

# Pre-Operative Anaemia Stakeholder Meeting

Wednesday 15<sup>th</sup> June 2023

# Perioperative Anaemia Management

## Setting the scene

### Why? When? How? Who?

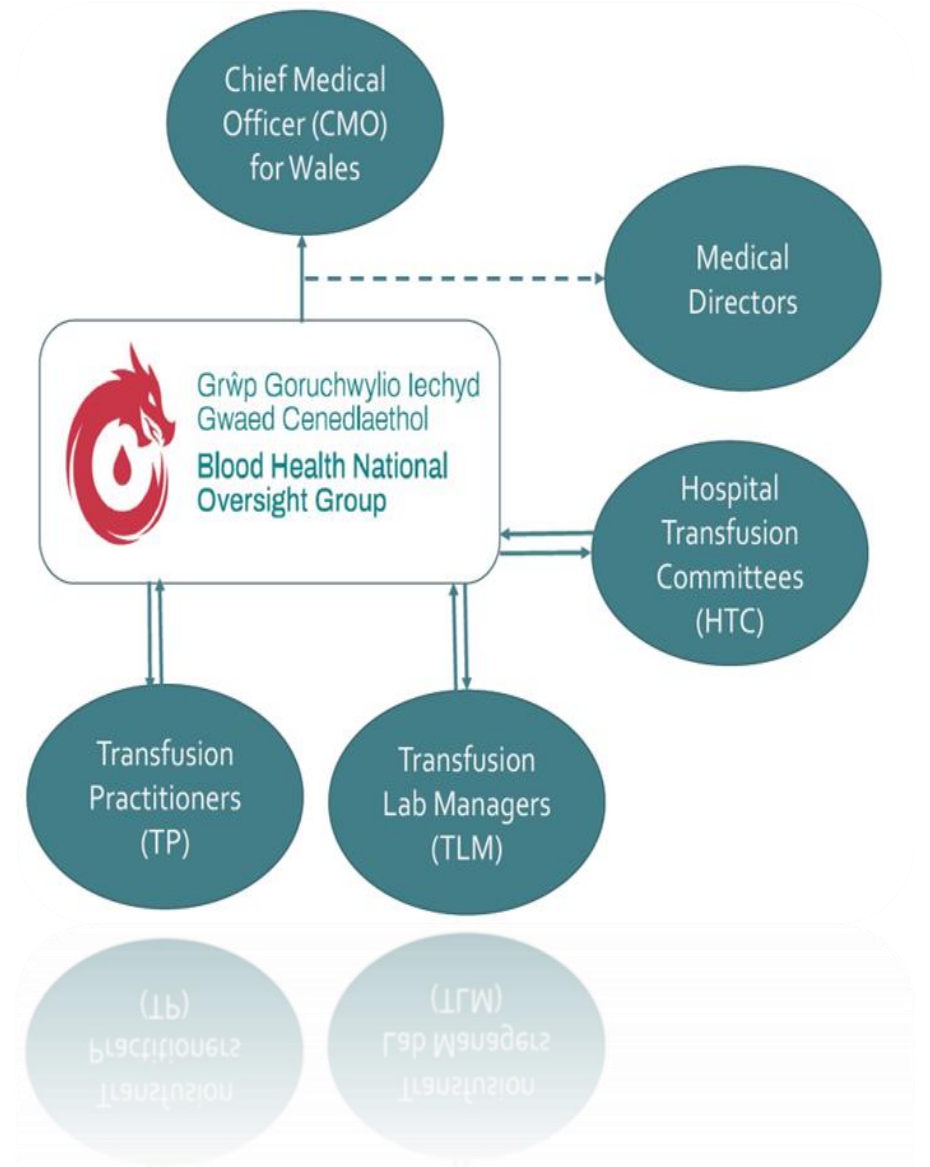
Dr Caroline Evans

Consultant Cardiothoracic Anaesthesia UHW

BHNOG lead for Anaemia

VBHC Clinical Lead

# Blood Health National Oversight Group (BHNOG)



## BHNOG Key Workstreams



Appropriate Platelet Use



Appropriate Use of O D Negative Red Cells



Anaemia Management



Intraoperative Cell Salvage

## Three pillars of patient blood management

### Why?

- Avoids unnecessary transfusion
- Optimisation of patients own physiological blood reserve
- Both key messages in Patient Blood Management
- **Why** is it our responsibility?
- The Welsh Blood Service message

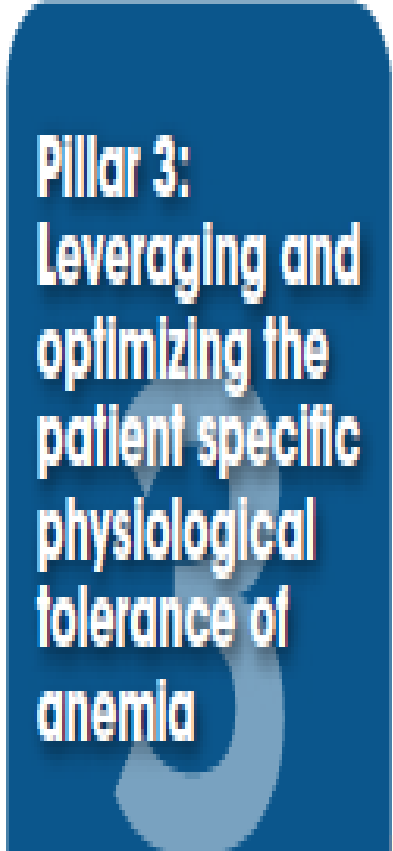
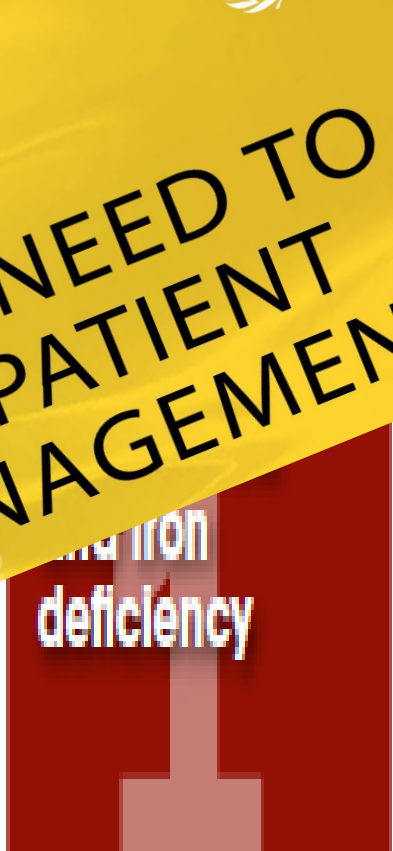
**Pillar 1:**  
Detection and  
management  
of anaemia  
and iron  
deficiency

**Pillar 2:**  
Minimization of  
blood loss and  
optimization of  
coagulation

**Pillar 3:**  
Leveraging and  
optimizing the  
patient specific  
physiological  
tolerance of  
anemia

## Why?

- Avoids unnecessary transfusion
- Optimisation of patient's physiological response to blood loss
- Both key messages of the World Health Organization's *Guidelines on Blood Management*
- **Why** is it our responsibility?
- The Welsh Blood service message



# The purpose and goal of an All Wales Pathway for Anaemia



Grŵp Goruchwylio Iechyd Gwaed Cenedlaethol  
Blood Health National Oversight Group

<https://bhnog.wales.nhs.uk/wp-content/uploads/2022/03/BHNOG-Transfusion-Education-Strategy-2021.pdf>

- Opportunity for us to uniformly optimize patients
  - Same standards across all hospitals in Wales
  - Equity for all 'surgical' patients in Wales
  - Allow access to 'Big ' data to demonstrate effect on outcome and cost
  - Develop Key Performance indicators to demonstrate good practice
- 
- In 2020 anaemia workstream developed in BHNOC
  - Meetings and surveys across 2021
  - Eventual agreement from POM/POAC leads on pathway



Does the patient have Hb <130g/l  
and/or  
meet the criteria in section 2.1 to be eligible for the pathway?

YES

Is the patient iron deficient?

Ferritin <30ug/l or TSAT <20%

True Iron Deficiency

Urgent surgery (4a) – IV Iron  
Elective surgery (5c) – Oral iron where possible

Other Anaemias

Perform remaining pre-op anaemia screening tests  
Ferritin or TSATs, U&E, CRP, B12/folate (if MCV >100)

Ferritin 30-100ug/l and TSAT <20% or CRP>5mg/l

Anaemia of chronic inflammation with iron deficiency  
Urgent surgery (4a) – IV iron  
Elective surgery (5d) – IV iron

Ferritin >100ug/l and TSAT <20% or CRP>5mg/l

Anaemia of chronic inflammation  
All surgery (5f)

Ferritin >100ug/l (+/or TSAT >20%)

Other anaemias  
All surgery (5f)

- Pathway that screens and treats
- @ 6 weeks IV iron
- > 6 weeks, trial of oral remains acceptable(NICE)
- recognise requirement of further referral (gastro/renal/haem)
- timing of surgery
- Fits with NICE/ CPOC / PBM/ consensus statement/ BSH







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Blood Health National Oversight Group



# Delivery of an All Wales Pre operative Pathway for Anaemia

VHBC Anaemia Team

# Development of All Wales Perioperative Anaemia Pathway

## All Wales Perioperative Anaemia Pathway

*This is a consensus document developed by All Wales Pre-Operative Anaemia Leads Group & the Blood Health National Oversight Group (BHN OG)*

**Page 1 of 4**  
All Wales Perioperative Anaemia Pathway; Version 2.0

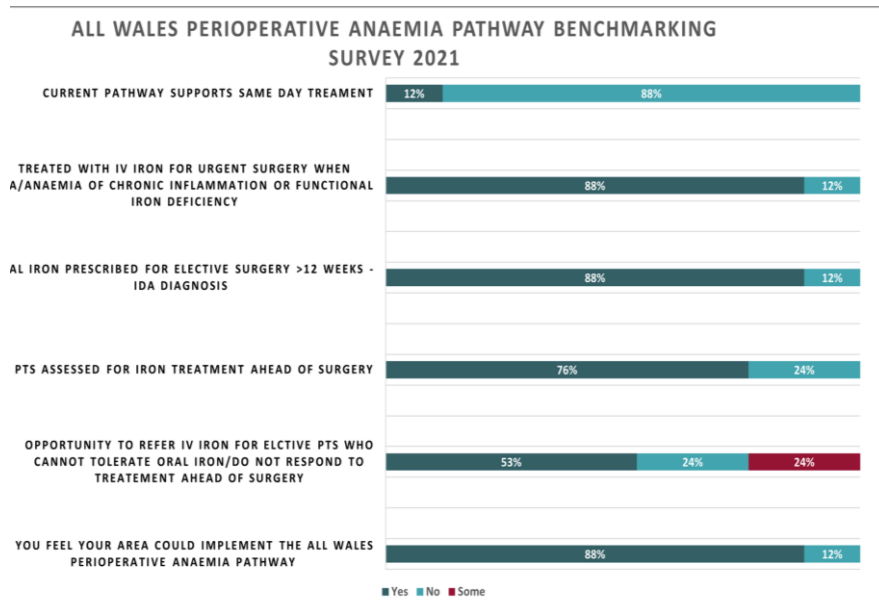
**Page 2 of 4**  
All Wales Perioperative Anaemia Pathway; Version 2.0

**Page 3 of 4**  
All Wales Perioperative Anaemia Pathway; Version 2.0

**Page 4 of 4**  
All Wales Perioperative Anaemia Pathway; Version 2.0

Approved by BHN OG in December 2021

# What did you tell us?



- A follow up survey was undertaken to assess compliance to the All Wales pathway
- Anaemia stakeholder group identified barriers to implementation including:
  - Test turnaround times
  - Ability to review results on the same day
  - Staff/ facilities to provide IV iron
- Workstream activity to address these:
  - Standardised blood testing across all sites in Wales
  - Ability to extract electronic data for audit purpose
  - Apply for Value Based HealthCare funding



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Blood Health National Oversight Group

# Value Based Health Care (VBHC) Funding

- The BHNOG bid for funding for Implementation of an All Wales Pre-Operative Anaemia Pathway (24 months) starting Jan 2023
- To specifically look at :
  - Prudent use of donated RBCs and potential to reduce demand
  - Improved clinical outcomes post surgery (longitudinal data) including survival
  - Reduction in Perioperative Adverse events and length of stay
  - Ensuring equity of care in preoperative anaemia management
  - Provide evidence of the benefit of anaemia management for other patient groups.
  - Funding has allowed secondment of a team to run the project and includes data analysts

## First steps: Assessing compliance with a pathway

- Develop individualized Healthboard baseline reports for preoperative anaemia screening and management- current status
- Benchmark hospital/HB activity against CQUIN anaemia standards
- Develop and agree reflexed preoperative anaemia test set( for ease of data tracking)
- Work towards coding Anaemia treatment to capture benefits
- Education and Training (multidisciplinary – nursing , Doctors in training , pharmacy, dietetics)



## The Challenges

- We have pulled the data for 2021 and 2022
- > 11, 000 operative procedures across all hospitals
- Colorectal, Gynaecology, Orthopaedics, Urology and Cardiac
  
- **Limitations**- operative activity post pandemic down, some centres carrying on their own pathway, identifying when treatment has occurred when patient identified as anaemic, matching transfusion data



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# Initial Benchmarking Data

**Preoperative Anaemia Team**

# Data – its complicated

- Evidences activity and provides a baseline or for benchmarking
- But you need the right data
- Which patients?
- What specific data are we interested in?
- How will we capture it?



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# Baseline for Preoperative anaemia management

## Description of the data extract:

Determining the proportion of patients scheduled for major blood loss elective surgery that are treated in line with the All Wales Perioperative anaemia pathway.

## Numerator

Of the denominator, all admissions where the following actions were applied within the 12 week (as per the pathway to allow use of oral iron) period prior to the procedure.

- Haemoglobin measured and
- Serum ferritin &/or TSATs tested and
- If diagnosed with iron deficiency anaemia offered appropriate iron treatment (oral and/or IV iron) or did the patient receive a transfusion of red blood cells and
- Length of stay for patients diagnosed with iron deficiency that were treated with iron, or transfused or no intervention
- Readmission rate for patients diagnosed with iron deficiency that were treated with iron, or transfused or no intervention
- Mortality/morbidity for patients diagnosed with iron deficiency that were treated with iron, or transfused or no intervention

## The denominator data would be for one of the following (for agreement):

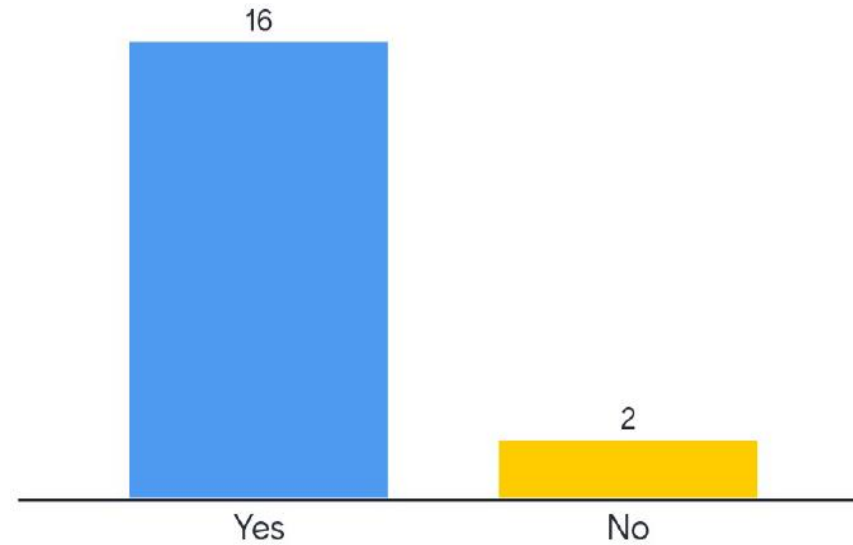
For early benchmarking focus on those from CQUIN : Coronary Artery Bypass Graft , Cardiac Valve Procedures, Colorectal Resection, Cystectomy, Hysterectomy, Primary Hip Replacement, Hip Replacement Revision, Primary Knee Replacement, Knee Replacement Revision, Nephrectomy, Carotid Artery (open procedure), Other Aortic/Iliac Occlusive Disease (open procedure).



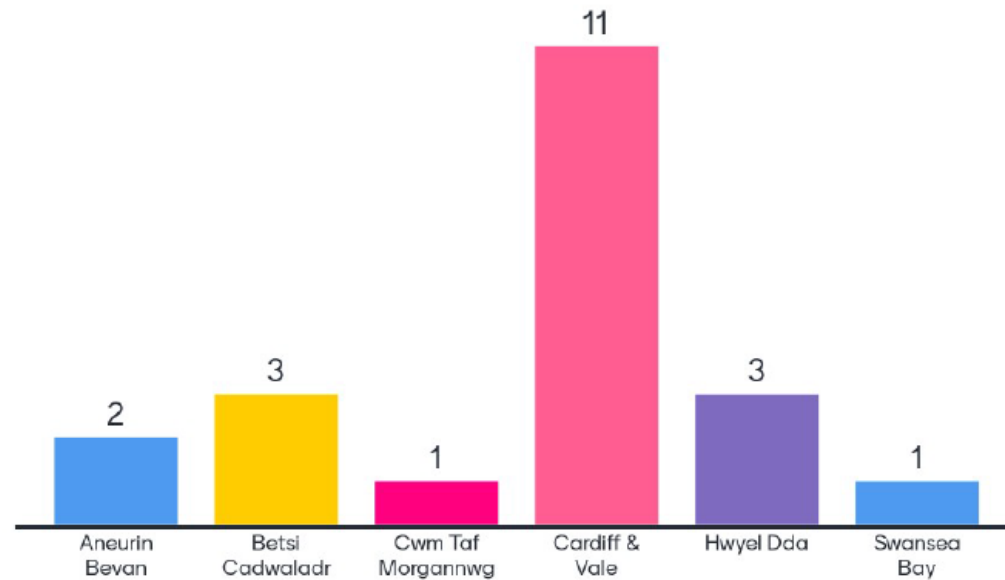
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Blood Health National Oversight Group

<b>CCG6: Anaemia screening and treatment for all patients undergoing major elective surgery</b>	
<b>Applicability:</b> Acute (relevant surgical wards)	There is detailed NICE guidance setting out the requirements to offer iron before surgery to patients with iron-deficiency anaemia. This indicator draws attention to the importance of screening and treatment in line with that guidance and drives more consistent delivery of standard clinical practice.  Improved compliance would reduce blood transfusion rate for major blood loss surgeries, reducing the occurrence of patient safety risks associated with blood transfusion including fluid overload, infection and incorrect blood transfusions being given. Overall, it is estimated that consistent uptake of screening to 60% would deliver savings of around £3m associated with units of blood being saved due to lower transfusion rates, reductions in critical care periods, saved bed days and reductions in admission rates.
<b>CQUIN goal:</b> 45% to 60%	
<b>Supporting ref:</b> NICE NG24 <sup>11</sup>	

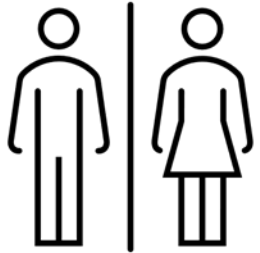
Are you comfortable with the data set for establishing baseline activity?



# Which Health Board are you attending from today?

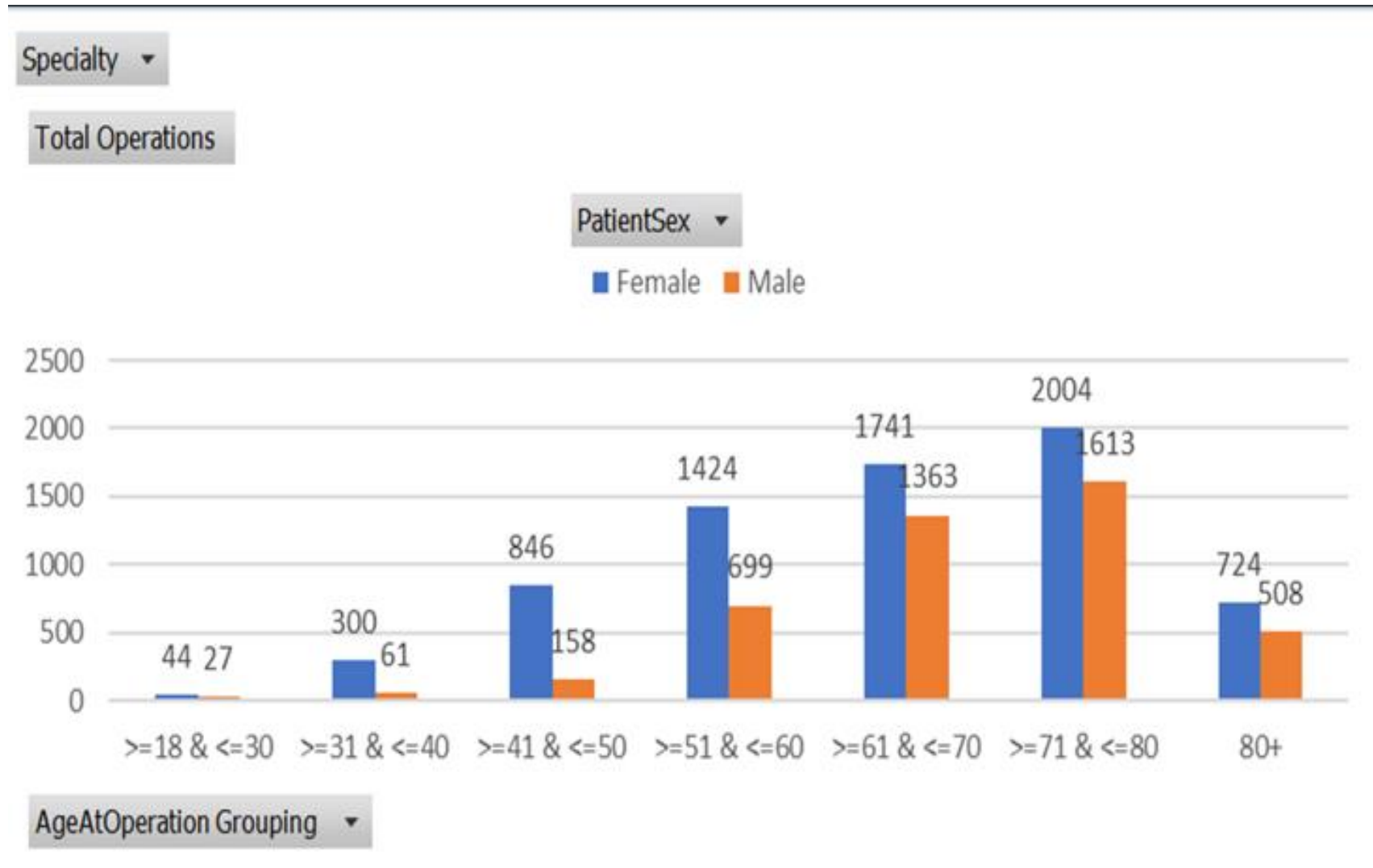


# Patient demographics – Age and Sex



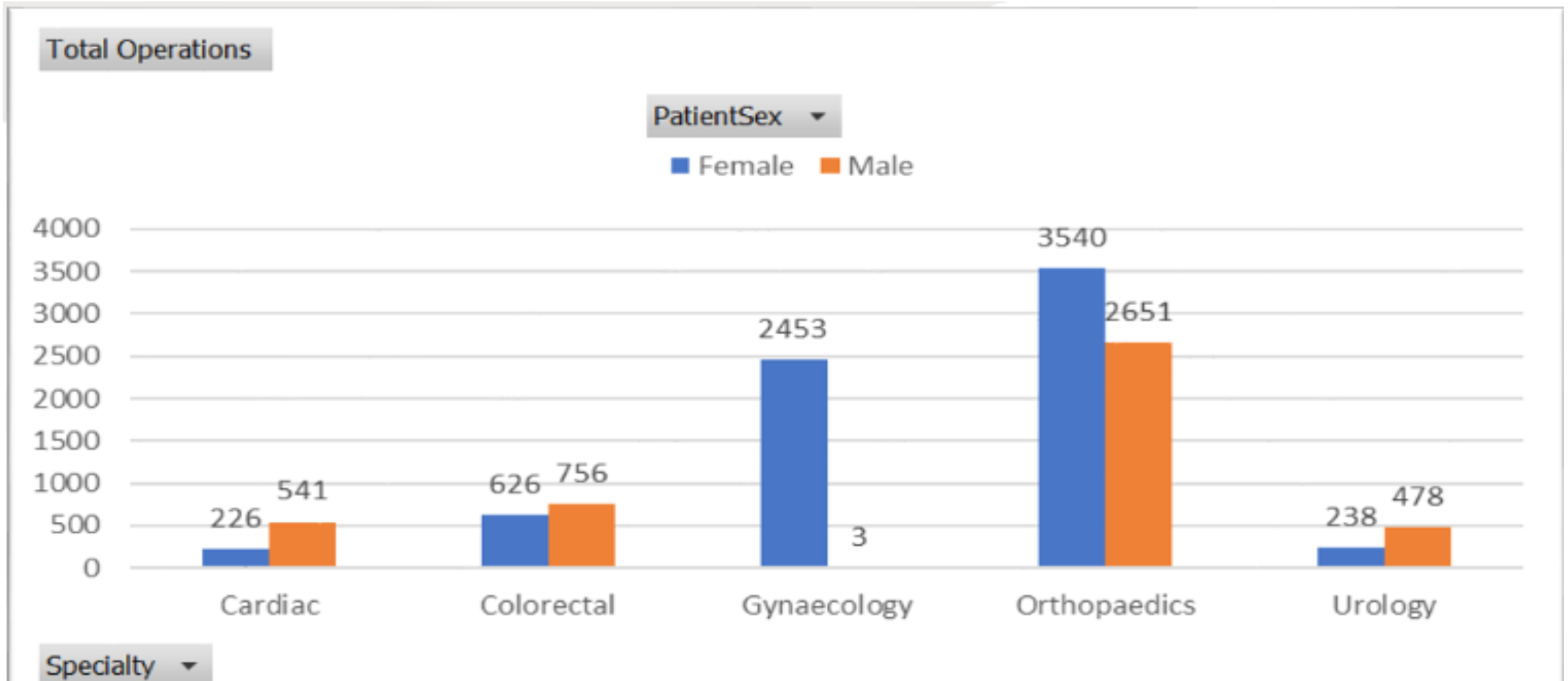
38.5% vs 61.5%

87.5% > 50 yrs

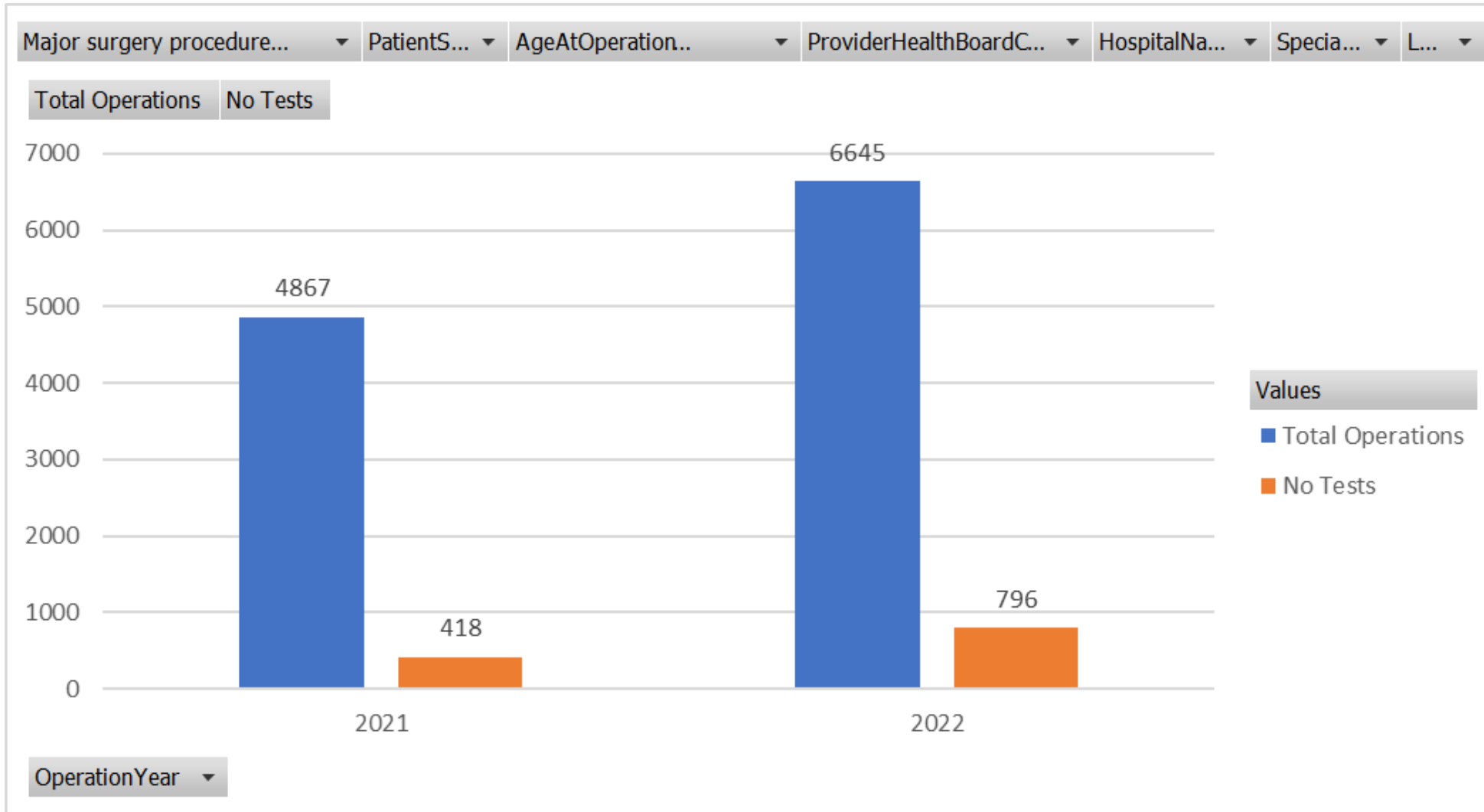


**Total of 11512 procedures captured**

# Speciality split of the data set



# Null data – patients missing anaemia screen data



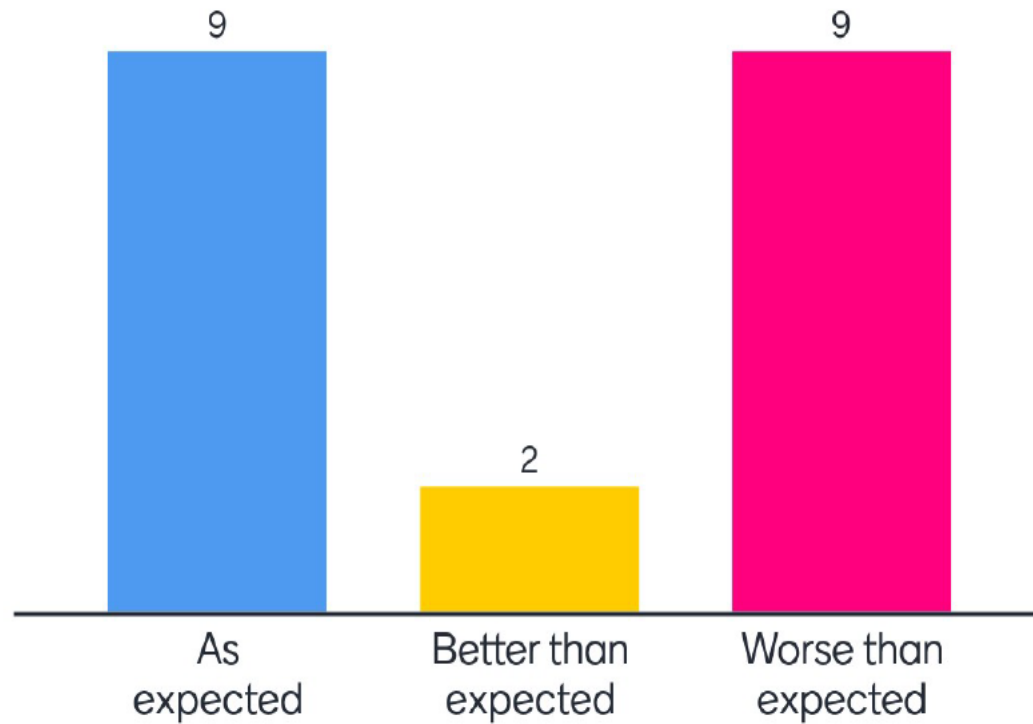
**89.3% of our data set had an FBC in the 12 weeks prior to surgery**

**Patients with no FBC in 12 weeks prior to scheduled surgery**

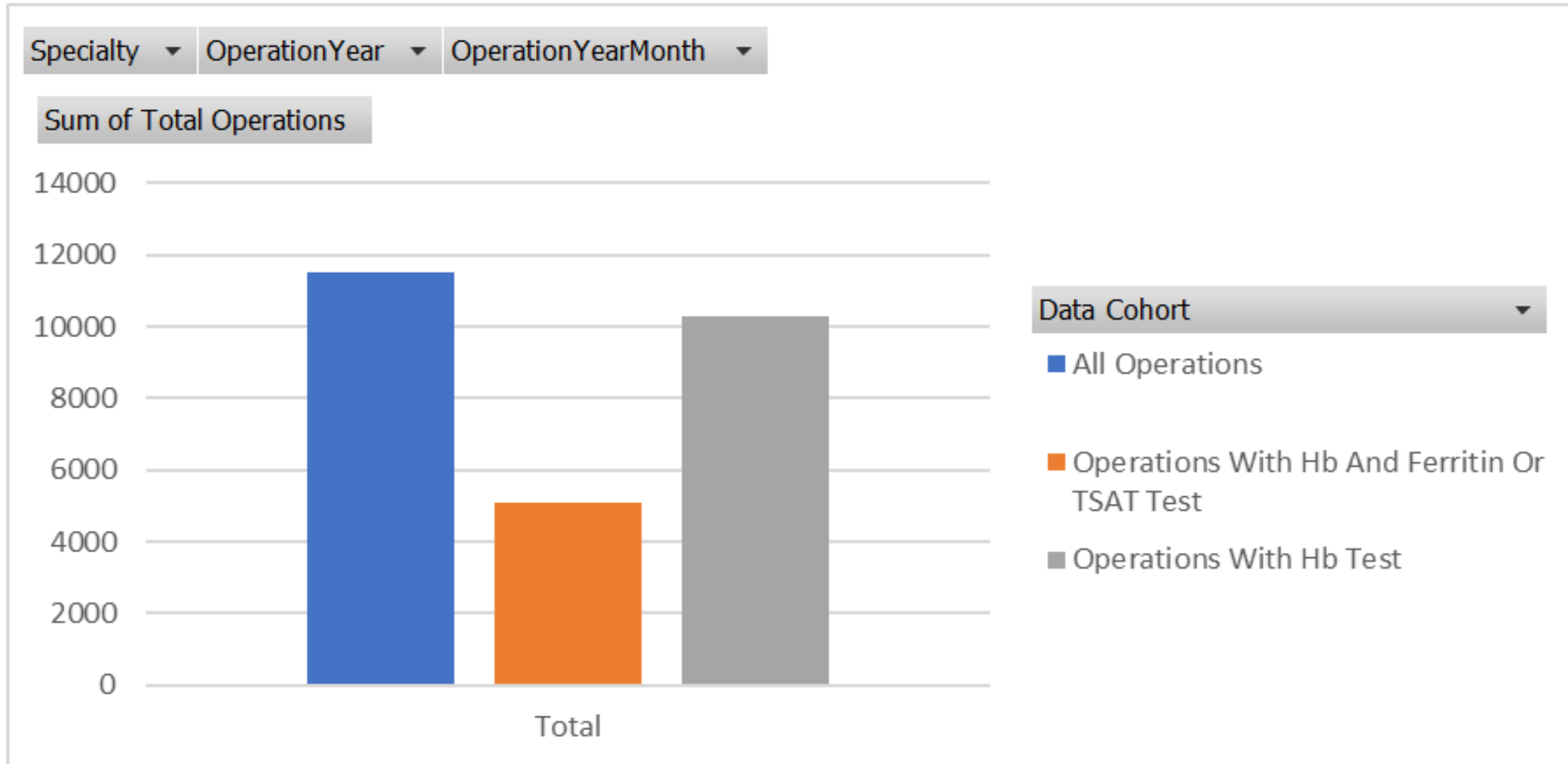
**8.6% 2021**

**12% 2022**

# Is the data for your health board:

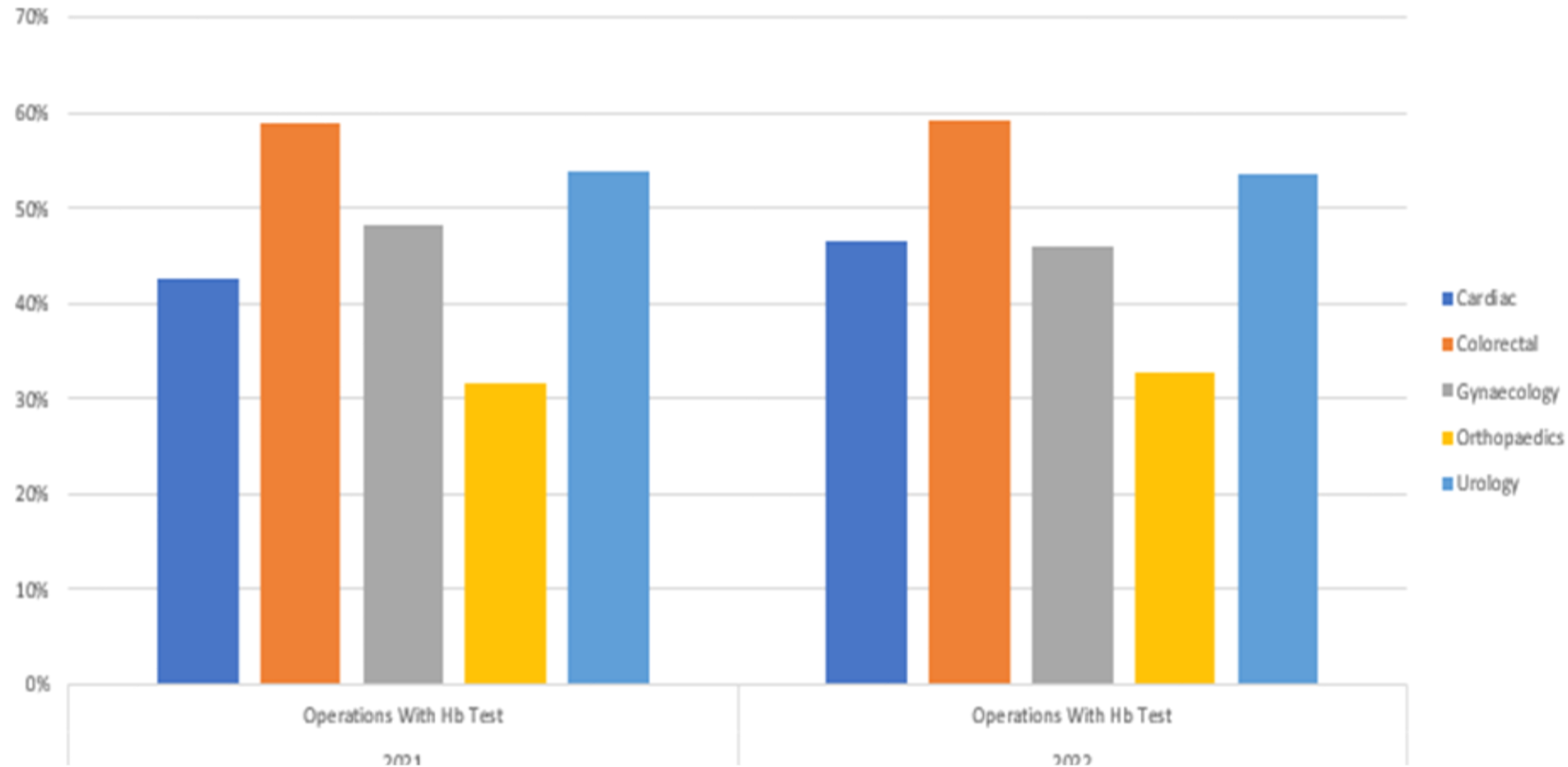


# Screening for anaemia and iron status





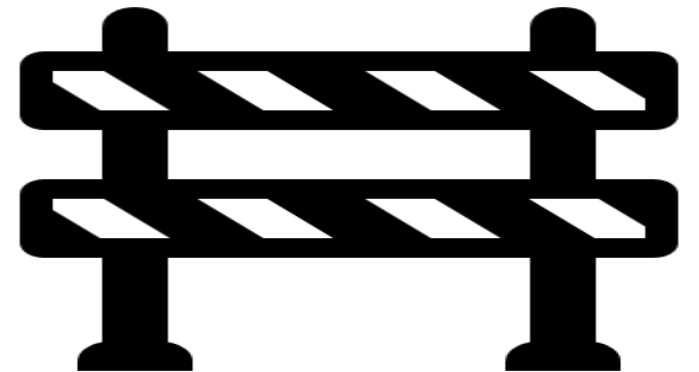
# Anaemia data – patients with HB <130



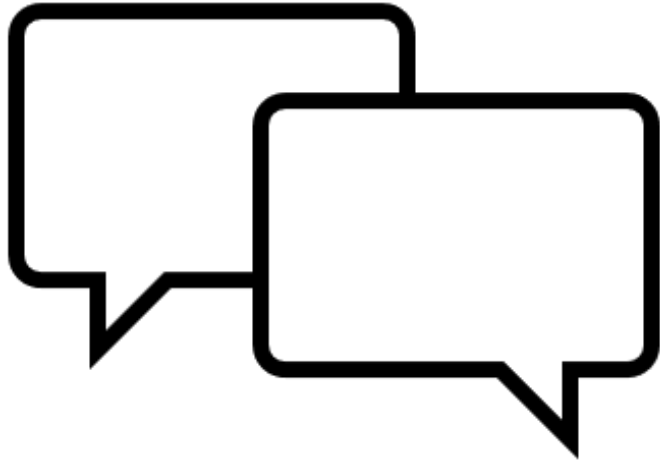
**45% patients  
in our data  
set were  
anaemic  
(Hb<130)**

# Exploring Blockers to Pathway Implementation

Preoperative Anaemia Team

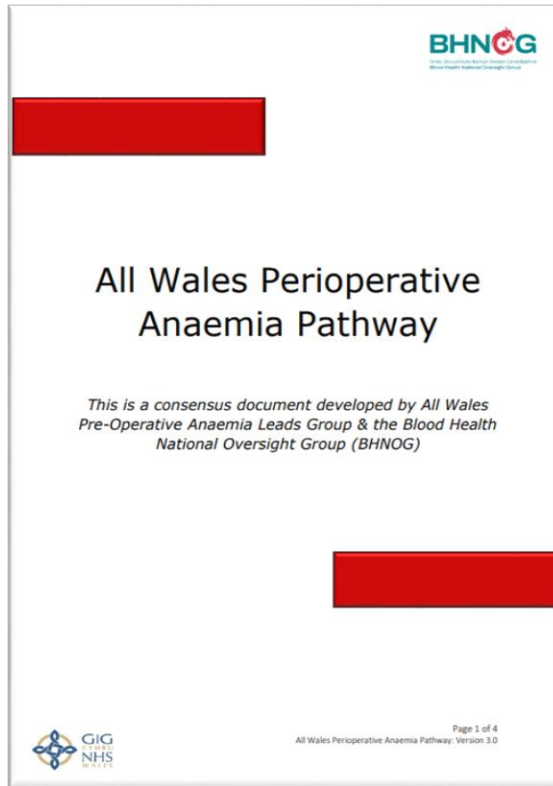


# Engagement with Health Boards



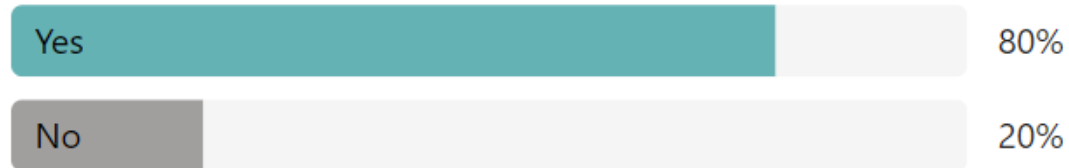
- Ongoing engagement with stakeholders across all HBs
  - Anaesthetists
  - Pre op assessment nurses
  - Pharmacists
  - VBHC and transformation teams
- Establish baseline activity against the All Wales Pathway
- Determine local barriers to optimising pathways
- Identify opportunity to shared learning

# Pathway Benchmarking

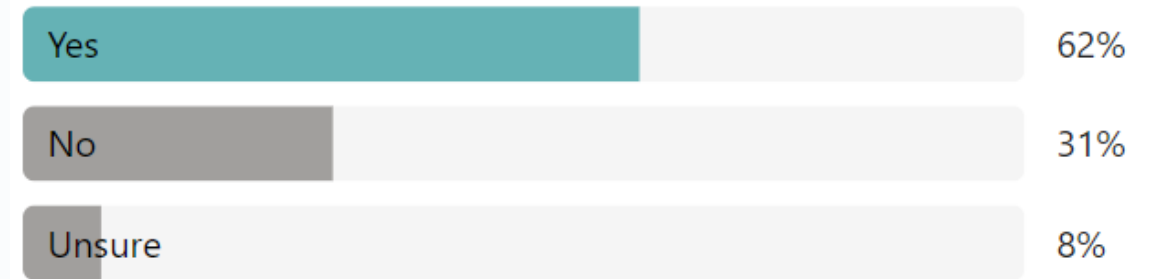


# Use of Pre-operative Anaemia Pathway

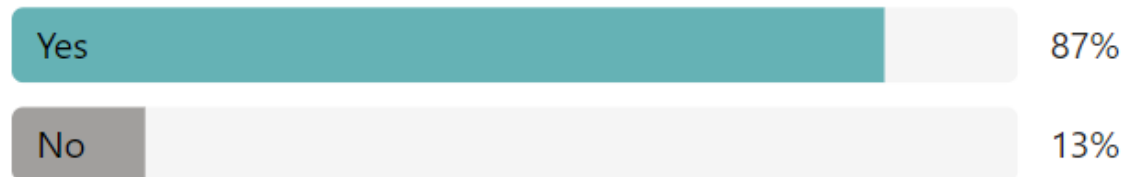
7. Q2: Are you currently using a pre-operative anaemia pathway?



11. Q3A: Does your local pathway align with this guidance?

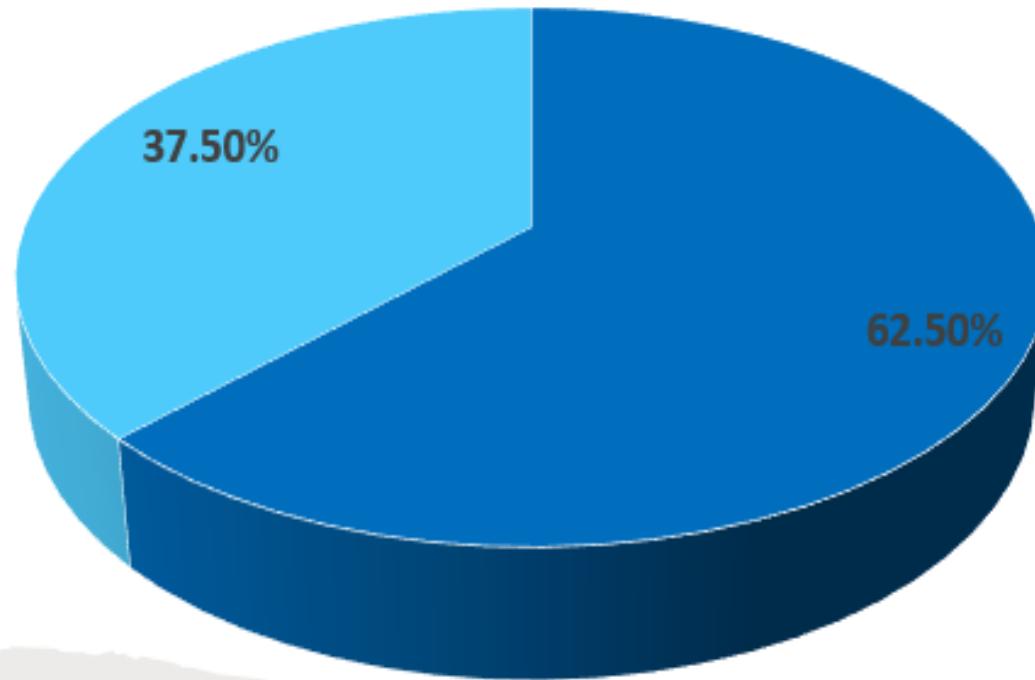


10. Q3: Are you aware of the All Wales pre-operative anaemia pathway?



# ***Do all patients over 18 years of age have an anaemia screen prior to high risk surgical procedures?***

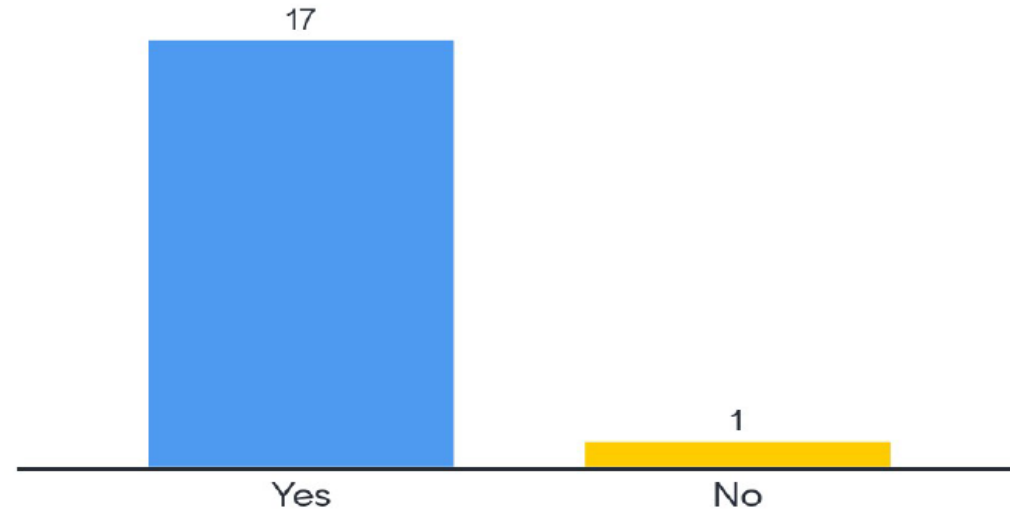
*(Basic anaemia screen will be FBC plus ferritin and/or TSAT)*



# What do you think are the biggest barriers for optimising patients with anaemia?

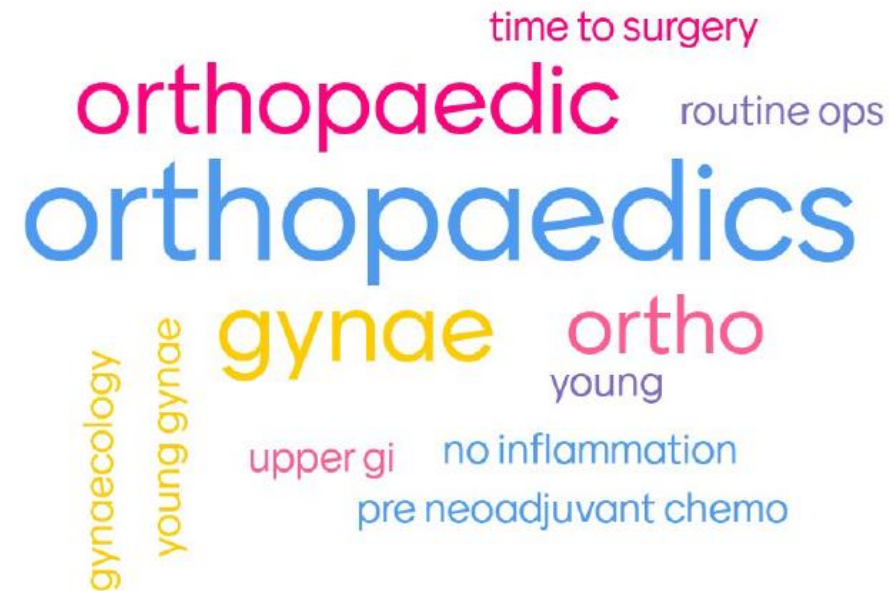


Do you think oral iron should be in the pathway?

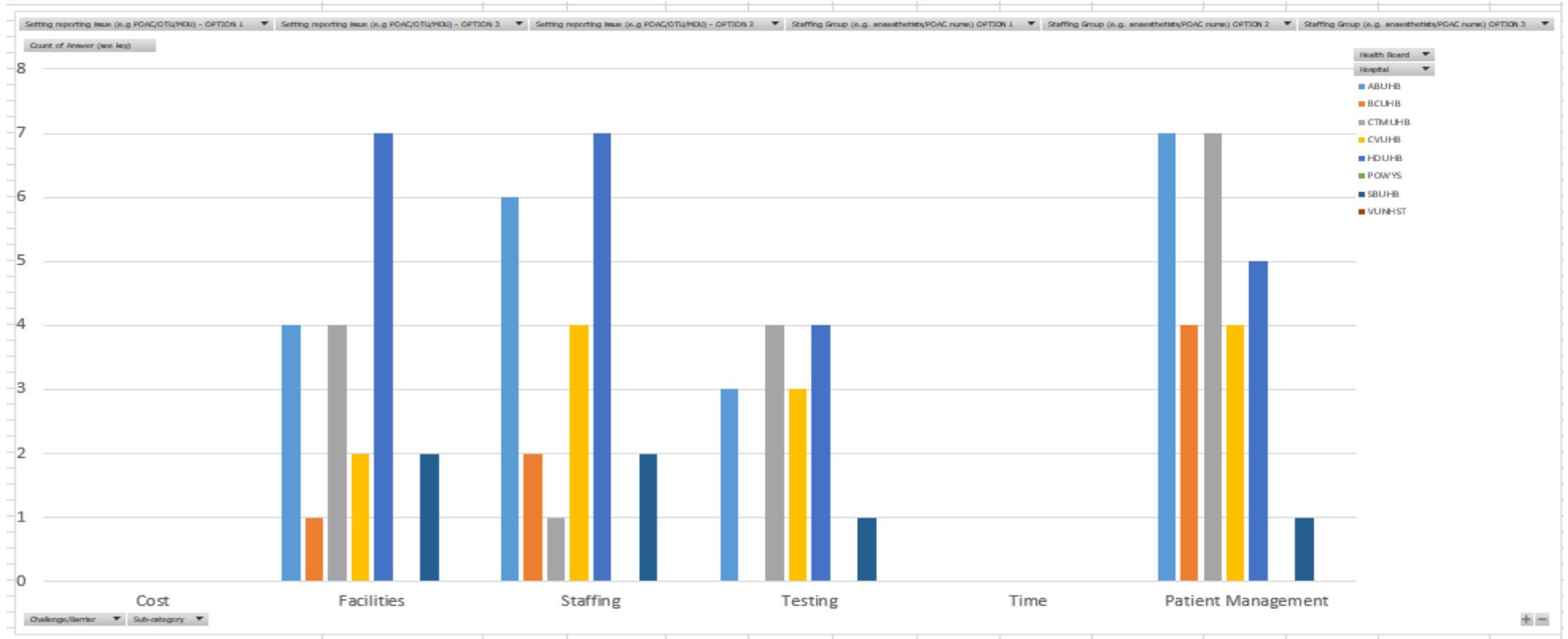




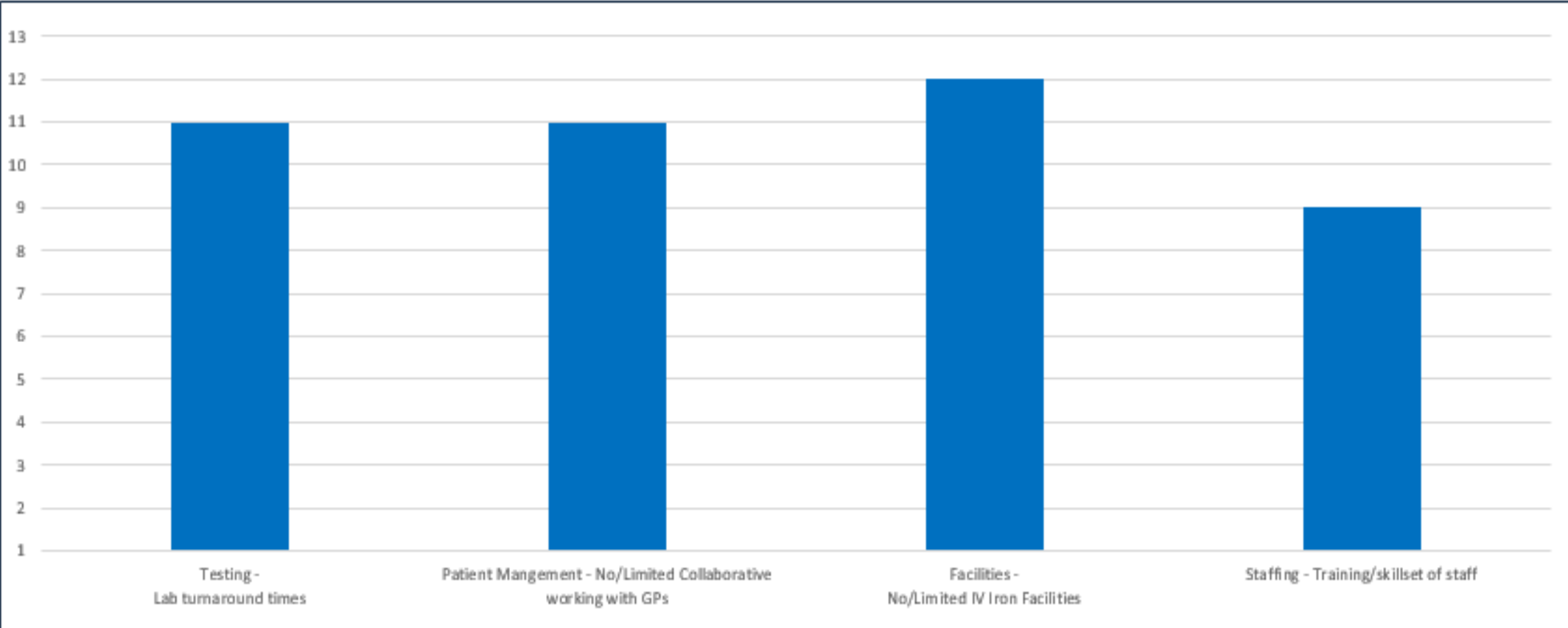
# Patients under which speciality should have oral iron

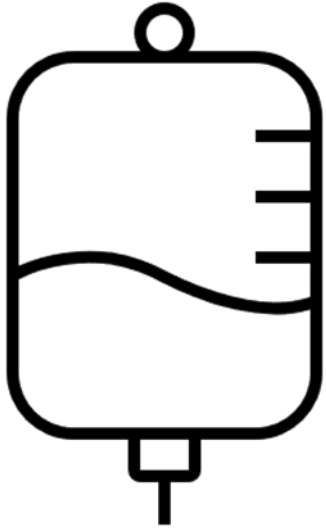


# Categories of Blockers



# Most reported blockers by sub-category



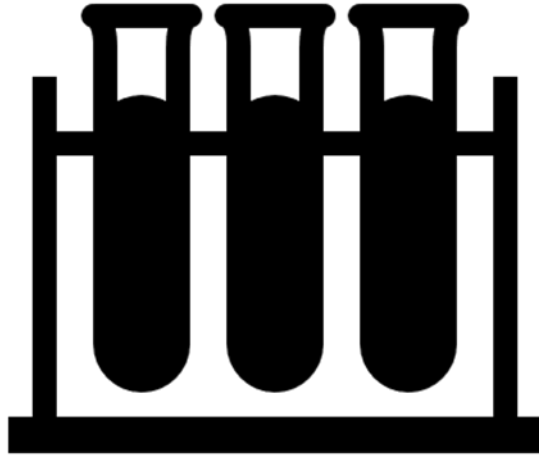


## Lack/Limited Access to IV facilities

- IV suite
- Medical Day Ward
- Surgical Day Ward
- POAC
- Ad hoc Arrangements



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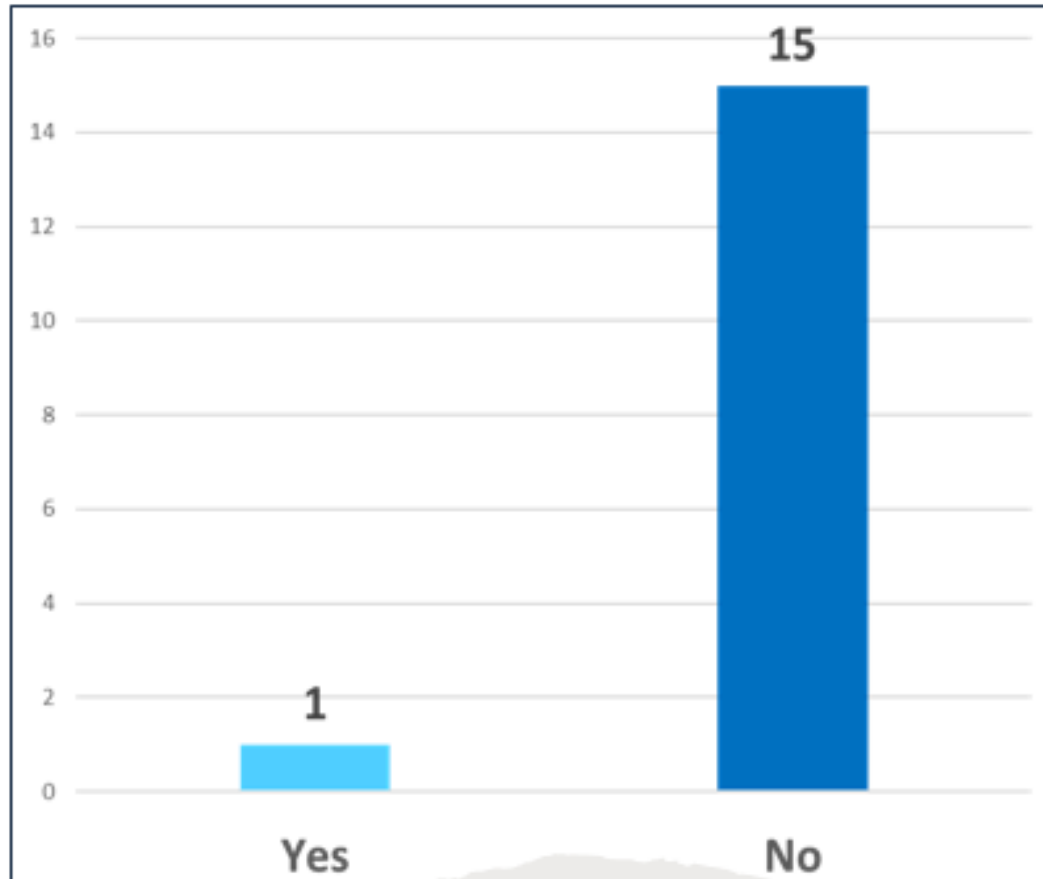
## Turnaround of testing and review of results

- Complexities of testing – logistics to get timely testing, testing off site, reliance on add on requests
- Timing of review – often at the end of clinic or next day



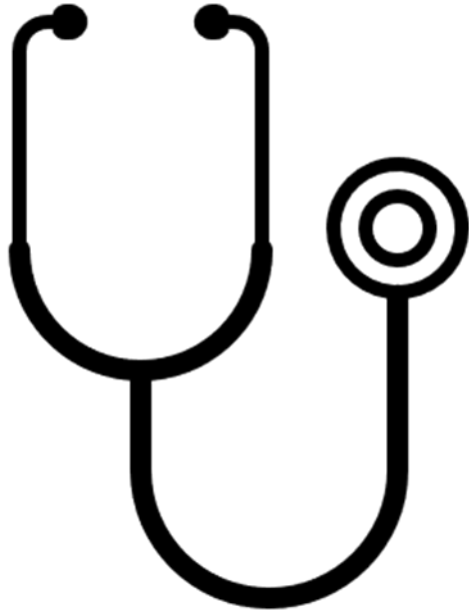
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## *Do you currently offer a same day review of blood tests at preoperative assessment?*

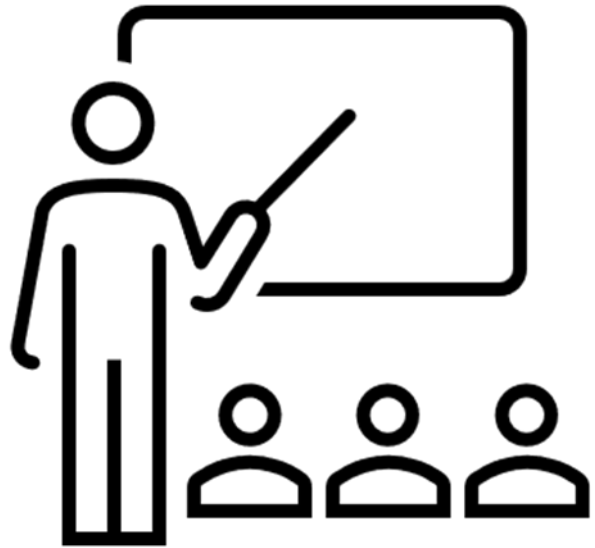


“Turnaround time of results from lab means we can’t review them the same day”

“If the lab got the results to us the same day, we wouldn’t be able to review them the same day as no staff available to do this”



## **Patient Management – collaboration with clinical teams upstream of POAC**

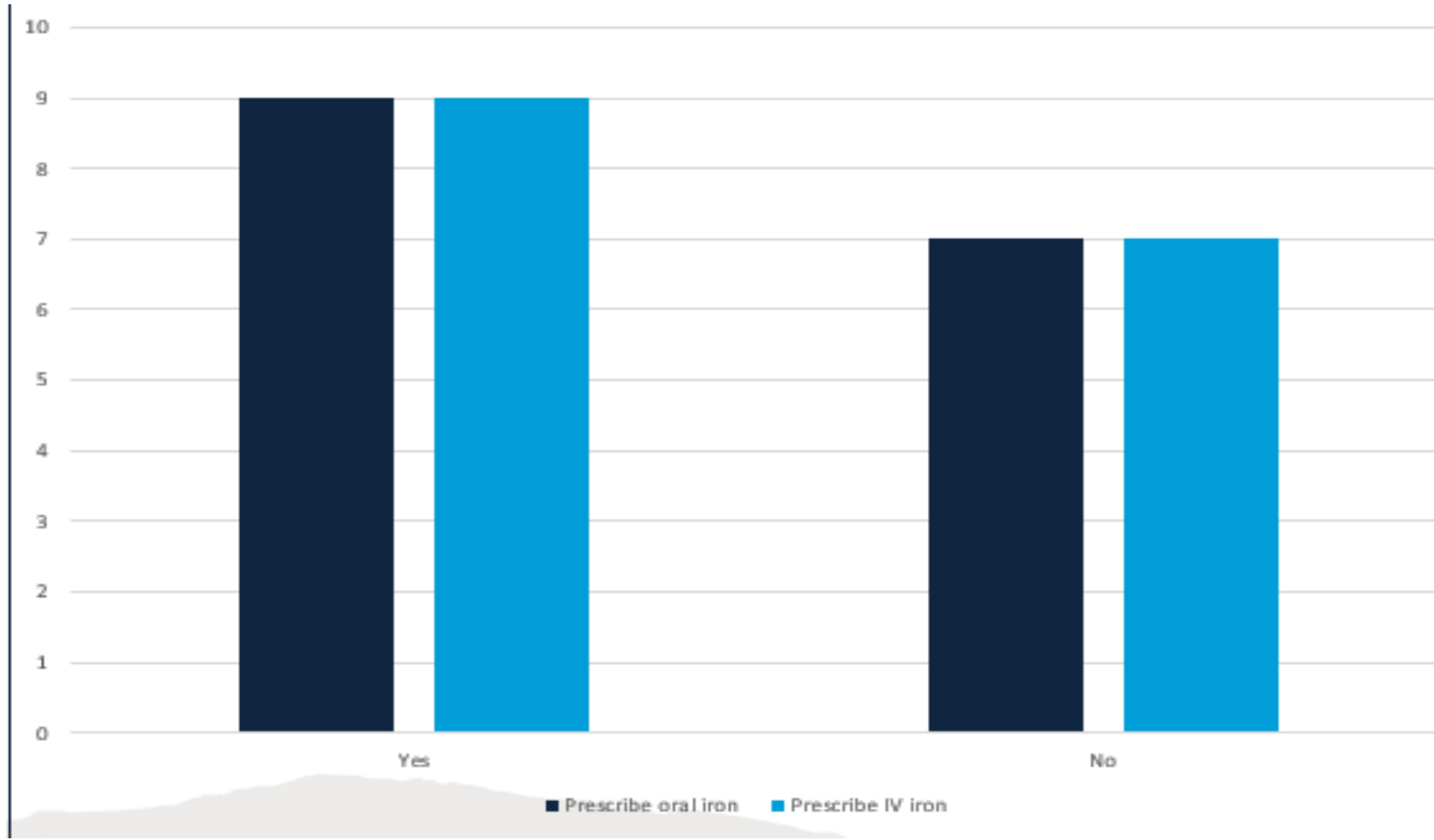


## Staffing

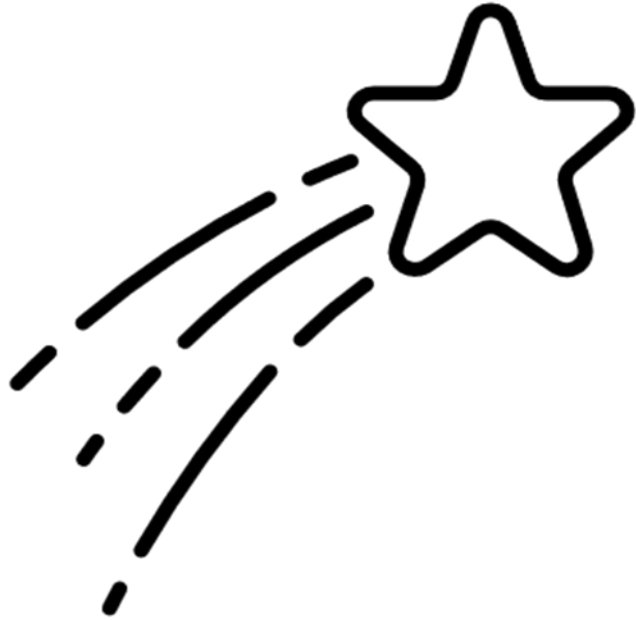
- Training Gaps
- Maximizing skillset



## *Do you currently prescribe iron in your clinic?*

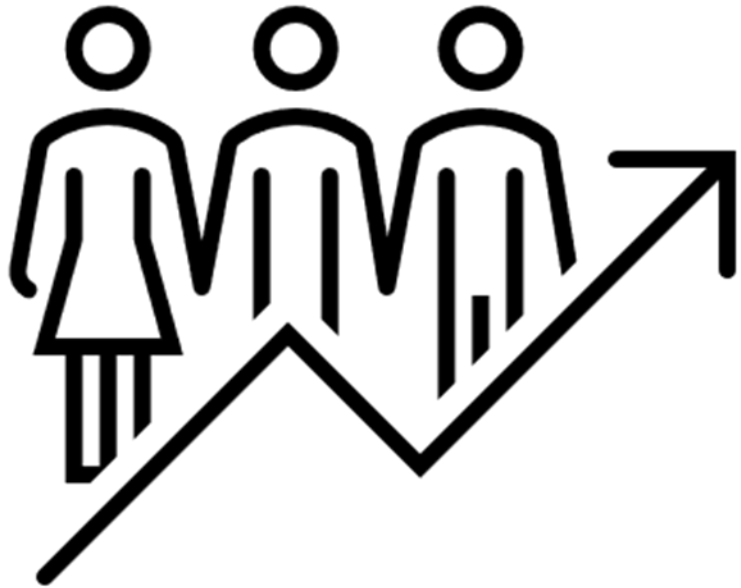


# Shared learning



- Some great MDT services
- Dedicated staff
- Patient centric

## What Happens Next?



# Agreeing next steps

- Decisions
- Actions to remove barriers
- Issue of HB reports
- Business case for HB funding

# Key Performance Indicators

Aim to identify deliverable KPI's for Pillar 1 of Patient Blood Management for **ELECTIVE** surgery

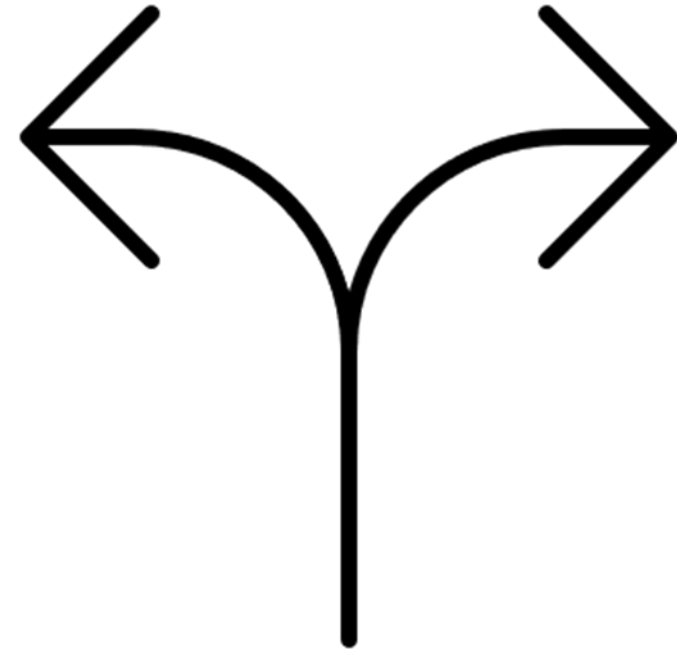
PBM Tool	Clinical Recommendation	Process KPI
Pillar 1 (optimize red cell mass)	Assess preoperative anaemia early enough to treat if required	% patients with Hb 21- 90 days before surgery
	Assessment of iron status	% patients with Ferritin and /OR Tsats 21- 90 days before surgery
	Treatment of Preoperative Anaemia	% patients treated 7-90 days preoperatively before surgery
	Preoperative anaemia is a contraindication for elective surgery	% patients with anaemia prior to surgery
	Avoidance of preoperative transfusion	% patients with a preoperative transfusion*
	What else? Periprocedural iron ?	

\* Reportable to SHOT

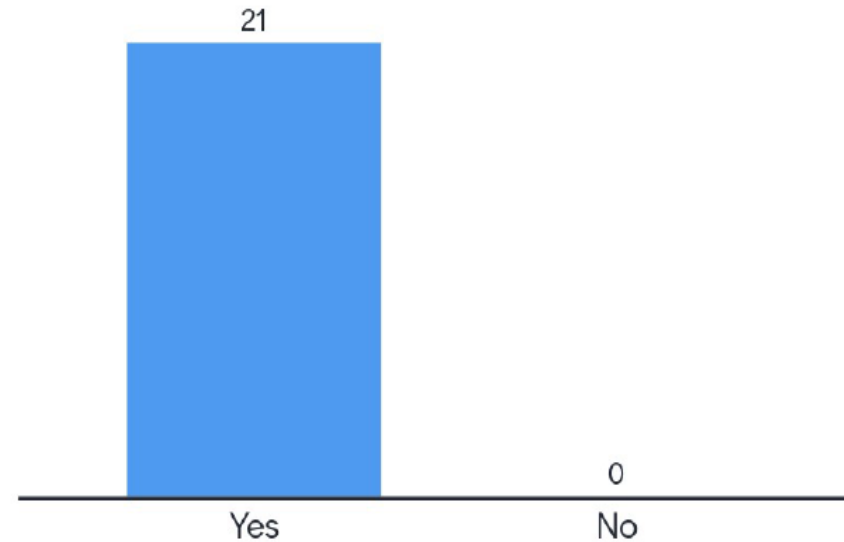
# Decisions

## 1. Standards:

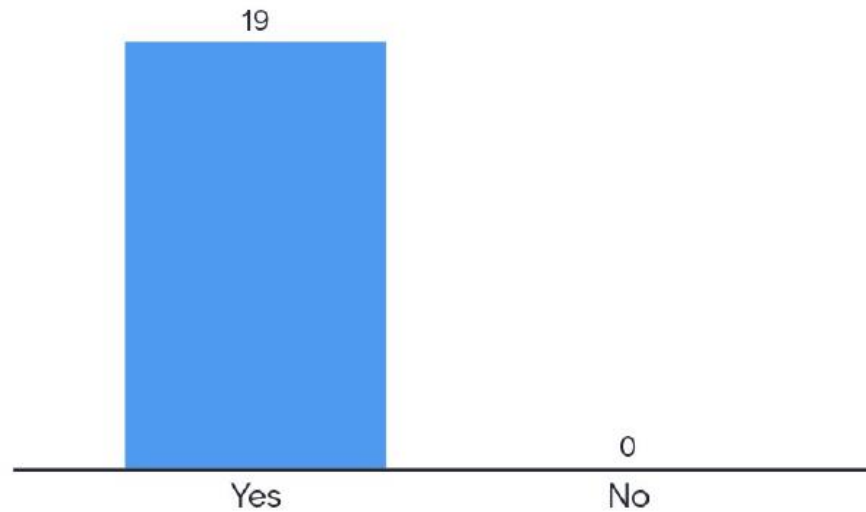
- I. There should be standardised pathway across the health board that covers all specialities and is aligned to the All Wales pathway
- II. All patients matched to CQUIN standard should be screened for anaemia prior to surgery
- III. Any patient with HB <130 (anaemic as per All Wales pathway) should be assessed for iron deficiency
- IV. Any patient identified as iron deficient should have opportunity to be treated ahead of scheduled surgery



Do you agree with Standard 1 - standardised pathway across HBs covering all specialities aligned to All Wales Pathway?

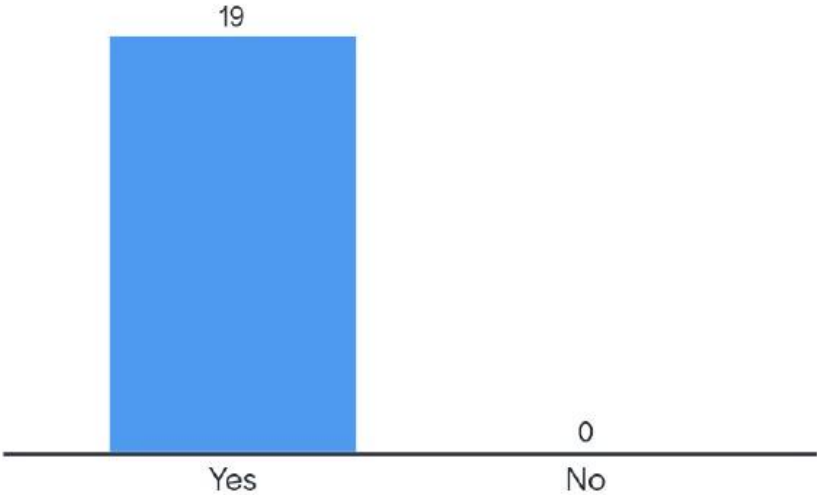


**Do you agree with Standard 2 - All patients matched to CQUIN standards should be screened for anaemia?**

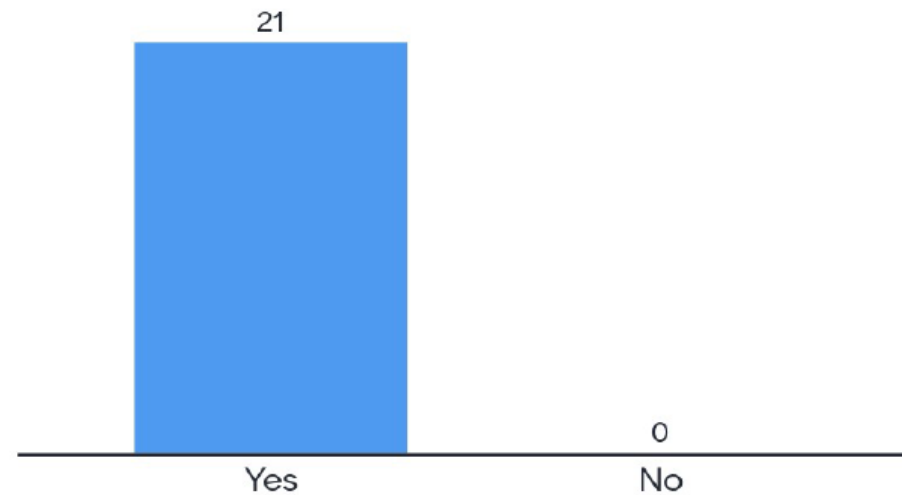




Do you agree with Standard 3 - Any patient with a Hb<130 should be assessed for iron deficiency?



**Do you agree with Standard 4 - Any patient identified as iron deficient should have the opportunity to be treated ahead of scheduled surgery?**



# Decisions

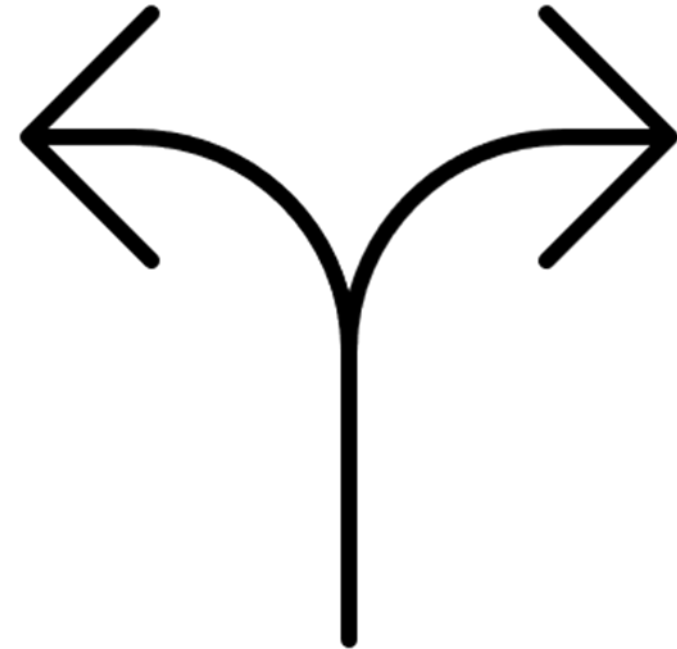
## 2. Data

- I. Is it important to have a robust data set for ongoing benchmarking?

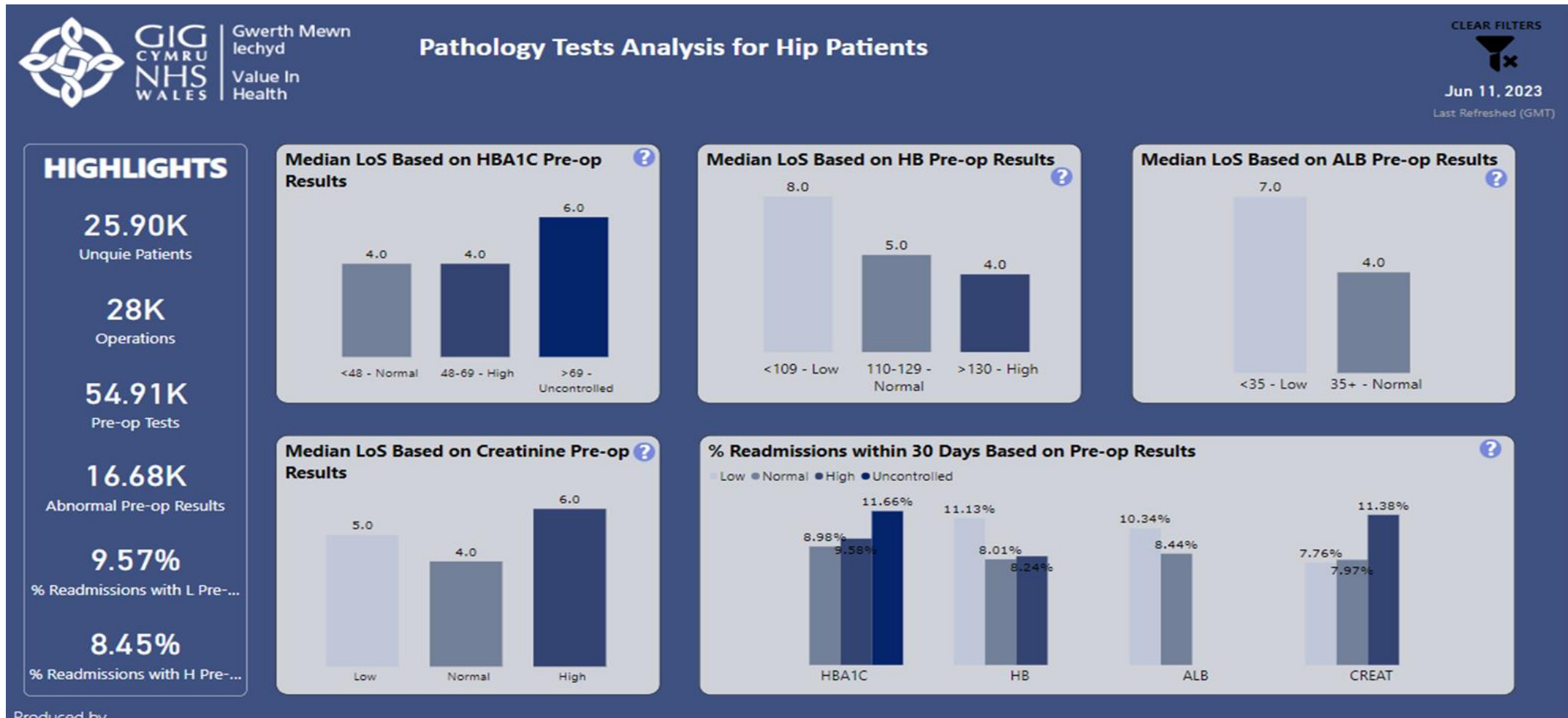
(We need to capture treatment data to link in with the other patient information)

If yes?

- I. Ongoing audit coordinated by anaemia team
- II. A Live dashboard produced by DHCW



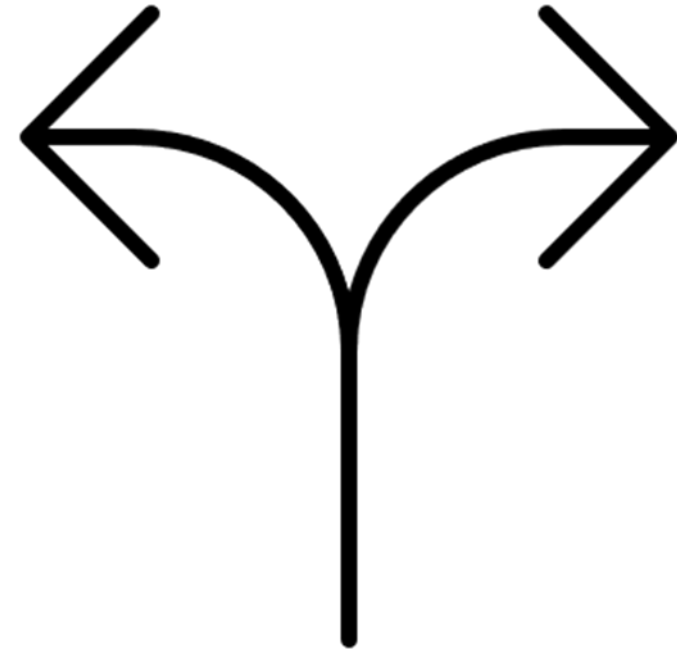
# Dashboard Development Opportunity with DHCW



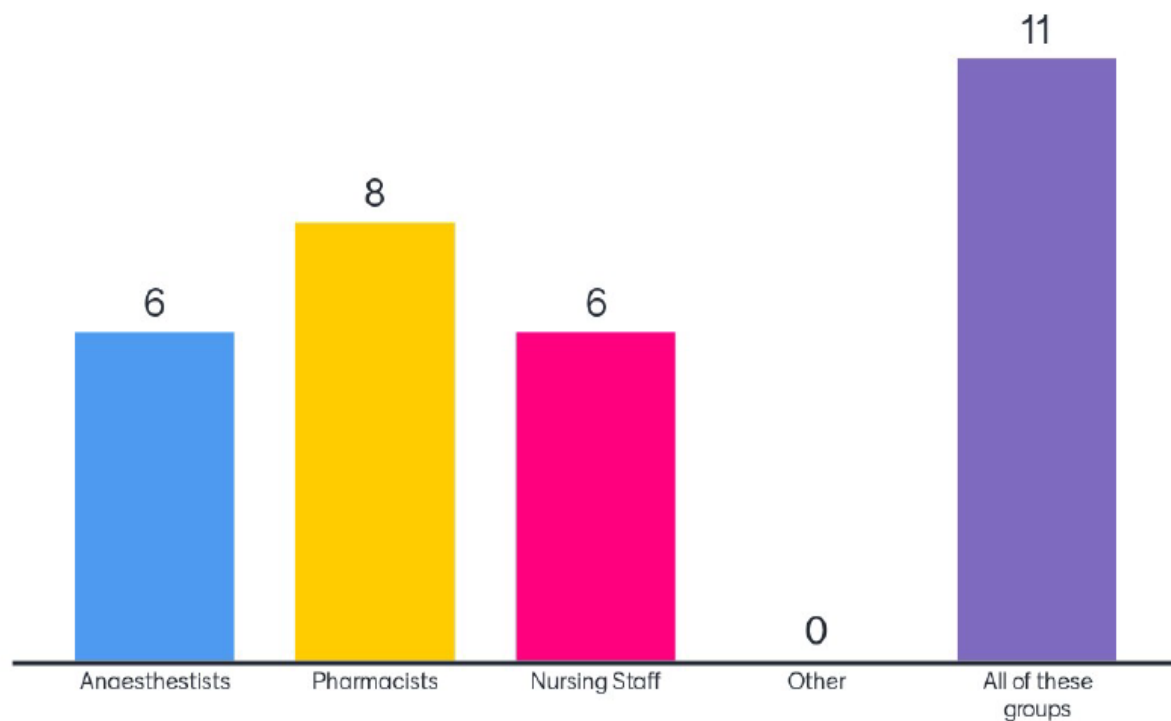
# Decisions

3. Where possible, who should be prescribing/administering IV iron?

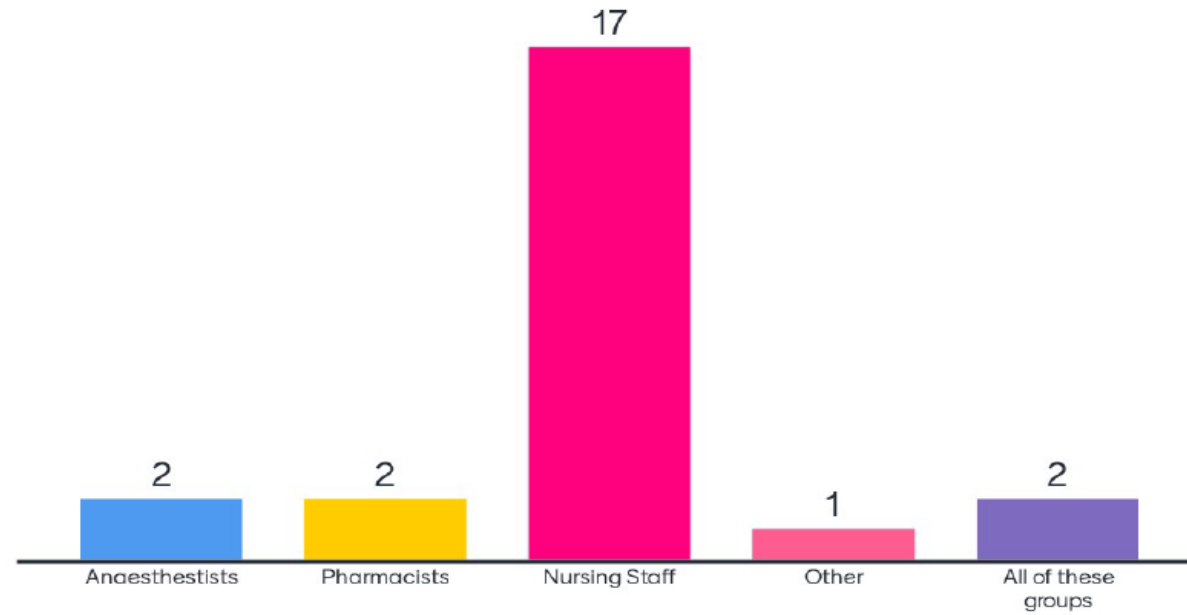
- I. Anaesthetists
- II. Pharmacists
- III. Nursing staff
- IV. All
- V. Other



# Who should be prescribing IV iron?



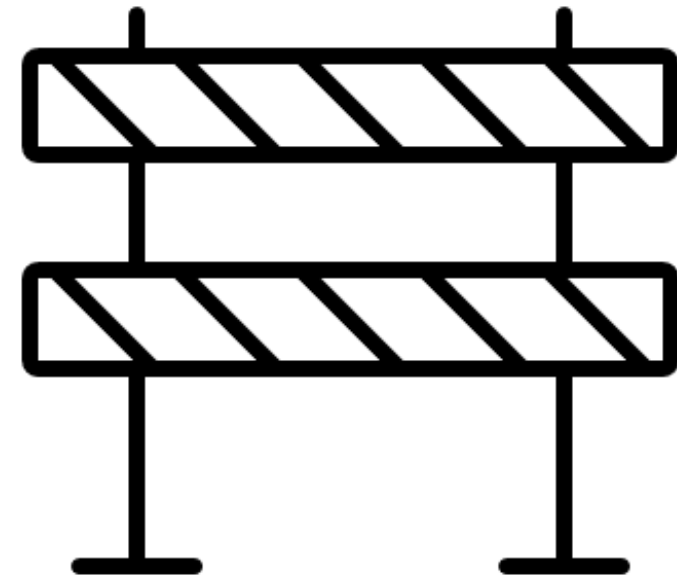
# Who should be administering IV iron?



# Removing barriers

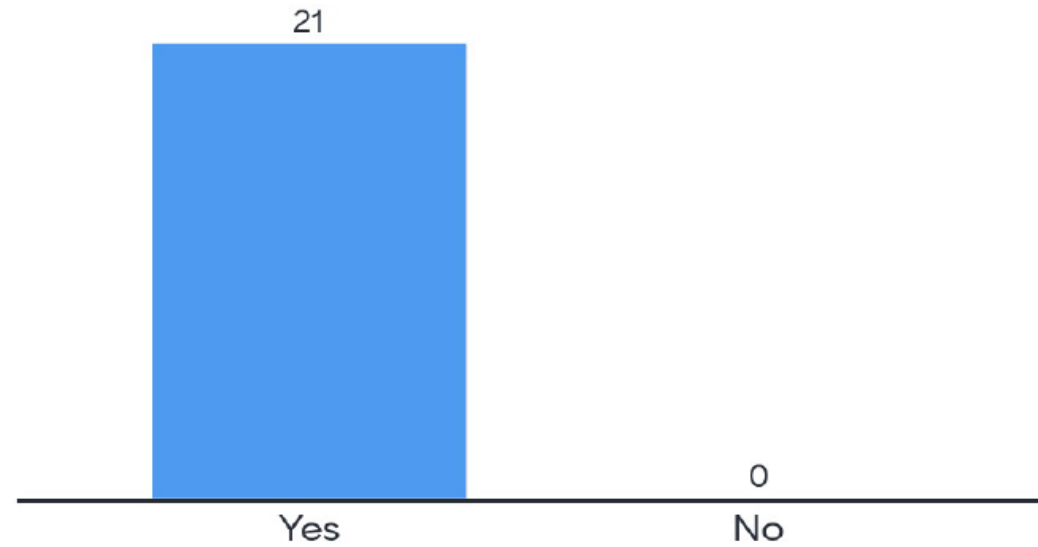
## Supporting Training and Education

- F1/F2 PBM education starting autumn 2023
- Explore IV iron administration training for appropriate staff
- Develop standardised resources for HC staff and patients



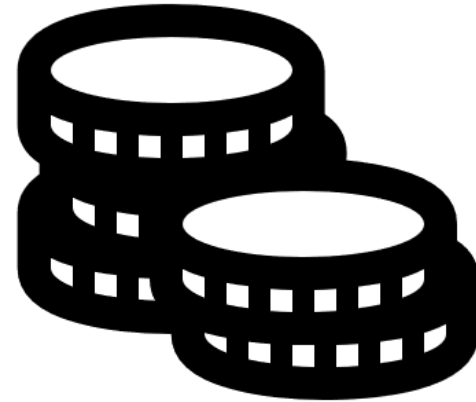


# Are you happy to use standardised resources?



# Funding Opportunity

- Recurrent funding for HB available
- HB individualised report pending issue
- Business Case required – evidence value added
- Submit mid July
- Funds available Sept



# Thank you for attending and for all your engagement



**BHNOG Anaemia Page**

If you would like more information please check out the BHNOG anaemia page using QR code above or contact the perioperative anaemia team at: [WBS.BloodHealthTeam@wales.nhs.uk](mailto:WBS.BloodHealthTeam@wales.nhs.uk)