

# PBM during a pandemic

## Royal Cornwall Hospitals NHS Trust

Changes & challenges to our activity

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Thank  
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	1st Pillar Optimize erythropoiesis	2nd Pillar Minimize blood loss & bleeding	3rd Pillar Harness & optimize physiological reserve of anemia
Preoperative	<ul style="list-style-type: none"> <li>• Detect anemia</li> <li>• Identify underlying disorder(s) causing anemia</li> <li>• Manage disorder(s)</li> <li>• Refer for further evaluation if necessary</li> <li>• Treat suboptimal iron stores/iron deficiency/anemia of chronic disease/iron-restricted erythropoiesis</li> <li>• Treat other hematinic deficiencies</li> <li>• Note: Anemia is a contraindication for elective surgery</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and manage bleeding risk</li> <li>• Minimizing iatrogenic blood loss</li> <li>• Procedural rehearsal</li> <li>• Preoperative autologous blood donation (in some cases or when patient choice)</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Assess/optimize patient's physiological reserve and risk factors</li> <li>• Compare estimated blood loss with patient's physiological blood loss</li> <li>• Formulate a specific management plan using appropriate blood conservation modalities to minimize blood loss, optimize red cell mass, and manage anemia</li> <li>• Restrictive transfusion thresholds</li> </ul>
Intraoperative	<ul style="list-style-type: none"> <li>• Timing of transfusion</li> <li>• Hematological optimization</li> </ul>	<ul style="list-style-type: none"> <li>• Meticulous hemostasis and surgical techniques</li> <li>• Blood-sparing surgical techniques</li> <li>• Anesthetic blood conserving strategies</li> <li>• Autologous blood options</li> <li>• Pharmacological/hemostatic agents</li> </ul>	<ul style="list-style-type: none"> <li>• Optimize physiological reserve</li> <li>• Optimize venous oxygenation</li> <li>• Restrictive transfusion thresholds</li> </ul>
Postoperative	<ul style="list-style-type: none"> <li>• Stimulate erythropoiesis</li> <li>• Be aware of drug interactions that can increase bleeding risk</li> </ul>	<ul style="list-style-type: none"> <li>• Vigilant management of post-operative bleeding</li> <li>• Avoid secondary hemorrhage</li> <li>• Rapid warming to maintain normothermia to prevent hypothermia</li> <li>• Autologous blood salvage</li> <li>• Minimizing iatrogenic blood loss</li> <li>• Hemostatic management</li> <li>• Prophylaxis of upper gastrointestinal hemorrhage</li> <li>• Avoid/treat infections promptly</li> <li>• Be aware of adverse effects of medication</li> </ul>	<ul style="list-style-type: none"> <li>• Optimize anaerobic reserve</li> <li>• Maximize oxygenation</li> <li>• Minimize oxygen consumption</li> <li>• Avoid/treat infections promptly</li> <li>• Restrictive transfusion thresholds</li> </ul>

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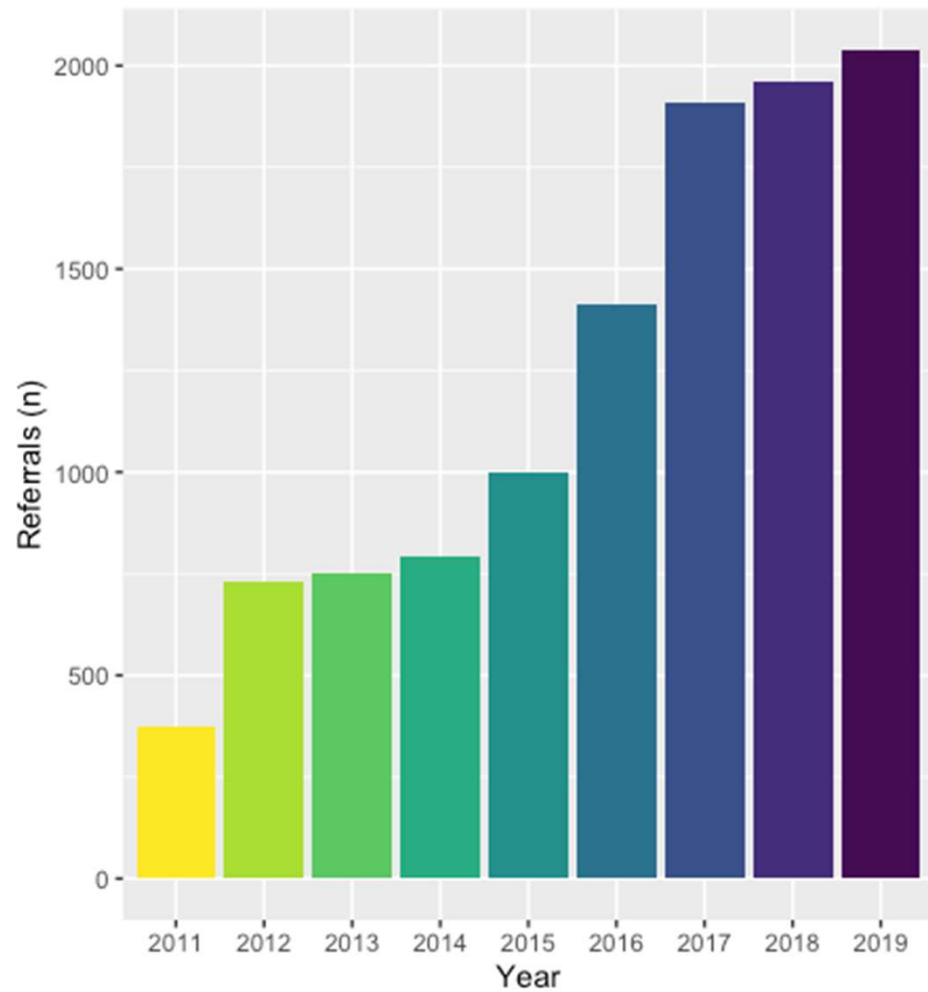
# Overview

Review of “normal” pre-op activity

How has it changed?

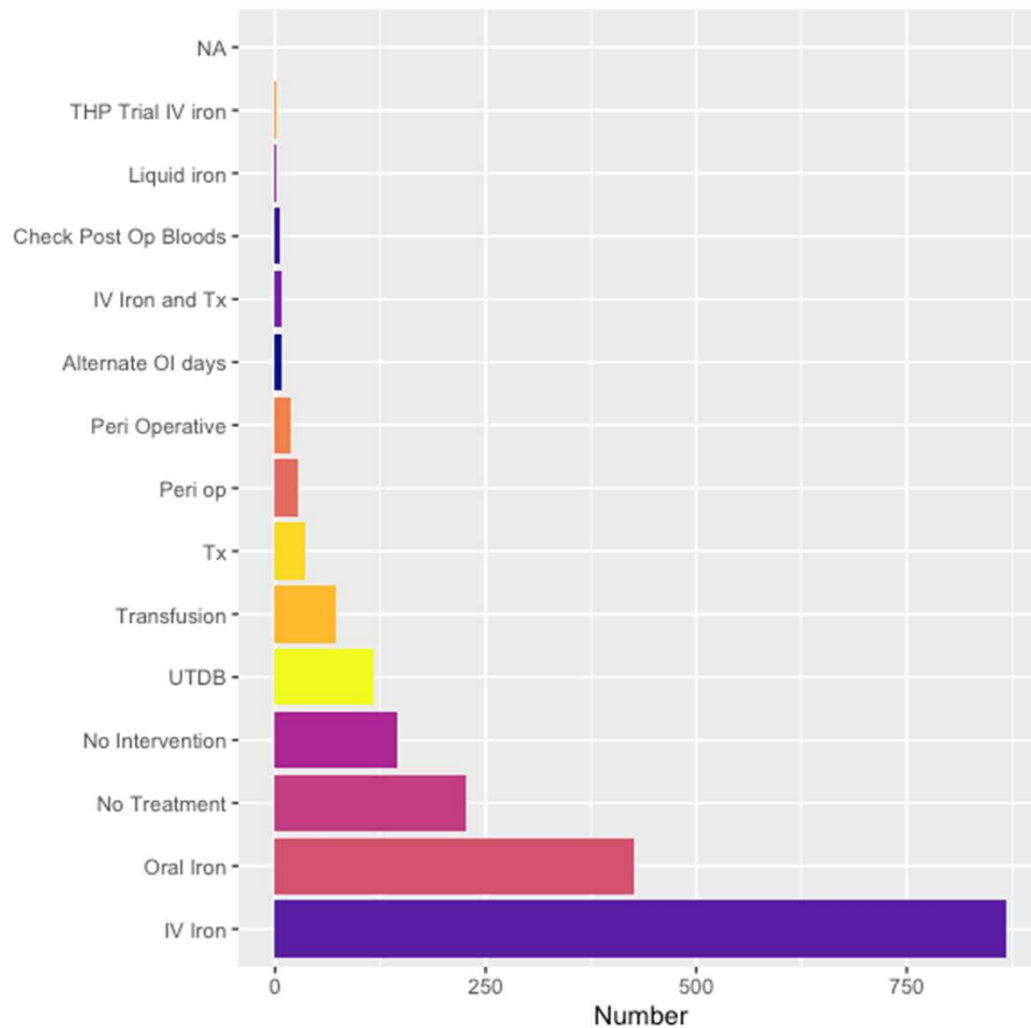
Challenges

Theatre Activity & Cell Salvage



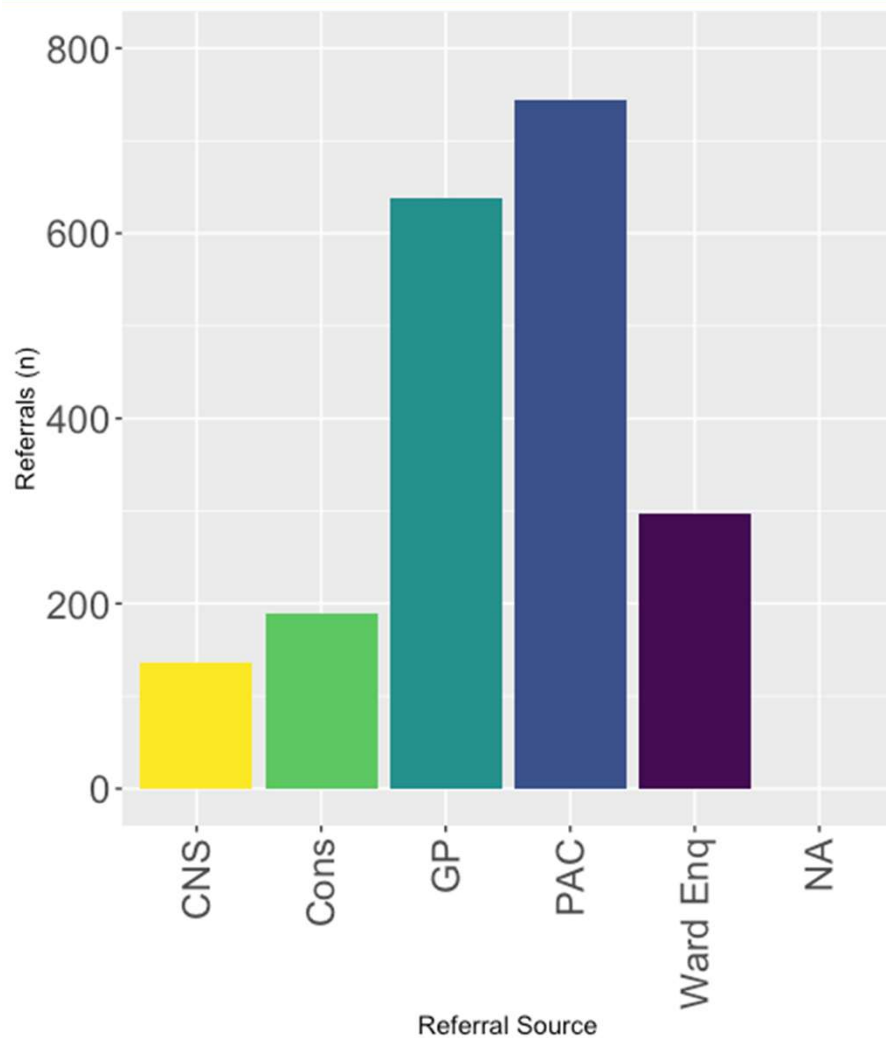
## “Normal” PBM @ RCHT 2019

- 2038 referrals



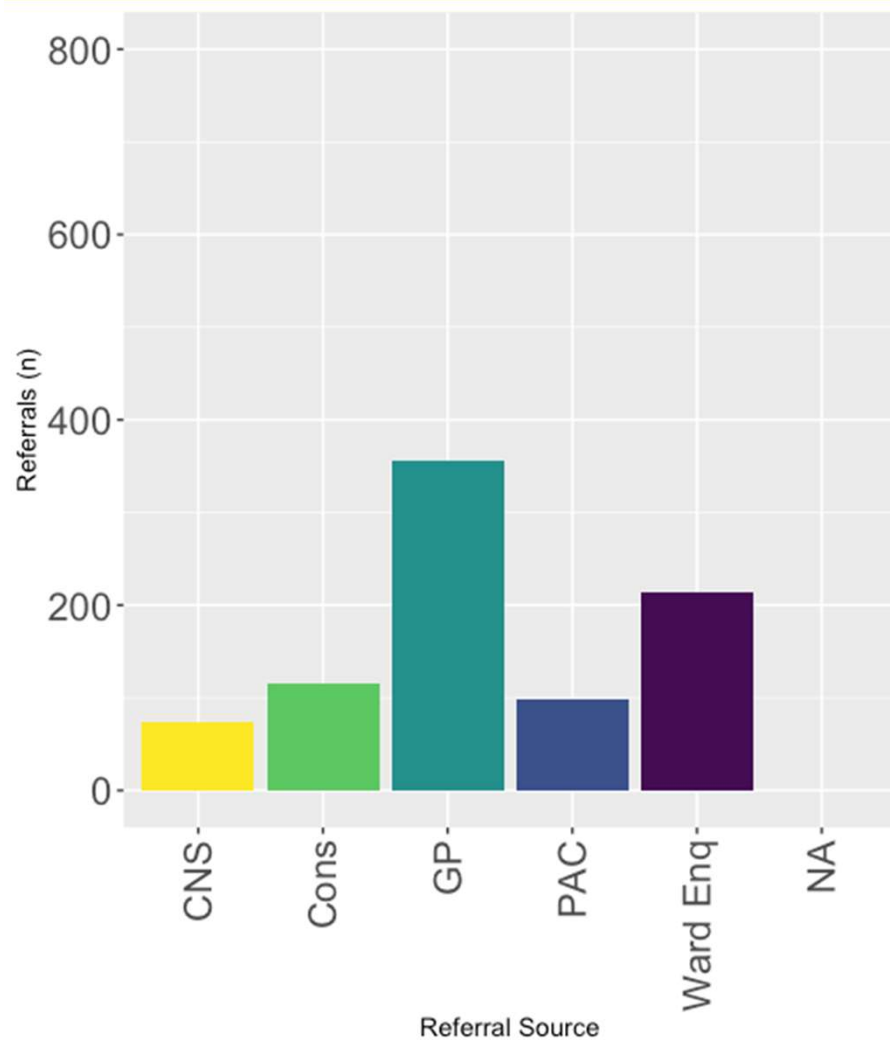
## “Normal” PBM @ RCHT 2019

- 2038 referrals
- IV Iron: approx 900 administrations



## “Normal” PBM @ RCHT 2019

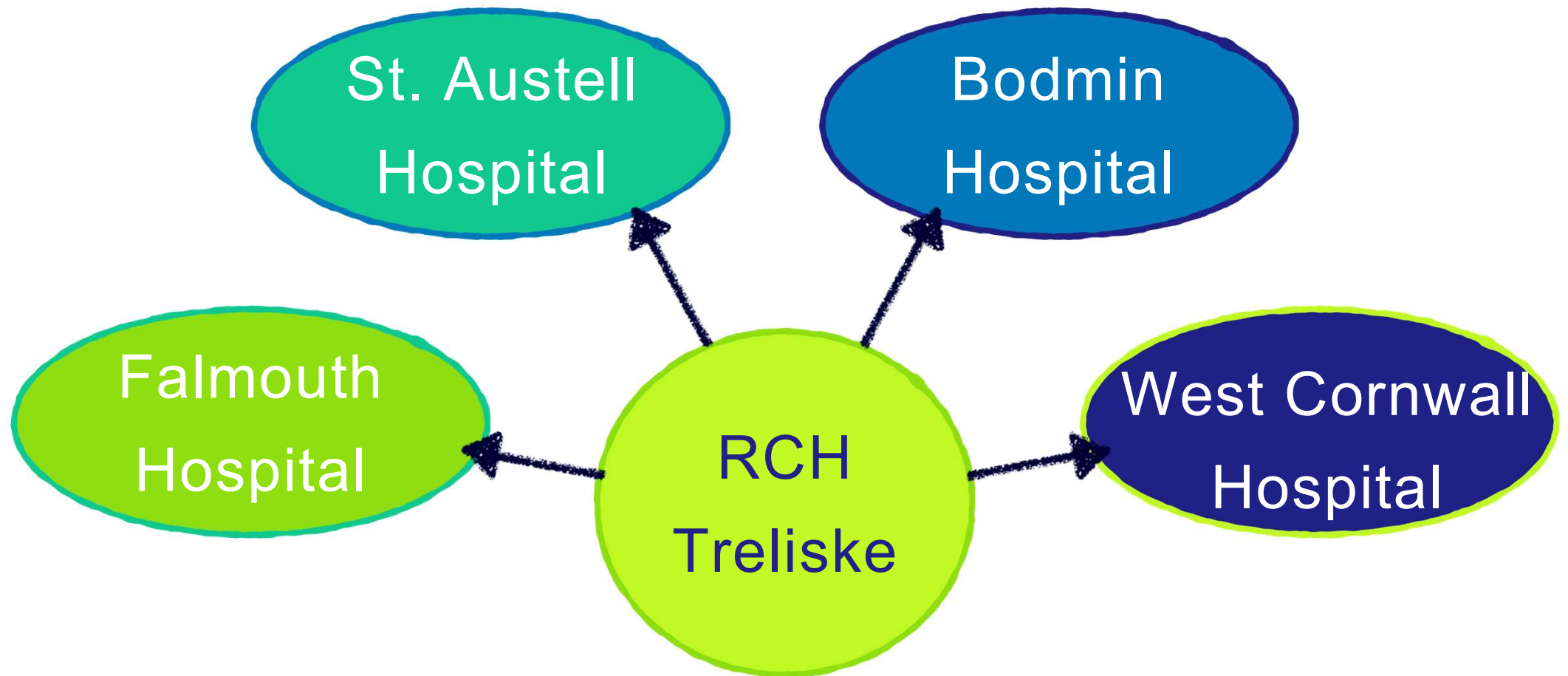
- 2038 referrals
- IV Iron: approx 900 administrations
- PAC: 37% of referrals



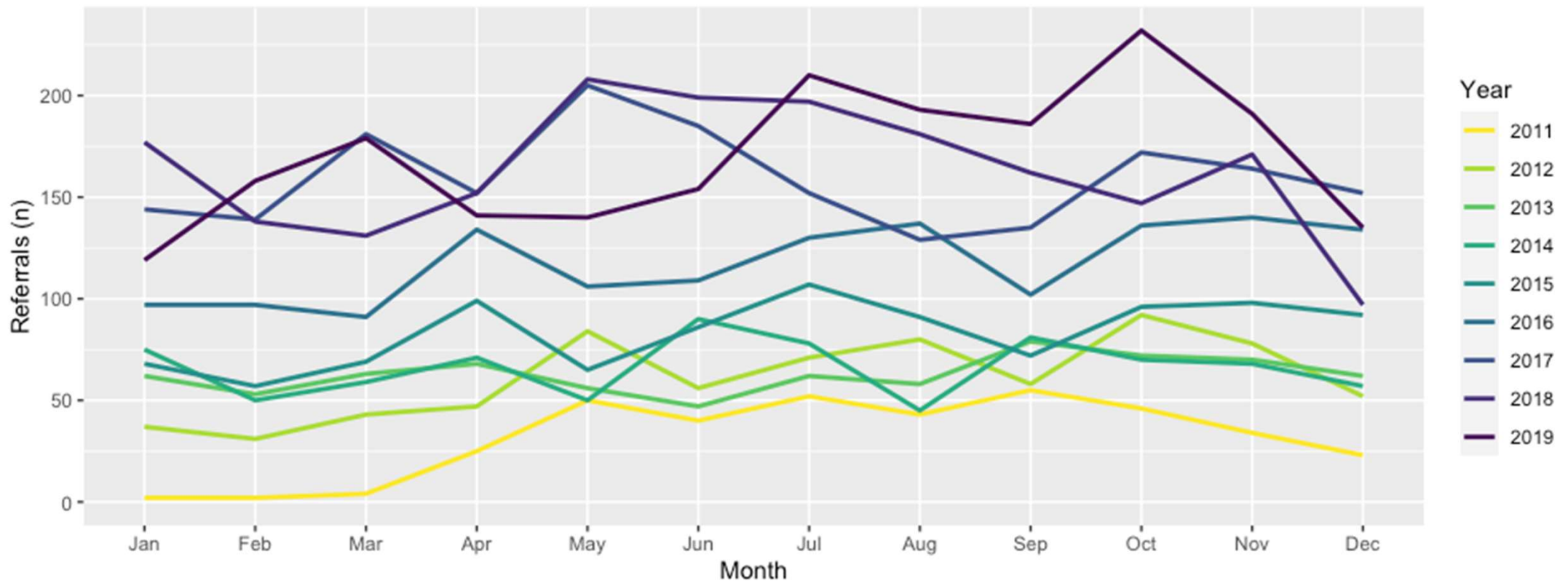
## “Normal” PBM @ RCHT 2019

- 2038 referrals
- IV Iron: approx 900 administrations
- PAC: 37% of referrals
  - 10% of IV iron administrations





# Monthly PBM Referrals 2011-2019



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# Overview

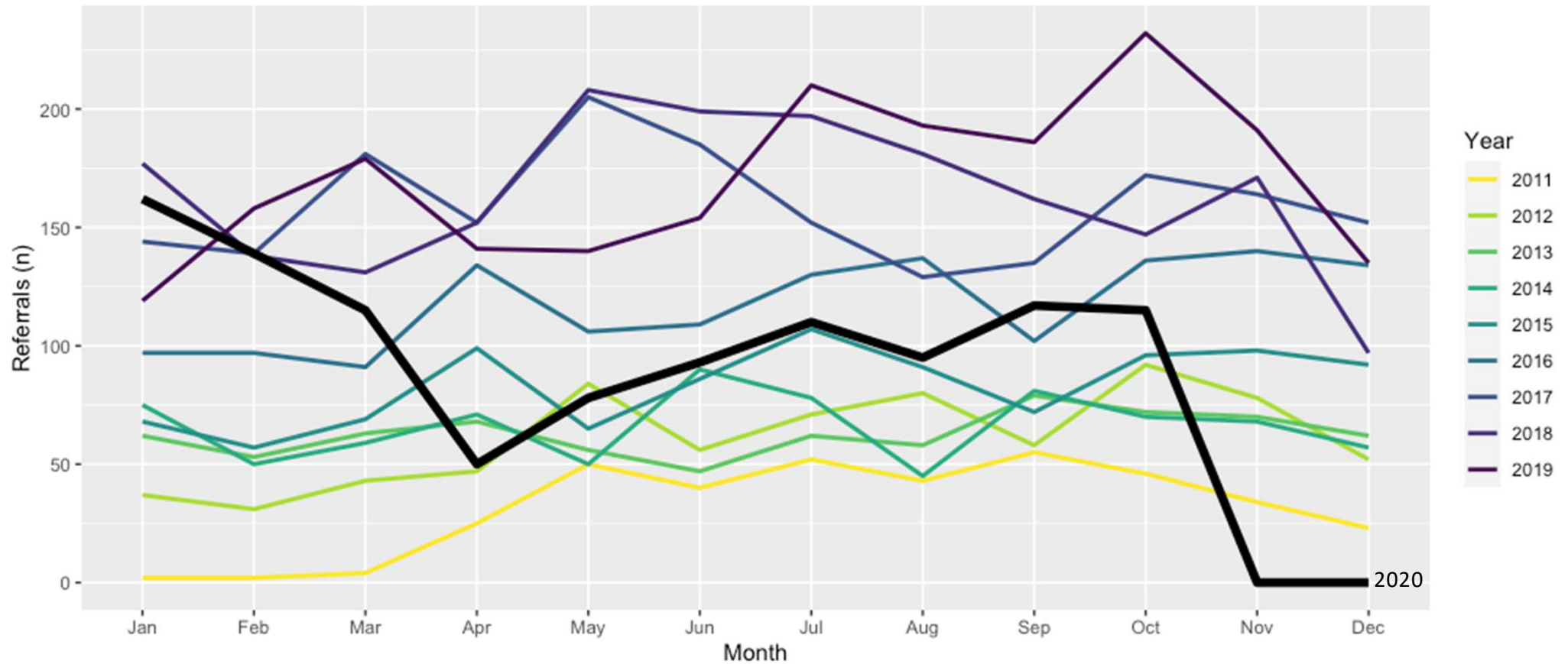
Review of “normal” pre-op activity

How has it changed?

Challenges

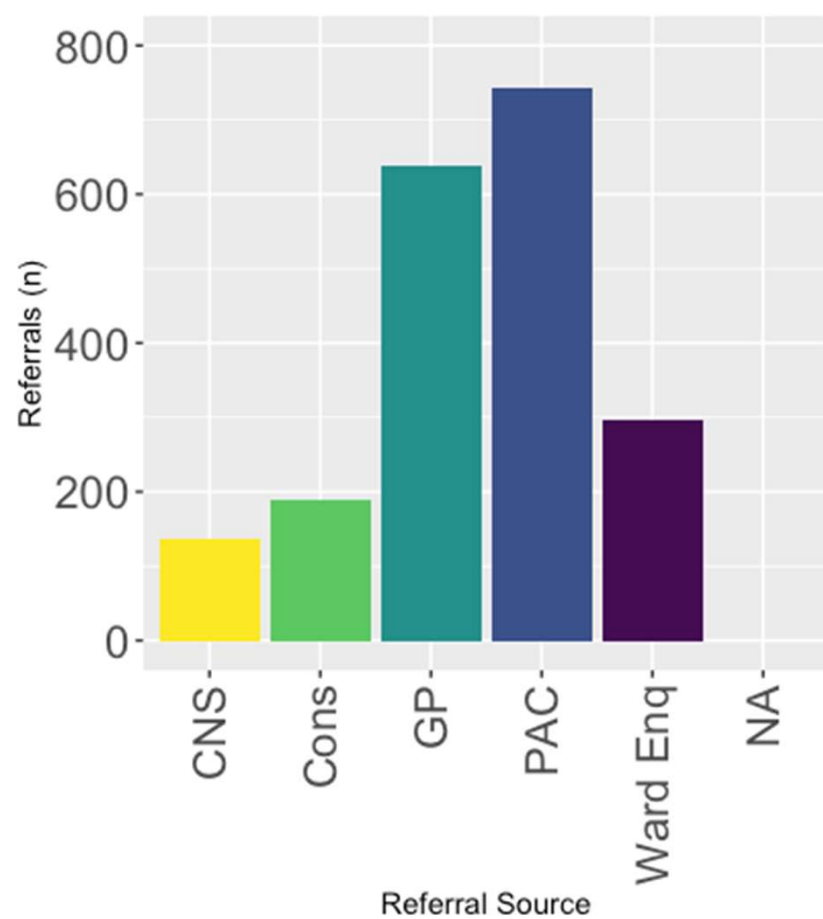
Theatre Activity & Cell Salvage

# Monthly PBM Referrals 2011 - 2020

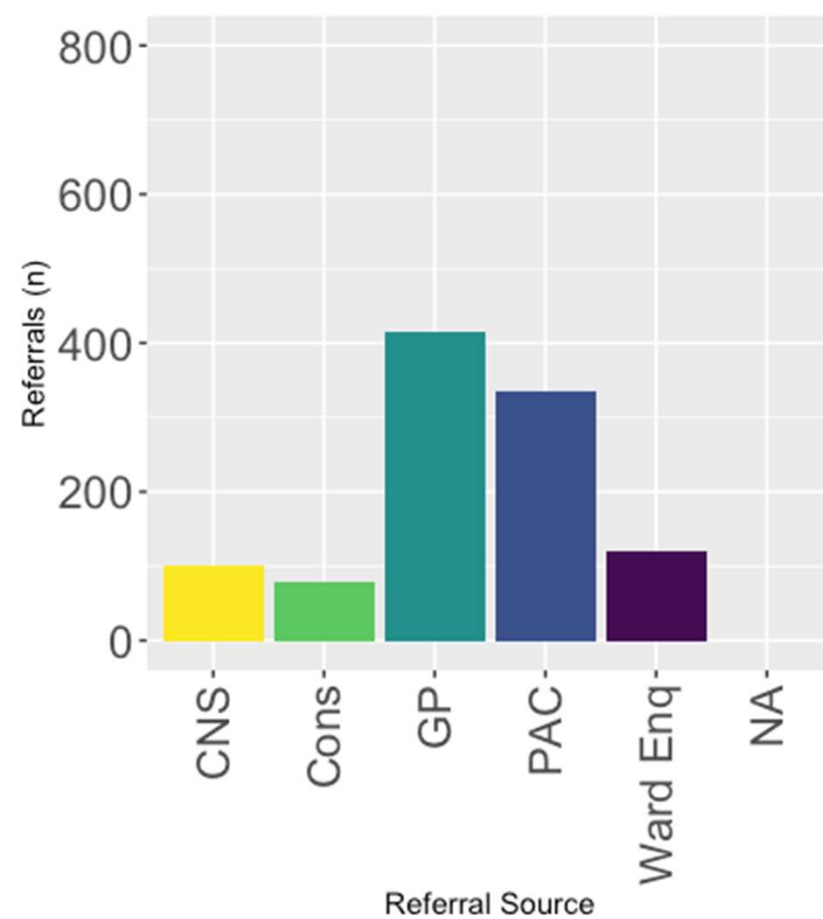


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### 2019 Referrals



### 2020 Referrals



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## 2019 PBM @ RCHT (Jan - Dec)

- 2038 referrals
- IV Iron: approx 900 administrations (44%)
- PAC: 37% of referrals
  - 10% of IV iron administrations

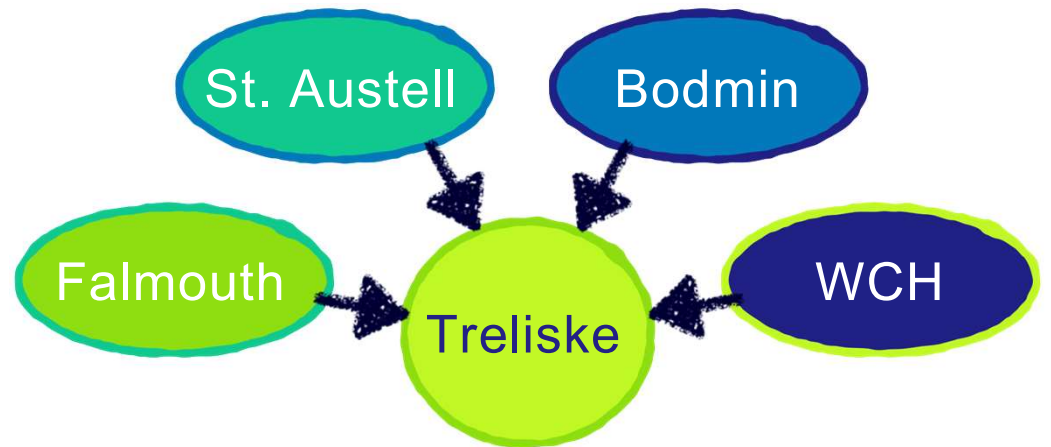
## 2020 PBM @ RCHT (Jan - Oct)

- 1074 Referrals
  - IV Iron: Approx 430 administrations (40%)
  - PAC: 50% reduction
  - GP: 35% reduction
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# Challenges

- Patients not wanting to come in
- GP bloods difficult to organise
- Reduced capacity in peripheral hospitals



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# Challenges

- Social Distancing
  - Green areas
  - Screening patients
  - Staffing & premises
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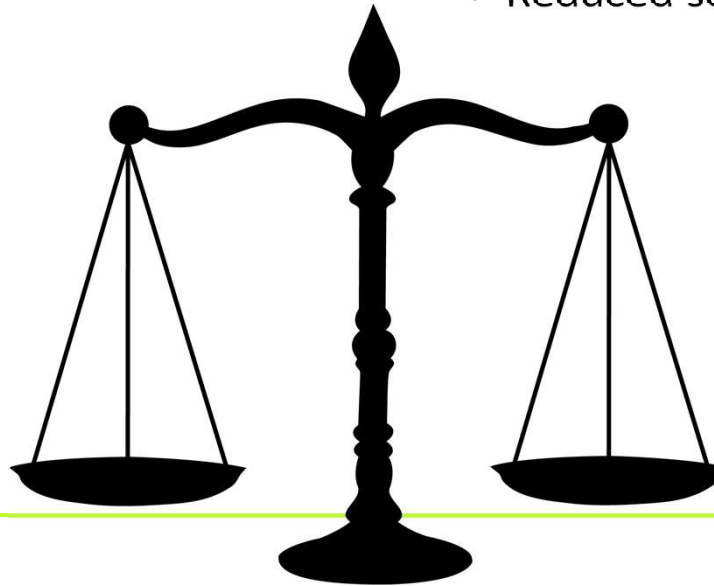
# Challenges to PBM @ RCHT

## Reducing workload

- Reduced referrals (GP > PAC)
- Reduced pre-op interval
- GP phlebotomy
- Patient enthusiasm

## Increasing workload

- Peripheral hospital capacity
- Strict green areas
- Reduced service (3 days)



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# Intraoperative Cell Salvage @ RCHT

Review of “normal” activity

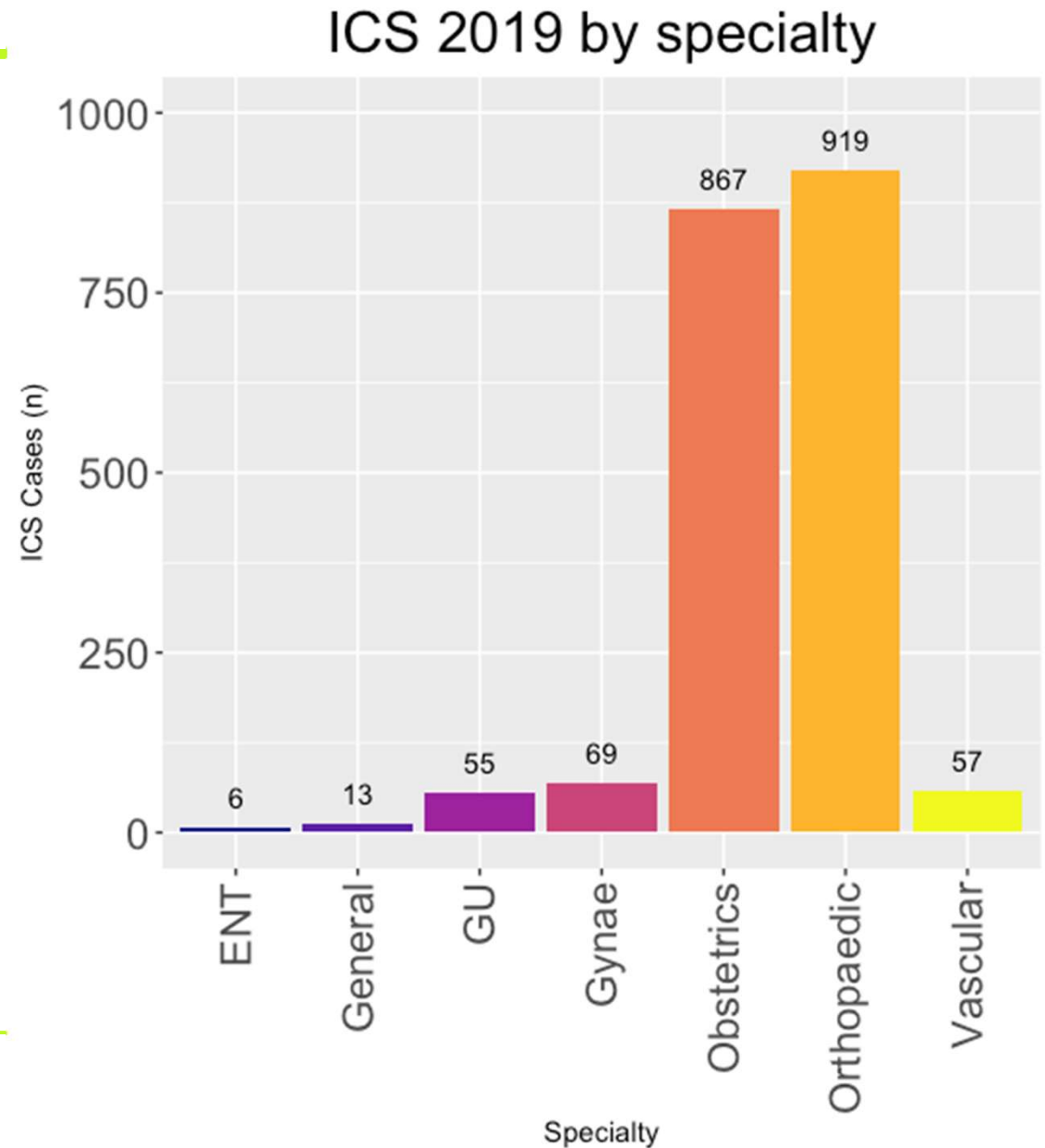
How has it changed?

Challenges

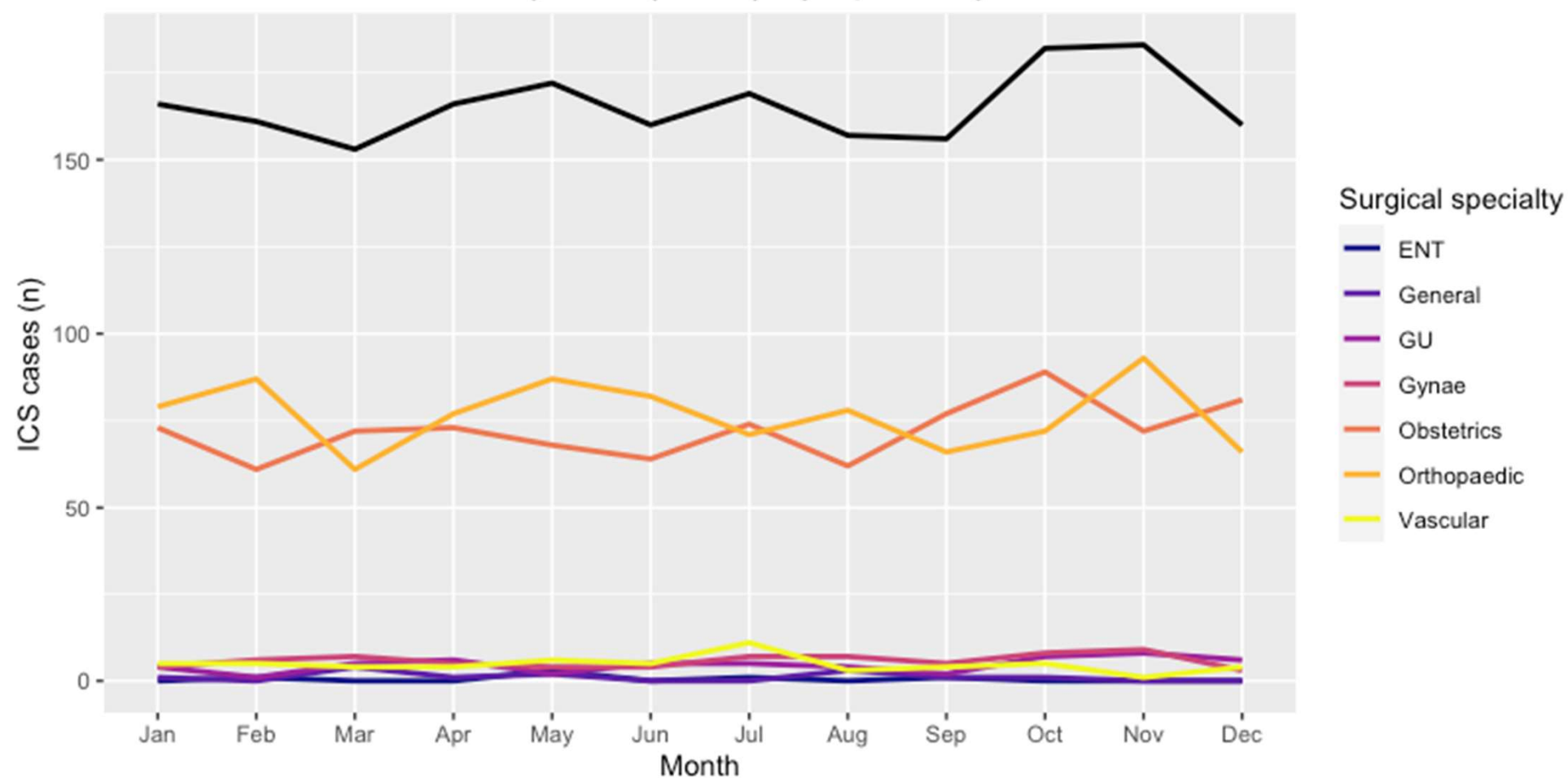
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## “Normal” ICS @ RCHT 2019 data

- Elective & Emergency
- 24 hour service
- 1968 uses
  - 50% processed (n=988)
  - 40% re-infusion rate (n=796)
  - Range: 50ml - 5917ml



Monthly ICS (2019) by specialty



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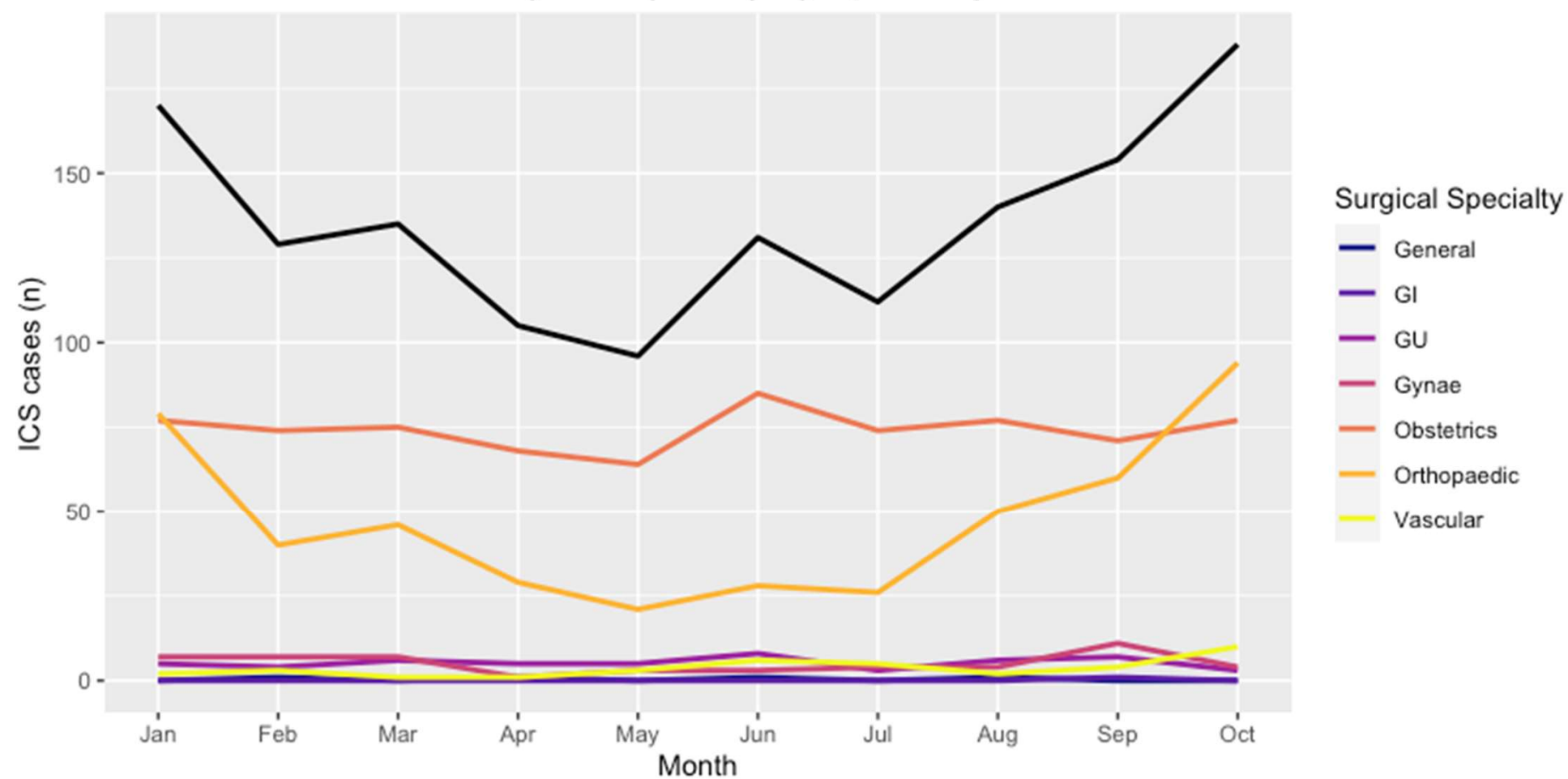
# Intraoperative Cell Salvage @ RCHT

Review of “normal” activity

How has it changed?

Challenges

Monthly ICS (2020) by specialty



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# Challenges to ICS provision @ RCHT

## Increasing workload

- ↓ Staff:
  - Re-deployment
  - Shielding
  - Agency
- Trauma re-location
- Training
  - ↓ Opportunities
  - PPE & communication

## Decreasing workload

- ↓ elective surgery



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# PBM @ RCHT: 2020

- ↓ Caseload
  - ↑ Challenges
  - Balanced overall
  - Excellent team
  - Looking forward to “normal” service
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Thank  
you

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