85%)	0 (NA%)	396 (97%)	396 (97%)	131 (62%)	78 (54%)
No Nasogastric Tube	1,172	1,128 (96%)	0 (NA%)	392 (96%)	391 (96%)	205 (97%)	140 (97%)
Thoracics							
Drinking	5,675	5,571 (98%)	646 (94%)	1,248 (98%)	1,105 (98%)	1,507 (99%)	1,065 (99%)
Eating	5,674	5,501 (97%)	640 (93%)	1,224 (96%)	1,086 (97%)	1,494 (98%)	1,057 (99%)
Mobilising	5,676	5,380 (95%)	622 (90%)	1,202 (95%)	1,077 (96%)	1,454 (95%)	1,025 (96%)
Dreaming	5,674	5,271 (93%)	593 (86%)	1,172 (92%)	1,050 (94%)	1,442 (95%)	1,014 (95%)
No Drain Present	5,699	2,972 (52%)	665 (96%)	1,221 (96%)	1,042 (92%)	27 (1.8%)	17 (1.6%)
No Nasogastric Tube	5,648	5,556 (98%)	683 (99%)	1,234 (99%)	1,083 (97%)	1,504 (99%)	1,052 (98%)
Upper GI							
Drinking	2,773	947 (34%)	162 (31%)	316 (35%)	154 (31%)	176 (31%)	139 (47%)
Eating	2,774	437 (16%)	72 (14%)	147 (16%)	66 (13%)	85 (15%)	67 (23%)
Mobilising	2,772	1,679 (61%)	280 (54%)	536 (59%)	309 (63%)	350 (62%)	204 (69%)
Dreaming	2,770	376 (14%)	64 (12%)	126 (14%)	57 (12%)	67 (12%)	62 (21%)
No Drain Present	2,785	1,065 (38%)	267 (52%)	391 (43%)	226 (45%)	89 (16%)	92 (31%)
No Nasogastric Tube	2,776	770 (28%)	119 (23%)	263 (29%)	121 (24%)	144 (26%)	123 (42%)
Urology							
Drinking	8,180	7,875 (96%)	861 (92%)	1,910 (95%)	1,747 (97%)	1,903 (98%)	1,454 (98%)
Eating	8,178	7,062 (86%)	702 (75%)	1,635 (81%)	1,576 (87%)	1,747 (90%)	1,402 (95%)
Mobilising	8,175	7,100 (87%)	752 (81%)	1,693 (84%)	1,582 (88%)	1,706 (87%)	1,367 (92%)
Dreaming	8,174	6,466 (79%)	616 (66%)	1,475 (74%)	1,453 (81%)	1,598 (82%)	1,324 (89%)
No Drain Present	8,200	4,147 (51%)	430 (46%)	1,048 (52%)	860 (48%)	1,000 (51%)	809 (54%)
No Nasogastric Tube	8,184	7,848 (96%)	873 (94%)	1,925 (96%)	1,706 (95%)	1,897 (97%)	1,447 (98%)
Vascular							
Drinking	808	746 (92%)	0 (NA%)	52 (98%)	204 (92%)	327 (93%)	163 (90%)
Eating	807	665 (82%)	0 (NA%)	48 (91%)	177 (80%)	295 (84%)	145 (81%)
Mobilising	808	537 (66%)	0 (NA%)	39 (74%)	154 (69%)	231 (66%)	113 (62%)
Dreaming	807	499 (62%)	0 (NA%)	37 (70%)	140 (63%)	217 (62%)	105 (58%)
No Drain Present	814	503 (62%)	0 (NA%)	44 (81%)	179 (80%)	184 (52%)	96 (53%)
No Nasogastric Tube	807	717 (89%)	0 (NA%)	51 (96%)	198 (89%)	308 (88%)	160 (88%)

Top tips for Quality Improvement in DrEaMing

- **Get the team on board –** every specialty needs a surgical, anaesthetic and postoperative nursing champion
- **Focus on wiping out 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
- **Use your data to drive change –** PQIP's postoperative morbidity dashboards on the website incorporate enhanced recovery metrics including DrEaMing.

Key processes of perioperative care

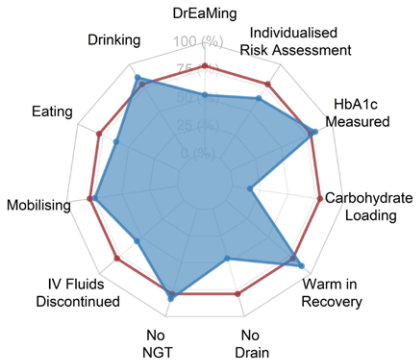
Evidence from previous PQIP Cohorts and enhanced recovery research highlights key processes for improving patient outcomes and satisfaction.These processes are depicted below in the radar plots, divided by specialty, and are an excellent place to start when considering local QI based on PQIP data. Improvements in one process may lead to improvements in others; for example, the absence of an NG tube and removal of IV fluids can promote drinking and eating.

The red line on the radar plots indicates 80% achievement, which is considered the minimum level required for reliable processes to consistently meet these metrics. There is significant variation between some specialties, which may in part reflect differences in surgical practice.

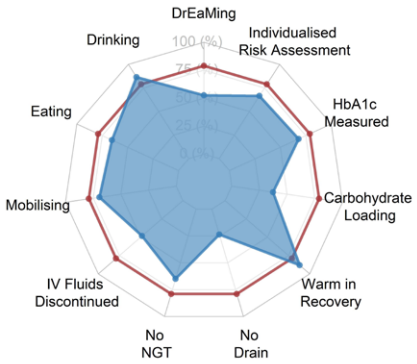
To start a QI project based on these radar plots, choose one specialty to start with and start to look at processes that can be implemented or adapted for your chosen metric. Hospitals with more than ten patients will receive site-specific radar plots, and sharing of these within perioperative care teams helps identify improvement priorities and track progress over time.

Figure 8 Process measures by specialty

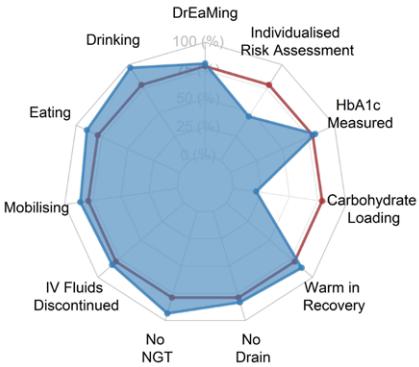
Abdo - Other Process Measures



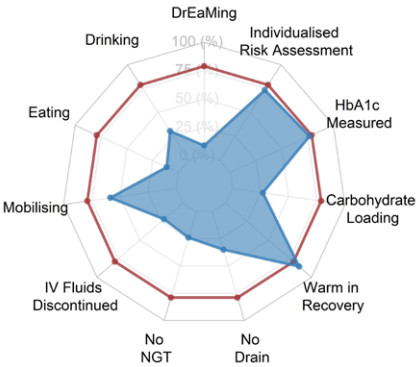
Hepatobiliary Process Measures



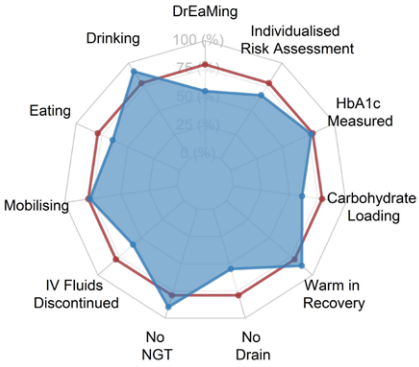
Gynaecology Process Measures



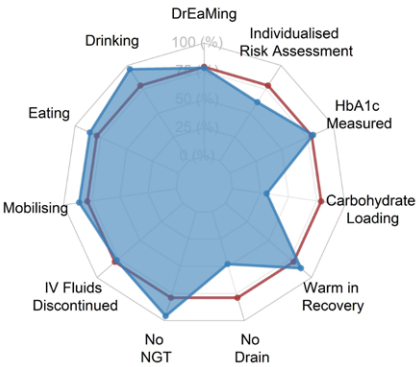
Upper GI Process Measures



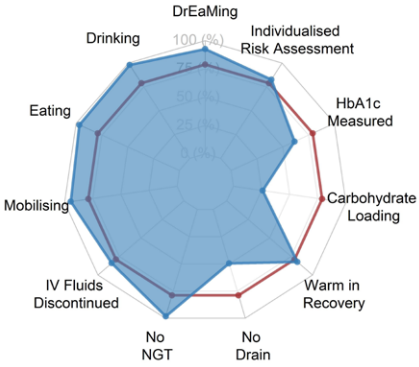
Lower GI Process Measures



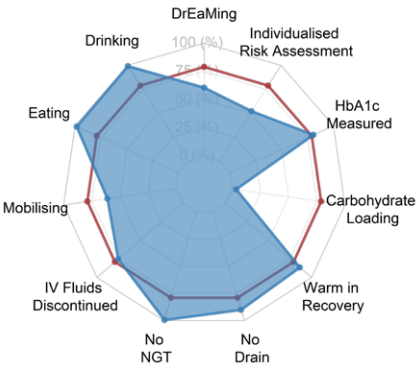
Urology Process Measures



Thoracics Process Measures



Orthopaedics Process Measures



Right patient, right place: critical and enhanced perioperative care admission

- Identifying high-risk patients and targeting finite resources, such as postoperative critical care beds, is essential to minimise perioperative morbidity.
- The data submitted to PQIP allow us to calculate the SORT predicted mortality score, which can be stratified into four levels across all Cohorts of the PQIP report (Table 12).

Table 14 Postoperative destination according to SORT – defined preoperative risk profile

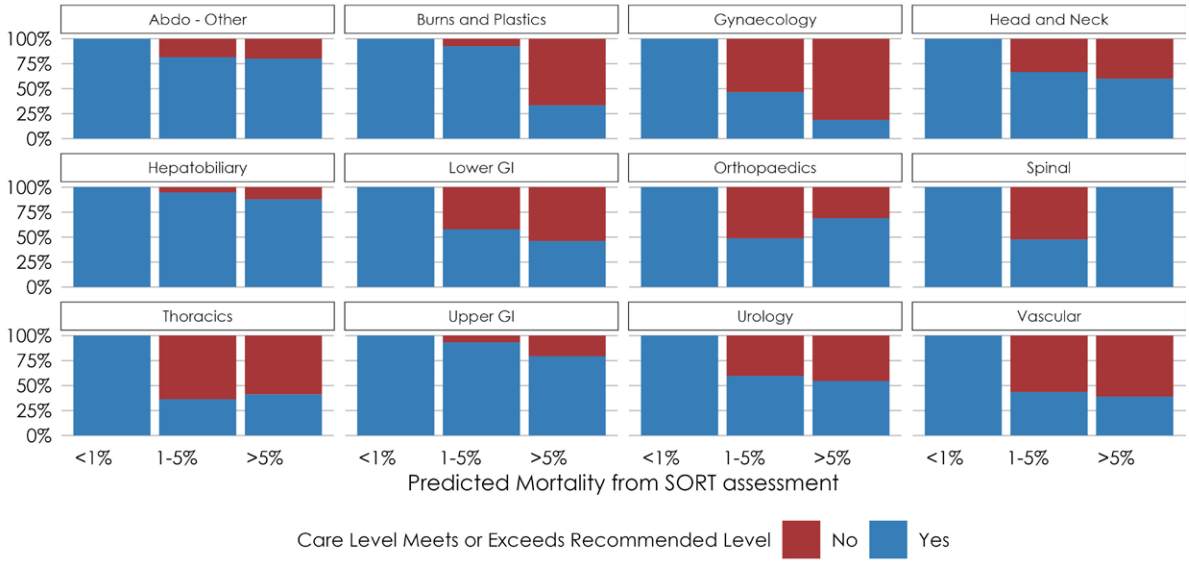
	Predicted mortality – SORT risk assessment tool			
	<1% (N = 37,076, 69.6%)	**1–5% (N = 13,611, 25.5%)**	**5–10% (N = 1,867, 4%)**	**>10% (N = 748, 1%)**
Ward care	21,034 (57%)	5,637 (42%)	666 (36%)	229 (31%)
Enhanced care	6,273 (17%)	2,251 (17%)	333 (18%)	103 (14%)
Intensive care	9,598 (26%)	5,689 (42%)	864 (46%)	411 (55%)

We can see that nationally, across all specialties, over 50% of patients with predicted 30-day mortality risk ≥5% are not admitted to critical care. Understanding these statistics at a local level, in conjunction with individualised risk assessment metrics, can support developing local processes and capacity.

There are substantial variations by specialty in the proportion of patients who are admitted to critical care according to their SORT preoperative risk model (Figure 9). Compliance with ideal postoperative destination is markedly better in hepatobiliary, upper GI, and other abdominal surgery, but lower in gynaecology, thoracics and vascular surgery.

This might reflect differences in resourcing between specialist and non-specialist centres, more effective pathways or other structural or process-related issues. These data, particularly when reviewed locally, may support business cases for critical care expansion and/or enhanced care services.

Figure 9 Percentage of patients where postoperative destination meets recommended minimum standard, by surgical specialty



Guideline alert

Postoperative care, including enhanced and critical care

- Enhanced perioperative care facilities bridge the gap between ward-based care and critical care, offering more intensive monitoring, nursing and therapist input, and additional treatment capacity in the immediate postoperative period.
- In enhanced care settings, the focus of patient care is on supporting recovery rather than intervention (as is the case with critical care) – with clear protocols for criteria-led discharge, supporting DrEaMing within 24h and pain management.
- A joint publication on Enhanced Perioperative Care from the Faculty of Intensive Care Medicine and the Centre for Perioperative Care and the Raising the Standard from the Royal College of Surgeons provides guidance for levels of postoperative care, based on mortality risk.
- Lack of critical care capacity is recognised as a major contributor to short notice cancellation rates.
- Implementation of enhanced care facilities may help reduce cancellations, releasing critical care capacity to support other patients.

The ultimate patient-centred outcome: achieving high quality individualised pain management

- Pain management is crucial for postoperative mobilisation, rehabilitation and return to normal function.
- Poorly-controlled pain contributes to cardiorespiratory stress, postoperative nausea and vomiting (PONV), and the risk of persistent postsurgical pain and poor longer-term outcomes.
- Unfortunately, many PQIP patients continue to report severe pain in the postoperative period, especially 24 hours postoperatively compared to recovery (Figure 10).
- This consistent finding highlights the need for robust multimodal analgesic plans, acute pain team follow-ups for at-risk patients, and clear handover processes to ensure pain management plans are maintained consistently regardless of the postoperative care destination.
- Orthopaedic surgery continues to be an outlier, particularly in the difference between pain on day 1 as compared to in recovery. As highlighted in the last report, this may reflect the incidence of rebound pain, as the effects of peripheral nerve block performed in theatre recede.
- Despite this, 95% of patients report being either satisfied or very satisfied with perioperative pain management.

Figure 10 Percentage reporting severe pain on day 1 postoperatively by specialty – Cohort 5

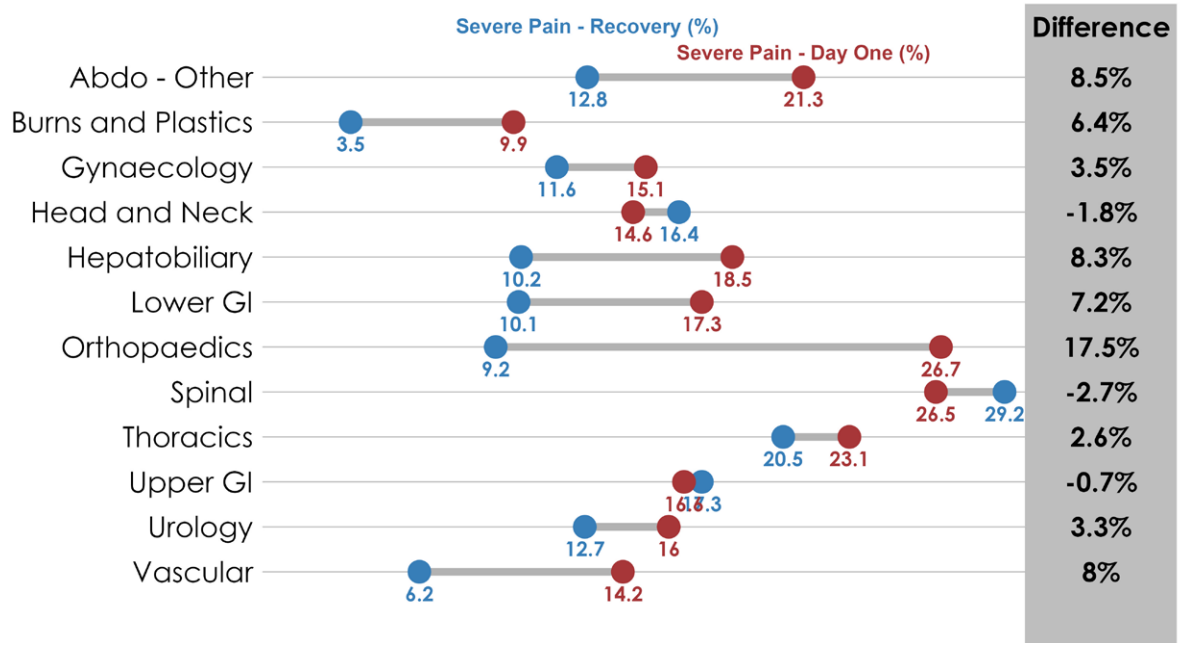


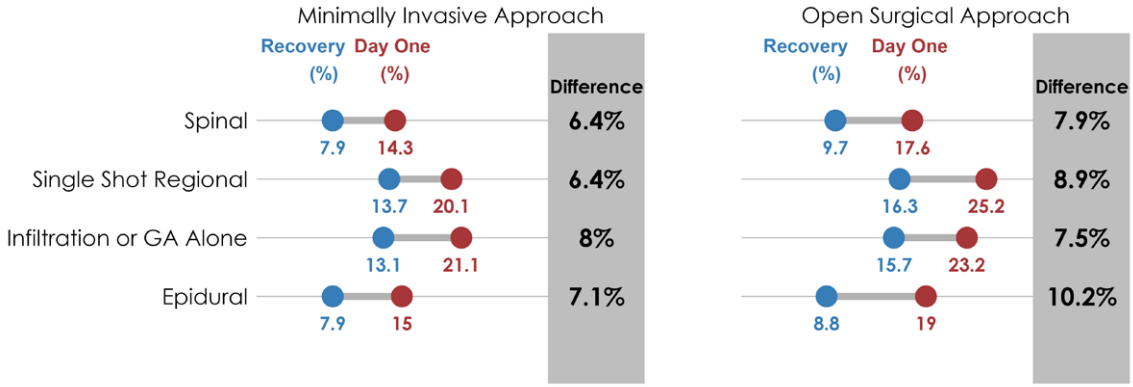
Table 15 Patient perception of quality of pain management (Bauer questionnaire asked on day 1 postoperatively)

	Overall, n = 53,476	Cohort 1, N = 6,640	Cohort 2, N = 14,240	Cohort 3, N = 11,350	Cohort 4, N = 12,612	Cohort 5, N = 8,634
Patient Satisfaction Level						
Very Satisfied	25,692 (66%)	3,180 (65%)	6,326 (64%)	5,380 (67%)	6,266 (67%)	4,540 (67%)
Satisfied	11,101 (29%)	1,438 (29%)	2,892 (29%)	2,243 (28%)	2,643 (28%)	1,885 (28%)
Dissatisfied	1,709 (4.4%)	240 (4.9%)	495 (5.0%)	310 (3.9%)	389 (4.1%)	275 (4.1%)
Very Dissatisfied	380 (1.0%)	44 (0.9%)	107 (1.1%)	77 (1.0%)	88 (0.9%)	64 (0.9%)

Neuraxial anaesthesia and postoperative pain

- Epidural anaesthesia has a complex relationship with the likelihood of DrEaMing postoperatively.
- Figure 11 details the frequency of severe pain on postoperative day 1 for lower GI surgery patients, differentiated by surgical method and pain management technique.
- Patients receiving neuraxial anaesthesia experienced less severe pain regardless of surgical method, compared to other modes of analgesia.
- Minimally invasive procedures showed comparable increases in severe pain from recovery to postoperative day 1 across all modes of analgesia, while noting that patients receiving neuraxial anaesthesia were more comfortable.
- With open surgical procedures, a similar pattern is noted, with higher overall pain scores as might be expected. A disproportionate increase in severe pain with epidural techniques may highlight the importance of careful postoperative management, with implications for the involvement of the acute pain team and location of postoperative care.
- Epidurals offer good analgesia for certain patient Cohorts, however may restrict mobilisation.
- Spinal analgesia was similarly effective in this lower GI subset, however teams supporting early mobilisation with thoracic epidurals after major surgery have demonstrated success in maintaining overall DrEaMing rates.
- This highlights the value of standardised pathways embedded into routine postoperative care that balance pain management and mobilisation. Engagement with the multidisciplinary team, including surgeons and physiotherapists, is crucial for success.

Figure 11 Frequency of severe pain in recovery and on day 1 for lower GI patients in all Cohorts, by surgical approach and analgesic technique



The ultimate goal of perioperative care: reducing complications

- Surgical complications significantly impact patients and the broader healthcare system.
- The immediate adverse effects on patients are well-documented, manifesting as diminished health-related quality of life, extended hospital stays, and ultimately, decreased survival rates.
- The repercussions of surgical complications on a patient's quality of life can persist for years following surgery, if not indefinitely, with knock-on impacts on families and caregivers.
- Surgical complications also strain healthcare systems and resources, incurring costs beyond the initial hospital admission including readmissions and greater utilization of primary and community healthcare services.
- Given high surgical waiting lists, an ageing and increasingly comorbid population, as well as the growing complexity of surgical procedures, it is critical to prioritise addressing complications following major surgery.
- This perspective helps frame QI efforts arising from this Cohort report: what strategies can we employ based on evidence to minimise preventable complications?

Inpatient complications and length of stay

- Across the Cohorts in the PQIP dataset the overall hospital length of stay (LOS) has fallen from 8.9 days to 6.3 days.
- With the possible exception of hepatobiliary surgery, this trend has been sustained across the different surgical specialties.
- It should be noted that these data are not risk-adjusted for patient case mix or surgical severity, requiring caution in interpretation of the raw data.

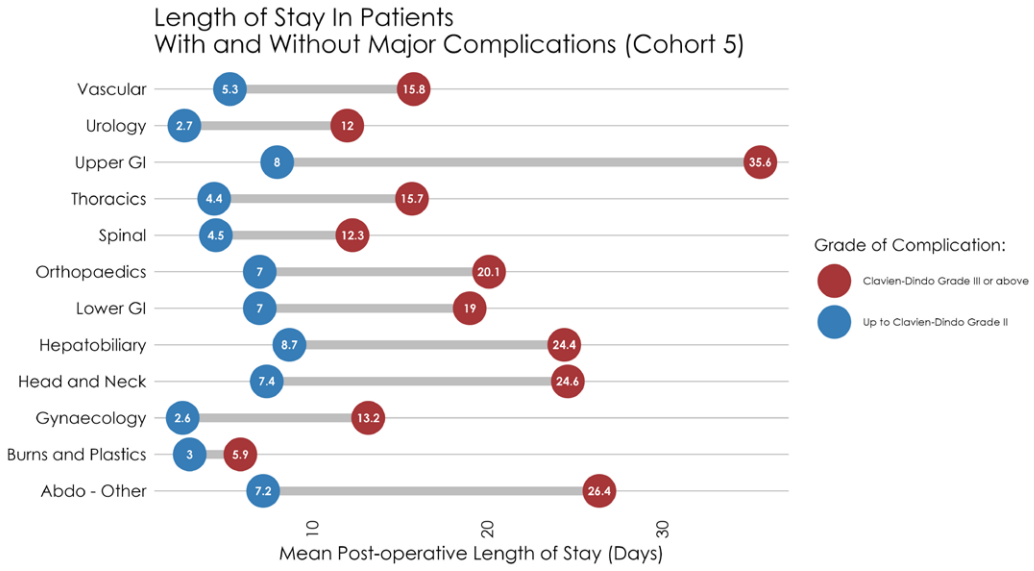
Mean inpatient length of stay by PQIP specialty and Cohort

Table 16 Mean Postoperative Length of Stay (days)

	Overall	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Abdo – Other	9.7	11.0	10.1	9.3	8.6	8.7
Burns and Plastics	3.6	NA	4.9	3.4	3.0	3.1
Gynaecology	3.5	NA	3.5	3.7	3.7	2.9
Head and Neck	11.0	12.9	10.7	10.9	10.0	9.7
Hepatobiliary	10.1	9.7	10.3	9.5	10.4	10.3
Lower GI	8.4	9.0	8.7	8.5	7.9	7.8
Orthopaedics	8.0	NA	9.6	7.5	7.6	7.5
Spinal	5.7	NA	5.8	5.7	6.4	4.6
Thoracics	5.2	5.4	5.2	5.2	5.0	5.1
Upper GI	13.0	13.4	13.3	13.3	12.8	11.5
Urology	4.5	6.1	5.3	4.5	4.2	3.0
Vascular	7.4	NA	4.8	7.9	8.2	6.0
Original PQIP Specialties	7.8	8.9	8.4	7.7	7.2	6.7
All PQIP Patients	7.5	8.9	8.3	7.3	6.8	6.3

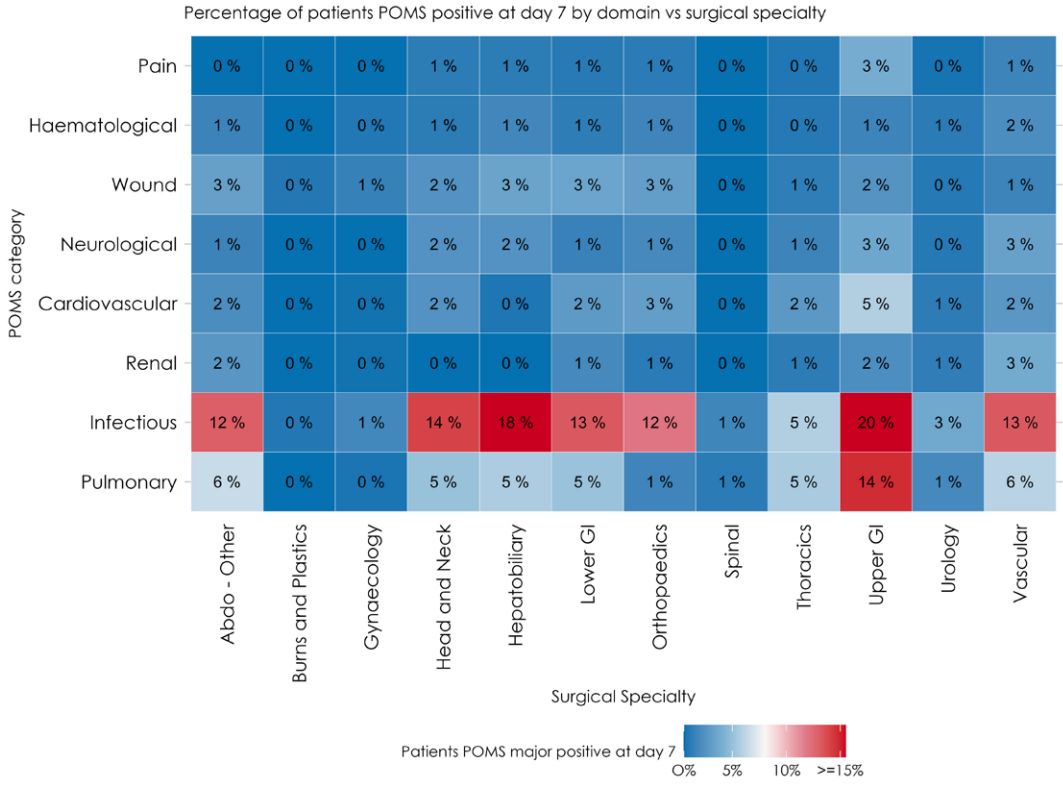
- Patients who experience significant complications remain in hospital longer after surgery.
- A significant complication in this report is classified as Clavien-Dindo Grade III or above, which is defined by requiring surgical, endoscopic or radiological intervention.
- PQIP data demonstrate this is the case across surgical specialties, but is more pronounced for some than others.

Figure 12 Mean postoperative length of stay in patients with and without major complications (Cohort 5)



- PQIP routinely collects data on postoperative complications experienced by patients through the Post-Operative Morbidity Survey (POMS) administered on day 7.
- Morbidity is recorded across nine physiological domains. POMS Major has been previously defined as a POMS morbidity equivalent to a Clavien-Dindo Grade III or higher.
- Dichotomising postoperative morbidity into POMS Major (Clavien-Dindo Grade III or higher) or POMS Minor (Clavien-Dindo Grade II or lower) allows us to identify complications of most significance (Figure 13).
- This demonstrates that the majority of major complications relate to infection, with pulmonary complications also common in patients undergoing upper GI surgery.

Figure 13 Major postoperative morbidity by specialty (Cohort 5)



- Postoperative morbidity has continued to fall over time across PQIP Cohorts, although this again carries the caveat of possible changes in the PQIP case mix, which are not adjusted for in this analysis.
- In this fifth Cohort, 17% of PQIP patients were still in hospital with postoperative morbidity at day 7 after surgery, most commonly either gastrointestinal or infective; 12% had experienced major postoperative morbidity at day 7 (Table 17).

Morbidity at Day 7 by Cohort (all specialties)

Table 17 Morbidity at Day 7 by Cohort (All Specialties)

Morbidity Domain	Overall, n = 53,474	Cohort 1, N = 6,640	Cohort 2, N = 14,238	Cohort 3, N = 11,350	Cohort 4, N = 12,612	Cohort 5, N = 8,634
Pulmonary						
Complication	4.7%	6.1%	5.5%	4.5%	3.8%	3.9%
No Complication	26%	36%	29%	24%	22%	21%
Discharged	70%	58%	66%	71%	74%	76%
Gastrointestinal						
Complication	9.8%	15%	12%	8.8%	7.8%	7.0%
No Complication	21%	27%	22%	20%	18%	17%
Discharged	70%	58%	66%	71%	74%	76%
Cardiac						
Complication	2.1%	2.7%	2.4%	2.1%	1.6%	1.9%
No Complication	28%	39%	32%	27%	25%	23%
Discharged	70%	58%	66%	71%	74%	76%
Neurological						
Complication	1.6%	2.4%	2.0%	1.4%	1.2%	1.1%
No Complication	29%	39%	32%	27%	25%	23%
Discharged	70%	58%	66%	71%	74%	76%
Wound						
Complication	2.8%	4.6%	3.6%	2.2%	2.1%	1.9%
No Complication	28%	37%	31%	27%	24%	23%
Discharged	70%	58%	66%	71%	74%	76%
Haematological						
Complication	0.8%	0.8%	1.0%	0.6%	0.7%	0.8%
No Complication	30%	41%	33%	28%	25%	24%
Discharged	70%	58%	66%	71%	74%	76%
Pain						
Complication	0.7%	0.8%	0.9%	0.6%	0.5%	0.5%
No Complication	30%	41%	33%	28%	26%	24%
Discharged	70%	58%	66%	71%	74%	76%
Renal						
Complication	1.1%	1.5%	1.1%	1.1%	0.9%	1.0%
No Complication	29%	40%	33%	28%	25%	23%
Discharged	70%	58%	66%	71%	74%	76%
Infection						
Complication	11%	13%	12%	10%	9.3%	9.0%

Morbidity Domain	Overall, n = 53,474	Cohort 1, N = 6,640	Cohort 2, N = 14,238	Cohort 3, N = 11,350	Cohort 4, N = 12,612	Cohort 5, N = 8,634
No Complication	20%	29%	22%	18%	17%	15%
Discharged	70%	58%	66%	71%	74%	76%
Any Complication	21%	28%	24%	20%	18%	17%
Major Complication	15%	19%	17%	14%	13%	12%

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. *Br J Anaes* 2017;**119(1)**:95–105.

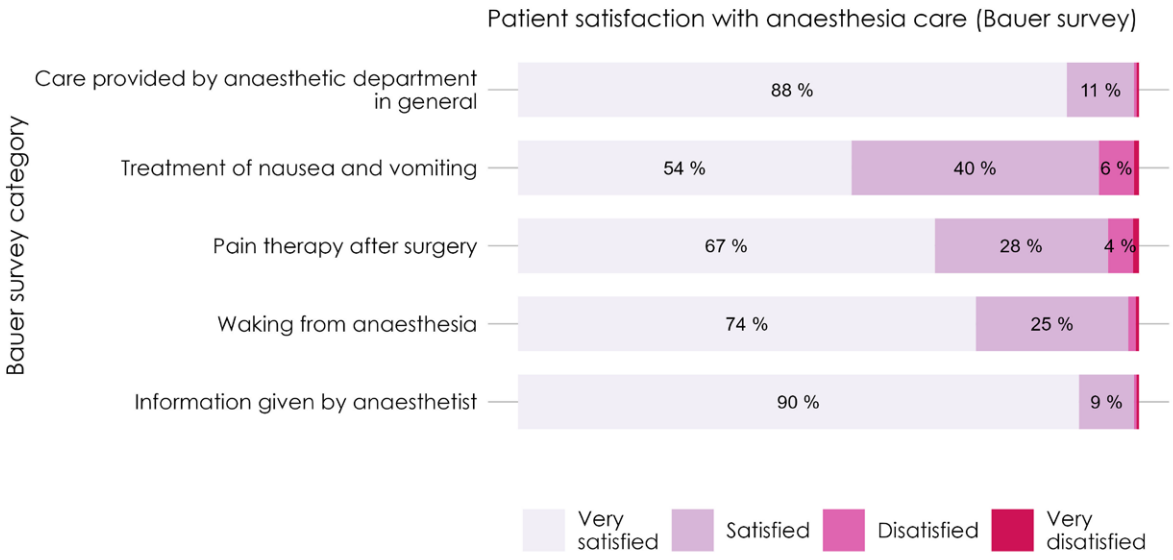
The patient perspective: patient reported outcomes and experience measures

- The patient is at the centre of all care that we deliver. Their perception of the quality of healthcare they experience matters and can help to inform improvements to services and care. It is therefore vital that we measure outcomes that are relevant to patients and both clinically important and valid.
- A range of validated measures are routinely collected in the PQIP dataset, offering insight into patient satisfaction, as well as the impacts of surgery and perioperative care on health-related quality of life and functional outcome.

Bauer Patient Satisfaction Survey

- This survey assesses patient satisfaction with anaesthesia services, including various aspects related to patient experience, such as the adequacy of preoperative information, comfort and pain management, and professionalism.
- Results from PQIP are testament to the hard work of perioperative teams, with 99% of patients reporting being either 'very satisfied' or 'satisfied' with anaesthesia care (Figure 14).

Figure 14 Patient satisfaction with anaesthetic care

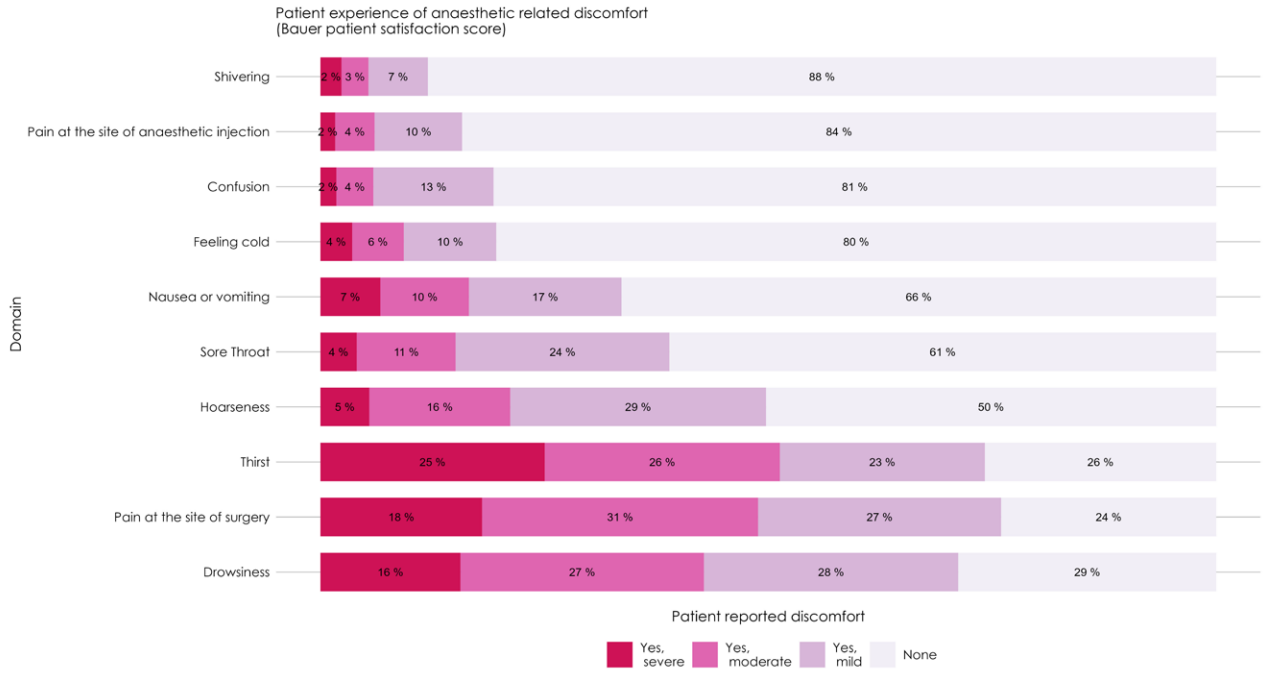


- Communication continues to be a particular strength, with 99% reporting satisfaction with the information shared by their anaesthetist.
- Treatment of nausea and vomiting remains an area with lower patient satisfaction, despite lower prevalence of severe PONV compared to drowsiness, thirst or pain.
- This may reflect the significance of even mild to moderate PONV to patients, and hence the ongoing value of targeted improvement efforts in this area.

Short-term patient reported outcomes: surgical/anaesthesia-related discomfort within 24h

- The Bauer questionnaire also assesses patient-reported surgical and anaesthetic discomfort in the 24 hours following surgery, identifying key areas of importance to patients to focus local QI efforts.
- Pain at the surgical site has been an issue for patients across all Cohort reports, and was the most commonly reported anaesthetic-related discomfort in Cohort 5, with 18% of patients reporting severe pain.
- Severe postoperative pain is unpleasant and avoidable, and is associated with increased morbidity and mortality, prolonged length of stay, and reduced quality of life.
- Teams could consider focusing QI efforts on early intervention strategies for patients at risk for severe postoperative pain, such as pain expectation management and early acute pain team review.
- Thirst remains a commonly reported anaesthetic-related discomfort, although with some improvement since the last Cohort, with 25% of patients reporting severe thirst and 26% moderate thirst.
- Collaboration with the whole perioperative team can be helpful in co-designing interventions, such as early offering of sips of water or ice in recovery to appropriate patients.

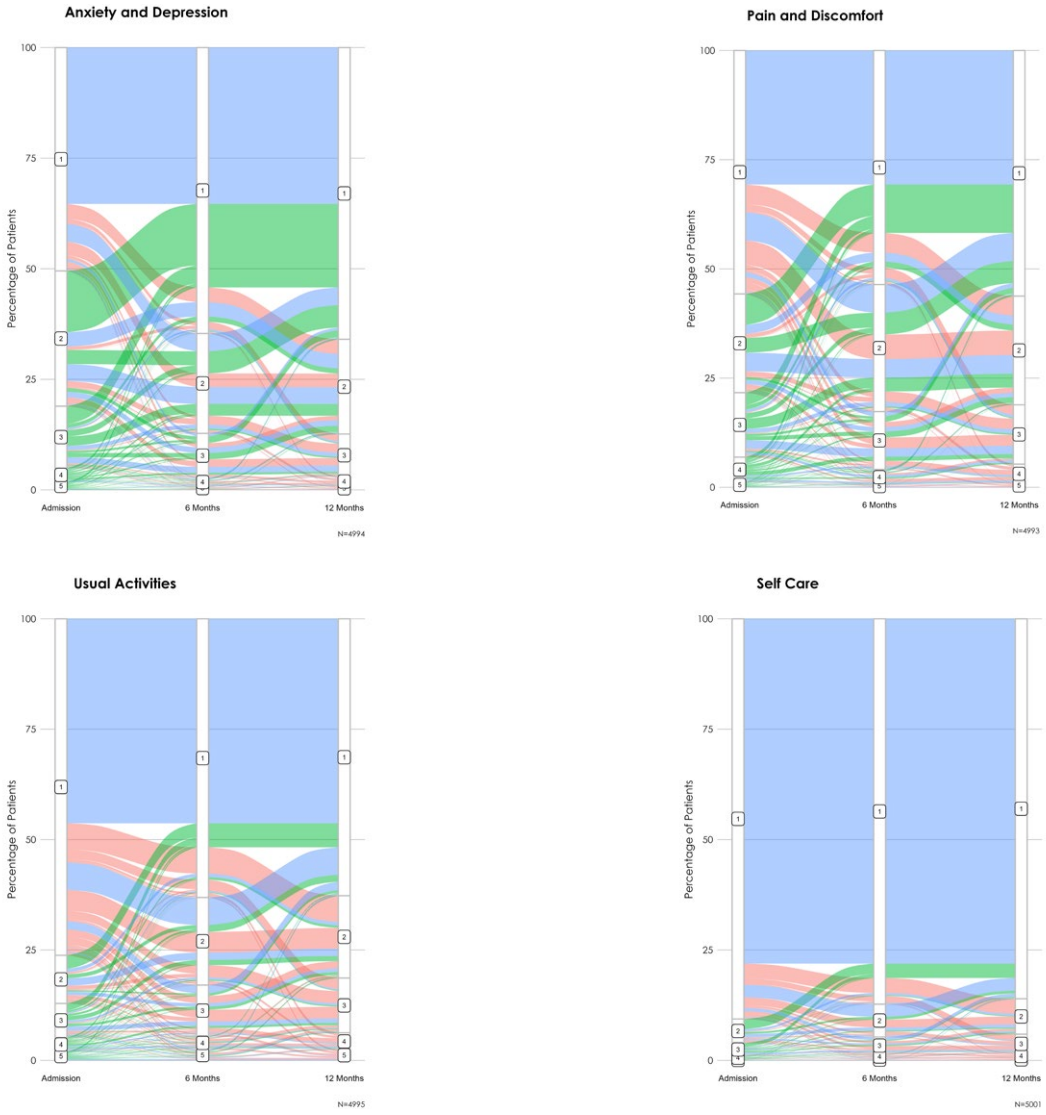
Figure 15 Bauer patient satisfaction score (Cohort 5)



Health related quality of life

- The EQ5D-5L evaluates patients' health-related quality of life (HRQOL) across five domains, with graded levels based on the severity of limitation, and an overall global health rating on a visual analogue scale.
- Completion of the survey preoperatively and at 6 and 12 months postoperatively provides insights into the long-term impacts of surgery. Postoperative disability data, measured using the WHO-DAS 2.0 tool, will be reported separately in upcoming peer-reviewed papers.
- The alluvial plots in Figure 15 show the trajectory over the perioperative period, from baseline before surgery until one-year postoperatively, for PQIP patients completing questionnaires at all three timepoints. The number at each time point reflects the score on the EQ5D-5L domain, with 1 representing the highest level of function, and 5 the lowest level of function.
- Colour coding indicates score 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.
- Different trajectories are evident for the different domains. Many more patients report problems with anxiety, depression or pain at baseline but a high proportion of these experience improvement. Significant proportions of patients report that they have not returned to baseline activity and mobility levels within 12 months of surgery.

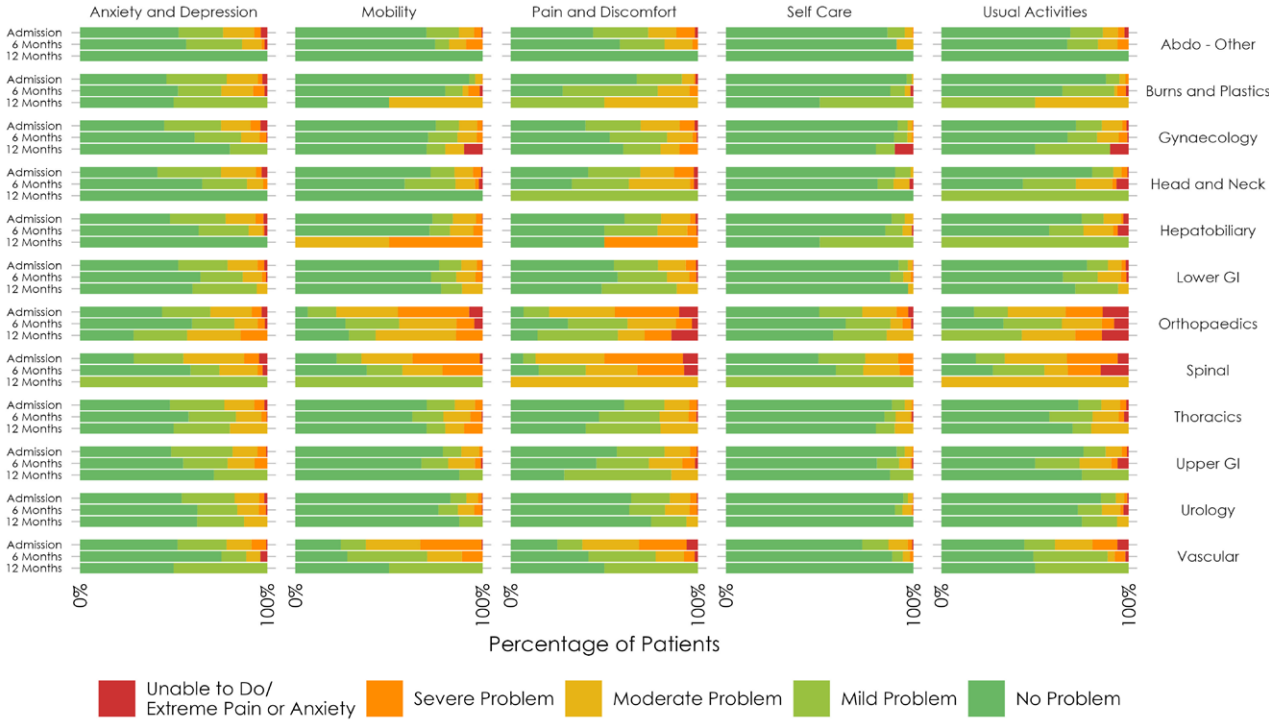
Figure 16 EQ5D-5L domain scores at admission, 6 and 12 months



The stacked bar charts in Figure 17 illustrate the temporal changes in EQ5D by surgical specialty in Cohort 5. Improvements in the usual activity domain in orthopaedics and spinal surgery are less pronounced in this Cohort than previously, indicating that a significant minority of patients undergoing bone and joint surgery have substantial pain, mobility issues and impairment in performing usual activities at 12 months post-surgery. This may reflect patient expectations around symptomatic improvement for these types of surgery where functional gain is likely to be a significant goal, but could usefully contribute to shared decision making conversations in this area.

Across all specialties other than orthopaedics, the proportion of patients reporting severe or extreme levels of pain or anxiety are highest at admission. Perioperative anxiety is understandable, particularly given the magnitude of surgery planned and the high proportion of patients undergoing cancer surgery. There are simple measures which have been demonstrated to reduce preoperative anxiety, including enabling patients to listen to music before (and potentially during) surgery. The Royal College of Anaesthetists has produced resources in collaboration with the British Society of Clinical and Academic Hypnosis to help patients manage their preoperative anxiety.

Figure 17 Responses to Euro-Quality of Life (EQ5D) questionnaire at admission, 6 months and 12 months by surgical specialty



Tips for increasing capture of long term follow up data

- During patient recruitment, obtain consent for a variety of follow up methods, including both phone and email
- Remind patients at their last contact during their initial admission about future follow ups – it may be helpful to provide written information.
- Add site contact details for patients to contact local PQIP teams when their follow-up is due
- Recruit trained colleagues, for example PQIP Associate Principal Investigators, other non-consultant doctors with GCP training, or appropriately trained Band 2, 3 and 4 colleagues to help with phone calls

The QI in PQIP – using your local data effectively

- 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.

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 50 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.
- **We would love to see our first nursing or allied health professional APIs over the next year!**

The PQIP National API Collaborative

- Last year, we established a national PQIP API collaborative, to enrich APIs' experience within the scheme and support recruitment and QI. The first iteration of this voluntary scheme is now complete.
- We provided educational webinars from national experts in research and QI and allowed small group discussion and Q&A sessions with these experts.
- The APIs who attended the webinars have reported that they have greatly benefited from the QI teaching and have been supported to set up or continue QI projects locally, which is brilliant news.
- If you missed the webinars or are interested to learn more, please visit the API section of our website where the recorded webinars are freely available along with all other API collaborative resources. A big thank you to all the APIs who took part.

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: Newcastle Freeman Hospital, Pinderfields Hospital, Royal Berkshire Hospital

>80% of male patients having elective surgery in these hospitals had an Hb of >130: Aintree University Hospital, Bristol Royal Infirmary, Darent Valley Hospital, Dorset County Hospital, East Surrey Hospital, Glan Clwyd Hospital, Hillingdon Hospital, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Newcastle Freeman Hospital, Norfolk and Norwich University Hospital, Pinderfields Hospital, Royal Berkshire Hospital, Royal Liverpool University Hospital, Royal National Orthopaedic Hospital, Sunderland Royal Hospital, Weston General Hospital, Yeovil District Hospital

>80% of patients having elective surgery in these hospitals who had a blood loss of >500ml had an Hb of >130: Aintree University Hospital, Blackpool Victoria Hospital, East Surrey Hospital, Hillingdon Hospital, Leighton Hospital, Norfolk and Norwich University Hospital, Poole Hospital, Princess Royal University Hospital (PRUH), Royal Free Hospital, Royal Glamorgan Hospital, Sunderland Royal Hospital, The James Cook University Hospital, Weston General Hospital, Yeovil District Hospital

Diabetes (HbA1c measurement): National target 100%

These hospitals recruited at least five patients with diabetes and recorded HbA1c in 100% of those patients: Aintree University Hospital, Darent Valley Hospital, East Surrey Hospital, Hereford County Hospital, Leighton Hospital, Lister Hospital, Milton Keynes University Hospital, Poole Hospital, Rotherham General Hospital, Royal Lancaster Infirmary, Royal London Hospital, Royal National Orthopaedic Hospital, Royal Preston Hospital, Sunderland Royal Hospital, Tameside General Hospital, Worthing Hospital

Individualised Risk Assessment: National target >80%

Sites with >80% of patients having individualised risk assessment: Aintree University Hospital, Basildon University Hospital, Blackpool Victoria Hospital, Bristol Royal Infirmary, Broomfield Hospital, Hereford County Hospital, Lister Hospital, Newcastle Freeman Hospital, Norfolk and Norwich University Hospital, Princess Royal University Hospital (PRUH), Royal Free Hospital, Royal Lancaster Infirmary, Royal London Hospital, Royal Preston Hospital, Royal Victoria Infirmary, Salford Royal Hospital, St Thomas' Hospital, The Royal Marsden Hospital, The Royal Oldham Hospital, West Middlesex University Hospital, Weston General Hospital, Worthing Hospital, Wrightington Hospital, Yeovil District Hospital

Carbohydrate loading: National target >80%

These hospitals gave >80% of all their PQIP patients preoperative carbohydrate loading: Basildon University Hospital, Bristol Royal Infirmary, Queen Victoria Hospital

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

Lower GI: Darent Valley Hospital, East Surrey Hospital, King's Mill Hospital, The Royal Oldham Hospital, Weston General Hospital, Worthing Hospital, Yeovil District Hospital, Ysbyty Gwynedd Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary

Burns and Plastics: Queen Victoria Hospital

Hepatobiliary: University Hospital Wales

Upper GI: University Hospital Wales

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

>90% of patients in these hospitals were drinking within 24hrs: Basildon University Hospital, Bristol Royal Infirmary, Chelsea and Westminster Hospital, Churchill Hospital, Cleveland Clinic – London, Croydon University Hospital, Darent Valley Hospital, Dorset County Hospital, East Surrey Hospital, Hereford County Hospital, King's Mill Hospital, Leighton Hospital, Lister Hospital, Milton Keynes University Hospital, Newcastle Freeman Hospital, Norfolk and Norwich University Hospital, Pinderfields Hospital, Princess Royal University Hospital (PRUH), Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, Royal Liverpool University Hospital, Royal National Orthopaedic Hospital, Royal Preston Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, The James Cook University Hospital, The Royal Oldham Hospital, Tunbridge Wells Hospital , University Hospital Llandough, University Hospital North Tees, Watford General Hospital, Worthing Hospital, Wrightington Hospital, Yeovil District 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: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Croydon University Hospital, Darent Valley Hospital, Dorset County Hospital, East Surrey Hospital, Hereford County Hospital, King's Mill, Leighton Hospital, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Pinderfields Hospital, Poole Hospital, Princess Royal University Hospital (PRUH), Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, Royal Liverpool University Hospital, Royal Preston Hospital, Royal Victoria Infirmary, Salford Royal Hospital, Sunderland Royal Hospital, The James Cook University Hospital, The Royal Oldham Hospital, Tunbridge Wells Hospital, University Hospital North Tees, University Hospital Wales, Watford General Hospital, Worthing Hospital, Yeovil District Hospital, Ysbyty Gwynedd Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Norfolk and Norwich University Hospital, St George's Hospital, St Thomas' Hospital, University Hospital Llandough

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Darent Valley Hospital, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Newcastle Freeman Hospital, Pinderfields Hospital, Royal Berkshire Hospital, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Salford Royal Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, The James Cook University Hospital, University Hospital North Tees, University Hospital Wales, Worthing Hospital

Orthopaedics: Churchill Hospital, Cleveland Clinic – London, Leighton Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal National Orthopaedic Hospital, St Thomas' Hospital, University College Hospital, Weston General Hospital, Wrightington Hospital

Spinal: Cleveland Clinic – London, Milton Keynes University Hospital, Musgrove Park Hospital, Royal National Orthopaedic Hospital, Royal Sussex County Hospital

Upper GI: Darent Valley Hospital

Gynaecology: Dorset County Hospital, Glan Clwyd Hospital, King's Mill Hospital, Leighton Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Poole Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Glamorgan Hospital , Royal Lancaster Infirmary, Royal Sussex County Hospital, Southend University Hospital, University Hospital North Tees, University Hospital Wales, Watford General Hospital, Yeovil District Hospital, Ysbyty Gwynedd Hospital

Vascular: Musgrove Park Hospital

Hepatobiliary: Newcastle Freeman Hospital, Royal Liverpool University Hospital, University Hospital Wales

Abdo – Other: The Royal Marsden Hospital

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

>80% of patients in these hospitals were eating within 24hrs: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cleveland Clinic – London, Dorset County Hospital, Hereford County Hospital, Lister Hospital, Newcastle Freeman Hospital, Norfolk and Norwich University Hospital, Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, Royal National Orthopaedic Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, The Royal Oldham Hospital, University Hospital Llandough, University Hospital North Tees, Watford General Hospital, Worthing Hospital, Wrightington Hospital, Yeovil District Hospital

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

Vascular: Aintree University Hospital, Musgrove Park Hospital

Lower GI: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Churchill Hospital, Hereford County Hospital, Lister Hospital, Musgrove Park Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Lancaster Infirmary, Royal Victoria Infirmary, Salford Royal Hospital, Sunderland Royal Hospital, The James Cook University Hospital, The Royal Oldham Hospital, University Hospital North Tees, University Hospital Wales, Watford General Hospital, Worthing Hospital, Yeovil District Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Norfolk and Norwich University Hospital, St George's Hospital, St Thomas' Hospital, University Hospital Llandough

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Darent Valley Hospital, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Newcastle Freeman Hospital, Pinderfields Hospital, Royal Berkshire Hospital, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Salford Royal Hospital, Southend University Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal, The James Cook University Hospital, University Hospital North Tees, University Hospital Wales, Worthing Hospital

Orthopaedics: Churchill Hospital, Cleveland Clinic – London, Leighton Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal National Orthopaedic Hospital, St Thomas' Hospital, University College Hospital, Weston General Hospital, Wrightington Hospital

Spinal: Cleveland Clinic – London, Milton Keynes University Hospital, Musgrove Park Hospital, Royal National Orthopaedic Hospital, Royal Sussex County Hospital

Upper GI: Darent Valley Hospital

Gynaecology: Dorset County Hospital, Glan Clwyd Hospital, King's Mill Hospital, Leighton Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Poole Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Lancaster Infirmary, Royal Sussex County Hospital, Southend University Hospital, University Hospital North Tees, University Hospital Wales, Watford General Hospital, Yeovil District Hospital

Hepatobiliary: Newcastle Freeman Hospital, University Hospital Wales

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

>85% of patients in these hospitals were mobilising within 24hrs: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Cleveland Clinic – London, Hereford County Hospital, Leighton Hospital, Lister Hospital, Milton Keynes University Hospital, Norfolk and Norwich University Hospital, Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, Royal Liverpool University Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, Tunbridge Wells Hospital, University Hospital Llandough, University Hospital North Tees, Watford General Hospital, Worthing Hospital, Yeovil District Hospital

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, Cleveland Clinic – London, Norfolk and Norwich University Hospital, St George's Hospital, St Thomas' Hospital, University Hospital Llandough

Lower GI: Bristol Royal Infirmary, Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Leighton Hospital, Lister Hospital, Milton Keynes University Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, Royal Liverpool University Hospital, Sunderland Royal Hospital, The Royal Oldham Hospital, University College Hospital, University Hospital Wales, Watford General Hospital, Worthing Hospital, Yeovil District 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, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Newcastle Freeman Hospital, Pinderfields Hospital, Royal Berkshire Hospital, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Salford Royal Hospital, Southend University Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal, University Hospital North Tees, Worthing Hospital

Hepatobiliary: Churchill Hospital, Royal Liverpool University Hospital

Orthopaedics: Cleveland Clinic – London, Leighton Hospital, Rotherham General Hospital, St Thomas' Hospital, Weston General Hospital

Upper GI: Cleveland Clinic – London, Darent Valley Hospital, Royal Liverpool University Hospital, Tunbridge Wells Hospital

Gynaecology: Dorset County Hospital, King's Mill Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Poole Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Glamorgan Hospital, Royal Lancaster Infirmary, Royal London Hospital, Southend University Hospital, University Hospital North Tees, Watford General Hospital, Yeovil District Hospital

Spinal: Milton Keynes University Hospital

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

>80% of patients in these hospitals were DrEaMing within 24hrs: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Hereford County Hospital, Lister Hospital, Norfolk and Norwich University Hospital, Queen Victoria Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Berkshire Hospital, Royal Lancaster Infirmary, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, University Hospital Llandough, University Hospital North Tees, Watford General Hospital, Yeovil District Hospital

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

Lower GI: Basildon University Hospital, Bristol Royal Infirmary, Broomfield Hospital, Churchill Hospital, Hereford County Hospital, Queen's Hospital Burton upon Trent, Rotherham General Hospital, Royal Lancaster Infirmary, The Royal Oldham Hospital, Watford General Hospital, Yeovil District Hospital

Thoracics: Basildon University Hospital, Bristol Royal Infirmary, Cleveland Clinic – London, Norfolk and Norwich University Hospital, St George's Hospital, St Thomas' Hospital, University Hospital Llandough

Burns and Plastics: Broomfield Hospital, Queen Victoria Hospital

Head and Neck: Broomfield Hospital

Urology: Broomfield Hospital, Churchill Hospital, Cleveland Clinic – London, Darent Valley Hospital, Lister Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Newcastle Freeman Hospital, Royal Berkshire Hospital, Royal Glamorgan Hospital, Royal Liverpool University Hospital, Salford Royal Hospital, St George's Hospital, St Thomas' Hospital, Sunderland Royal Hospital, University Hospital North Tees, Worthing Hospital

Orthopaedics: Cleveland Clinic – London, Leighton Hospital, Rotherham General Hospital, St Thomas' Hospital, Weston General Hospital

Upper GI: Darent Valley Hospital

Gynaecology: Dorset County Hospital, Glan Clwyd Hospital, King's Mill Hospital, Milton Keynes University Hospital, Musgrove Park Hospital, Poole Hospital, Princess Royal Hospital, Rotherham General Hospital, Royal Lancaster Infirmary, Southend University Hospital, University Hospital North Tees, Watford General Hospital, Yeovil District Hospital

Spinal: Milton Keynes University Hospital, Royal Sussex County Hospital.

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Acknowledgements

Our thanks to all collaborators at local level and to all the patients who have participated in the study. This report was written by the following members of the PQIP Project team: Adam Hunt, Eimear Lusby, Aiman Al-Eryani, Dominic Olive, Eleanor Warwick, Rachael Brooks, Sam Warnakulasuriya, Jose Lourtie, Christine Taylor and S Ramani Moonesinghe.

PQIP is a research study sponsored by University College London.

PQIP is funded by the Royal College of Anaesthetists, the Health Foundation and the UCL/UCLH Surgical Outcomes Research Centre within the UCL Centre for Perioperative Medicine, which is supported by the University College London Hospitals National Institute for Health Research (NIHR) Biomedical Research Centre and the Central London NIHR Patient Safety Research Collaboration.

PQIP is supported by the NIHR Clinical Research Network through portfolio adoption, sponsored by University College London and delivered by Centre for Research and Improvement at the Royal College of Anaesthetists.