



Patient-Reported Outcomes

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Project Sponsors: James Sanders & Matthew Nielsen

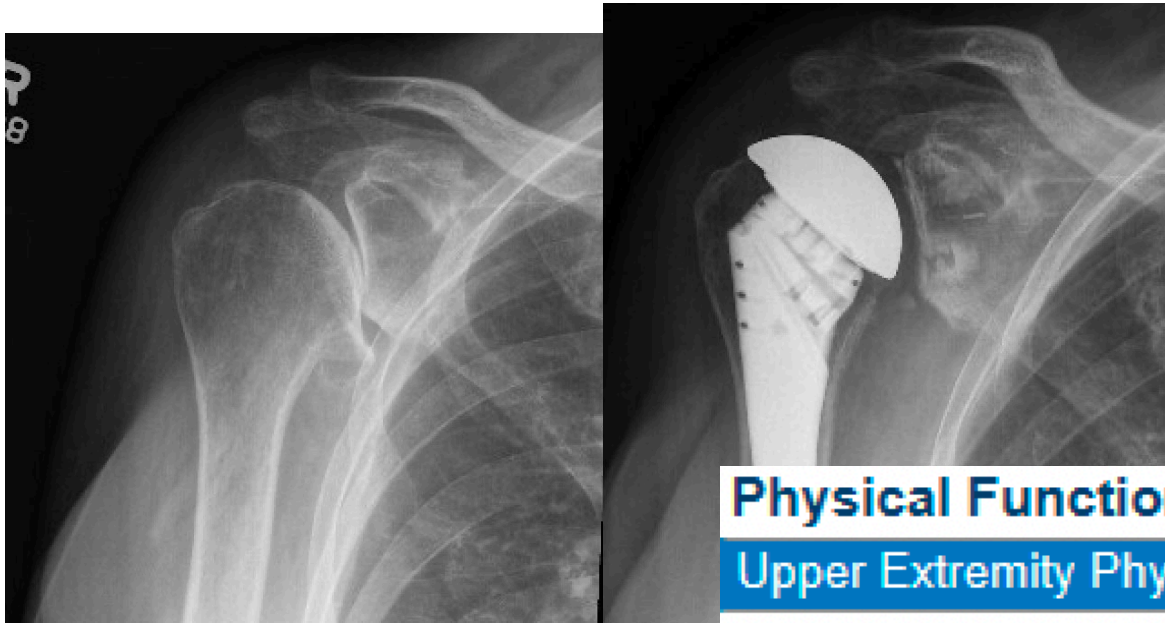
IHQI Support: Kelly Reilly, Cristina Collins, Shana Ratner



UNC
INSTITUTE FOR HEALTHCARE
QUALITY IMPROVEMENT

Patient Story: PROs can identify when care may *NOT* be necessary...

Trudi underwent shoulder replacement



At four months postop, her motion was poor

Active forward elevation 110
external rotation 30

Consideration of secondary procedures to improve function / range of motion

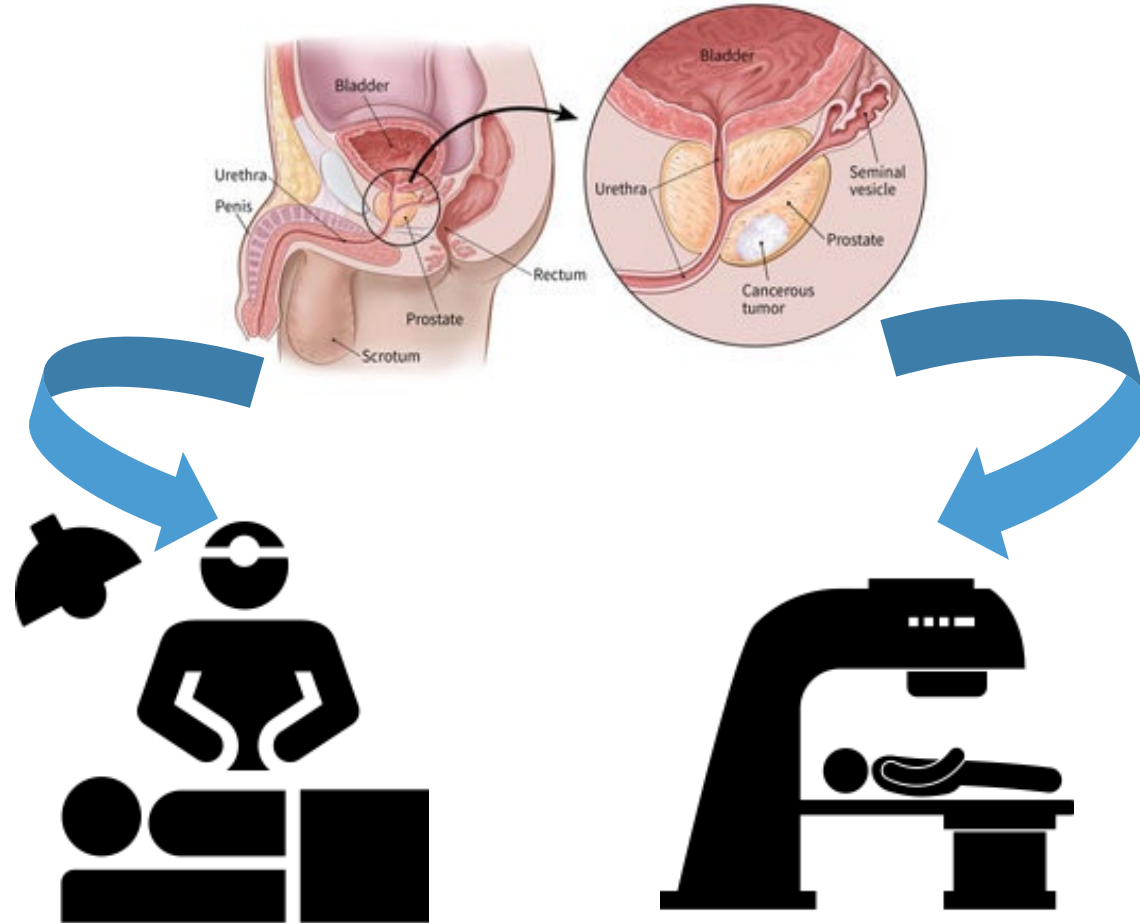
Physical Function

Upper Extremity Physical Function CAT Score	34
Lower Extremity Physical Function CAT Score	

Pain Interference

Pain Interference CAT Score	8
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...and PROs can identify opportunities to DELIVER care.



Expanded Prostate Cancer Index Composite (Epic-CP) Results This Visit

Score > 4 is clinically meaningful

Urinary Incontinence : 0
(08/24/22) out of 12

Urinary Irritation/Obstructive : 1
(08/24/22) out of 12

Bowel: 0
(08/24/22) out of 12

Sexual Function : 11
(08/24/22) out of 12

Vitality/Hormonal: 6
(08/24/22) out of 12

Overall Prostate Cancer QOL : 16
(08/24/22) out of 60

Change in last 2 scores
(Positive number = worsening symptoms)

Domain	Change in Score	Change is significant if INCREASE is ≥ 1
Incontinence	2	
Irritation/Obstructive	0	
Bowel	0	
Sexual	4	
Vitality/Hormonal	5	

Expanded Prostate Cancer Index Composite (Epic-CP) Results This Visit

Score > 4 is clinically meaningful

Urinary Incontinence : 0
(11/04/22) out of 12

Urinary Irritation/Obstructive : 1
(11/04/22) out of 12

Bowel: 0
(11/04/22) out of 12

Sexual Function : 4
(11/04/22) out of 12

Vitality/Hormonal: 1
(11/04/22) out of 12

Overall Prostate Cancer QOL : 16
(11/04/22) out of 60

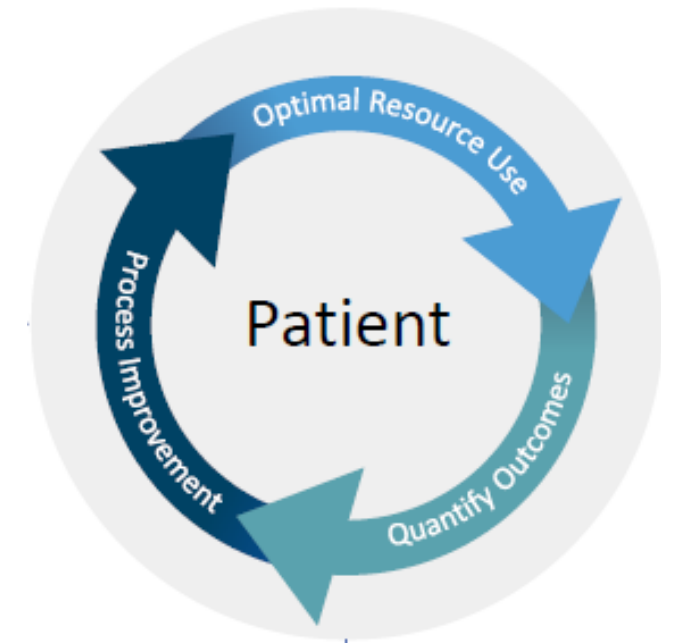
Change in last 2 scores
(Positive number = worsening symptoms)

Domain	Change in Score	Change is significant if INCREASE is ≥ 1
Incontinence	0	
Irritation/Obstructive	0	
Bowel	0	
Sexual	-3	
Vitality/Hormonal	-1	

Importance

Why does this project matter?

- Identify issues *that matter to patients*
- Shared decision-making *in real time*
- Quantify healthcare outcomes (value add)
- UNC lacks broad-based usage
- Health equity
 - Bridge / limit communication gaps





Target Population

- **Urology**

- Patients with bladder or prostate cancer who are followed after treatment to address survivorship concerns such as urinary, bowel, and sexual side effects

- **Orthopedics**

- Patients with musculoskeletal injuries who are followed for domains of physical function



Leverage Competencies / Gaps!





Measures

How will we know a change is an improvement?

Outcome Measure: The percentage of patients who report their outcomes before or during a clinic visit will increase from x^* - 80% by September 30, 2023.

* = baseline percentage for patients with bladder or prostate cancer diagnosis: 39%
baseline percentage for orthopaedic patients with musculoskeletal injuries: 0%

Equity Measures:

Stratify the outcome measure by race, language, and age

Process: Percent of completed PROs that indicate provider reviewed PRO

Balancing: Clinic staff satisfaction with implementation of PROs



Drivers and PDSAs

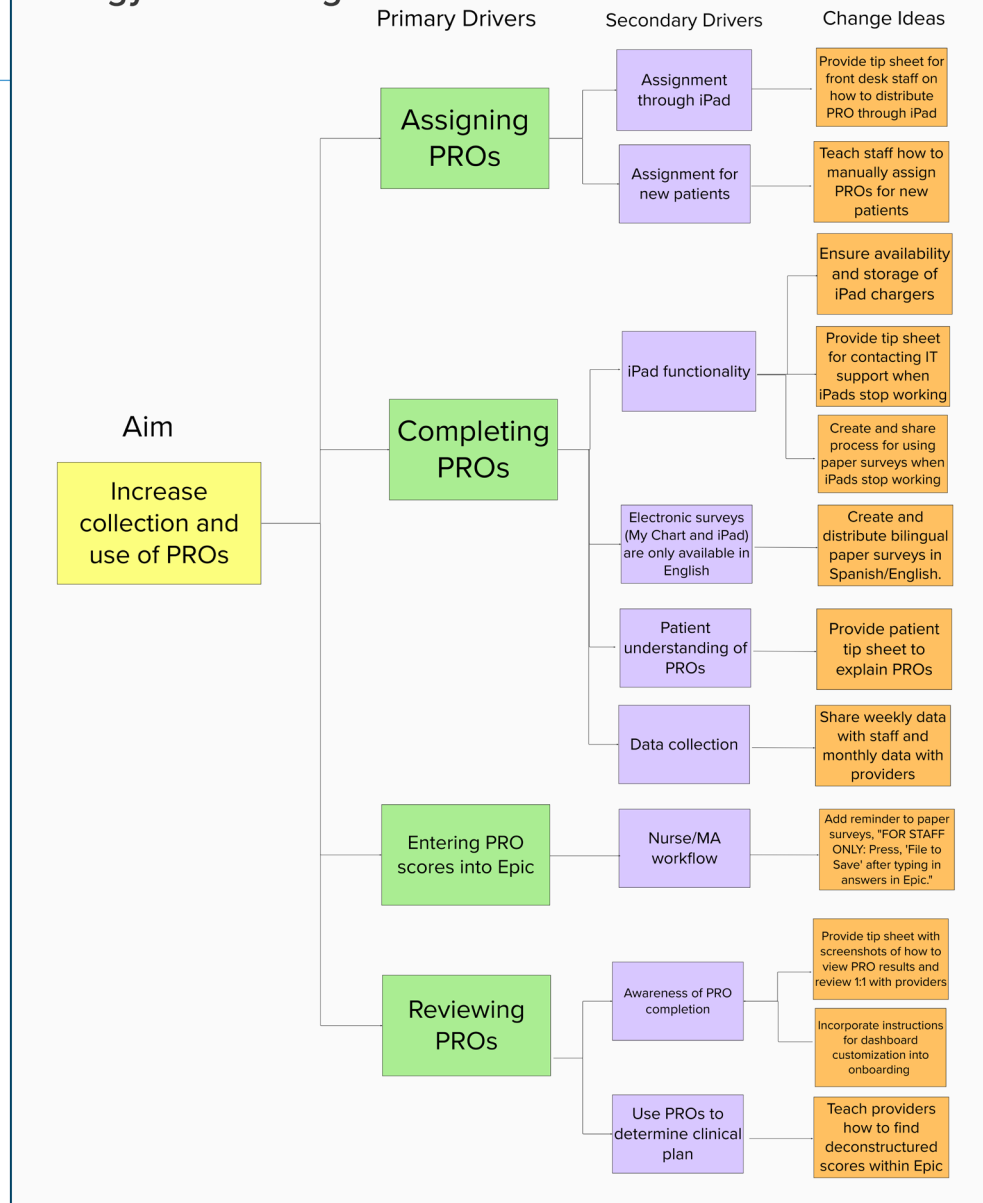
What changes can we make that will result in improvement?

Urology

- Lack of chargers for iPads
- Scheduling view
- Tip sheet/education
- Technologic issues with app updates
- Paper and bilingual versions available
- Teaching how to enter/view scores in Epic
- Sharing data with staff and providers

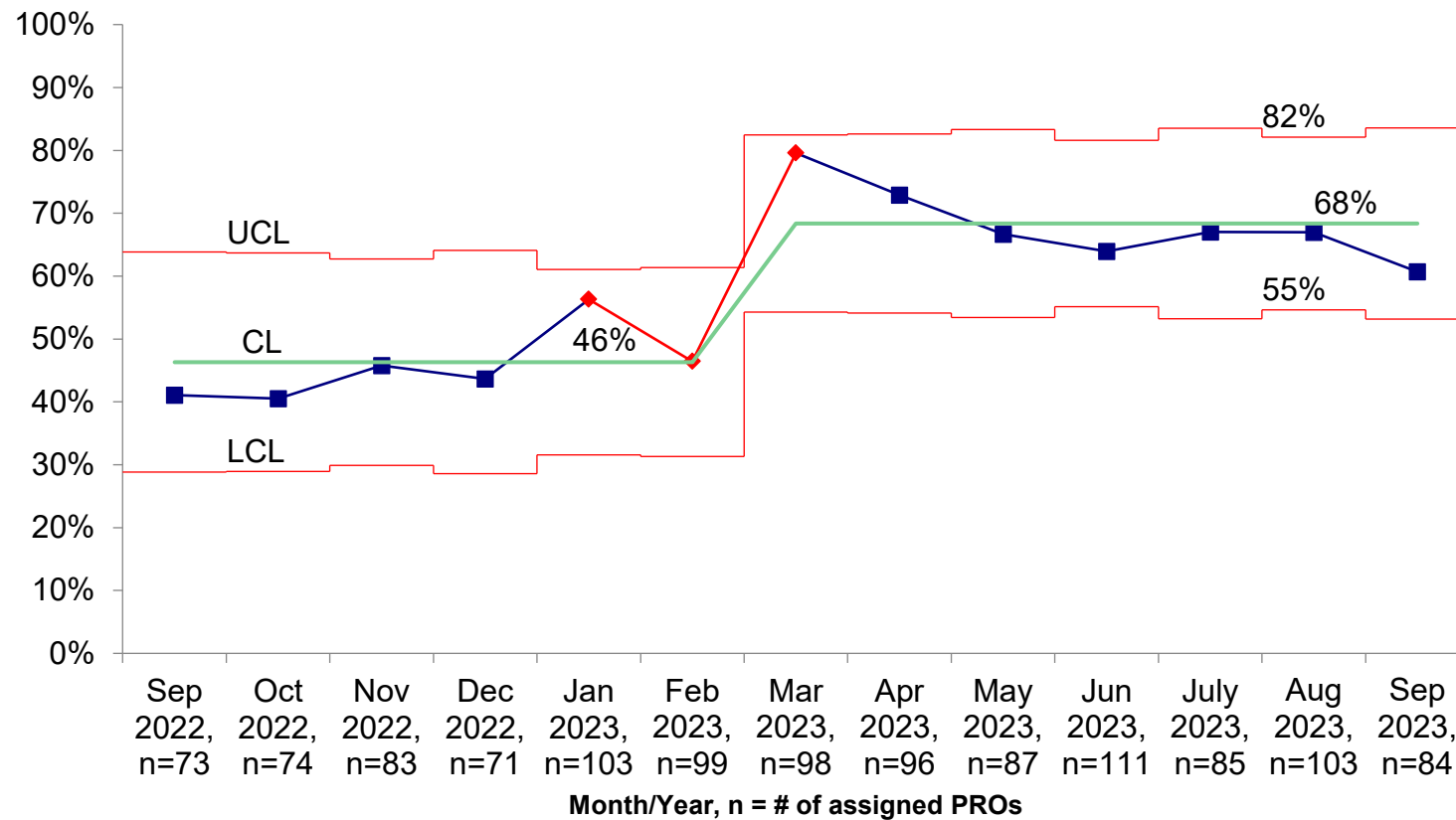


Urology Driver Diagram



Urology Data: Outcome Measure for Manning and MDC Clinics

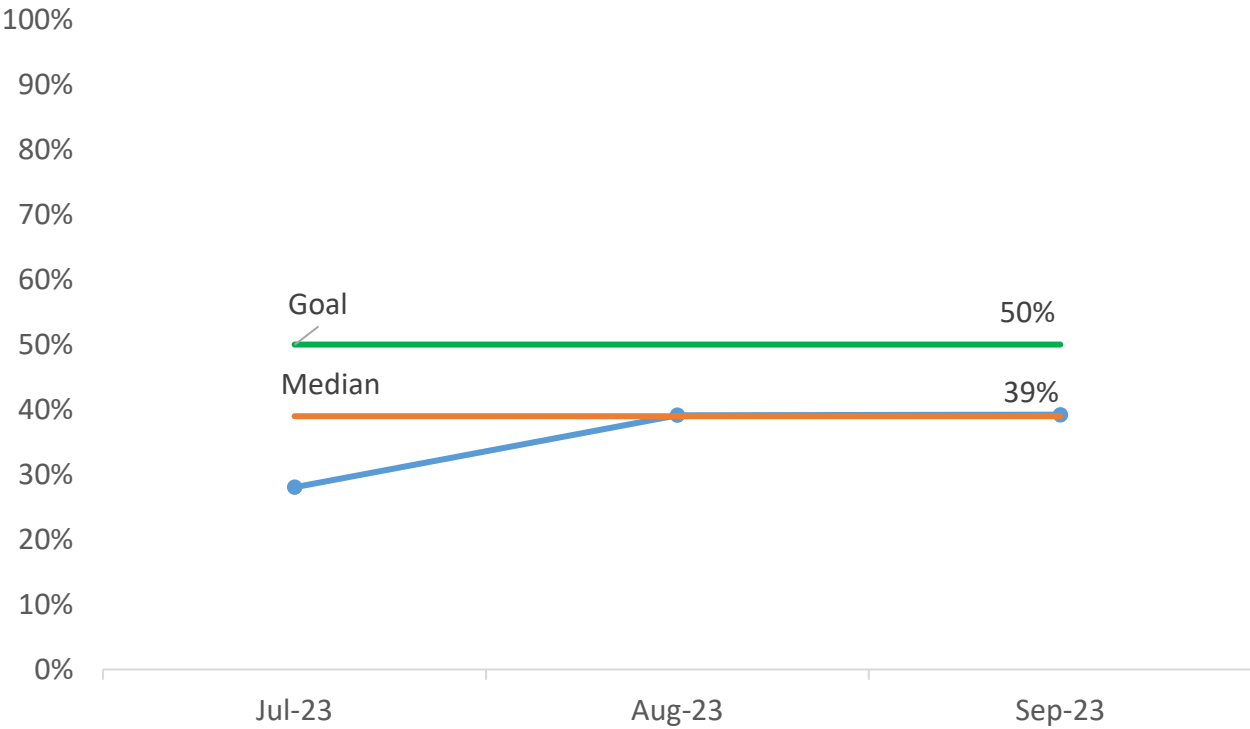
Percent of Patients with Bladder or Prostate Cancer Diagnosis Who Report Their Outcomes Before or During a Clinic Visit





Urology Data: Process Measure for Manning and MDC Clinics

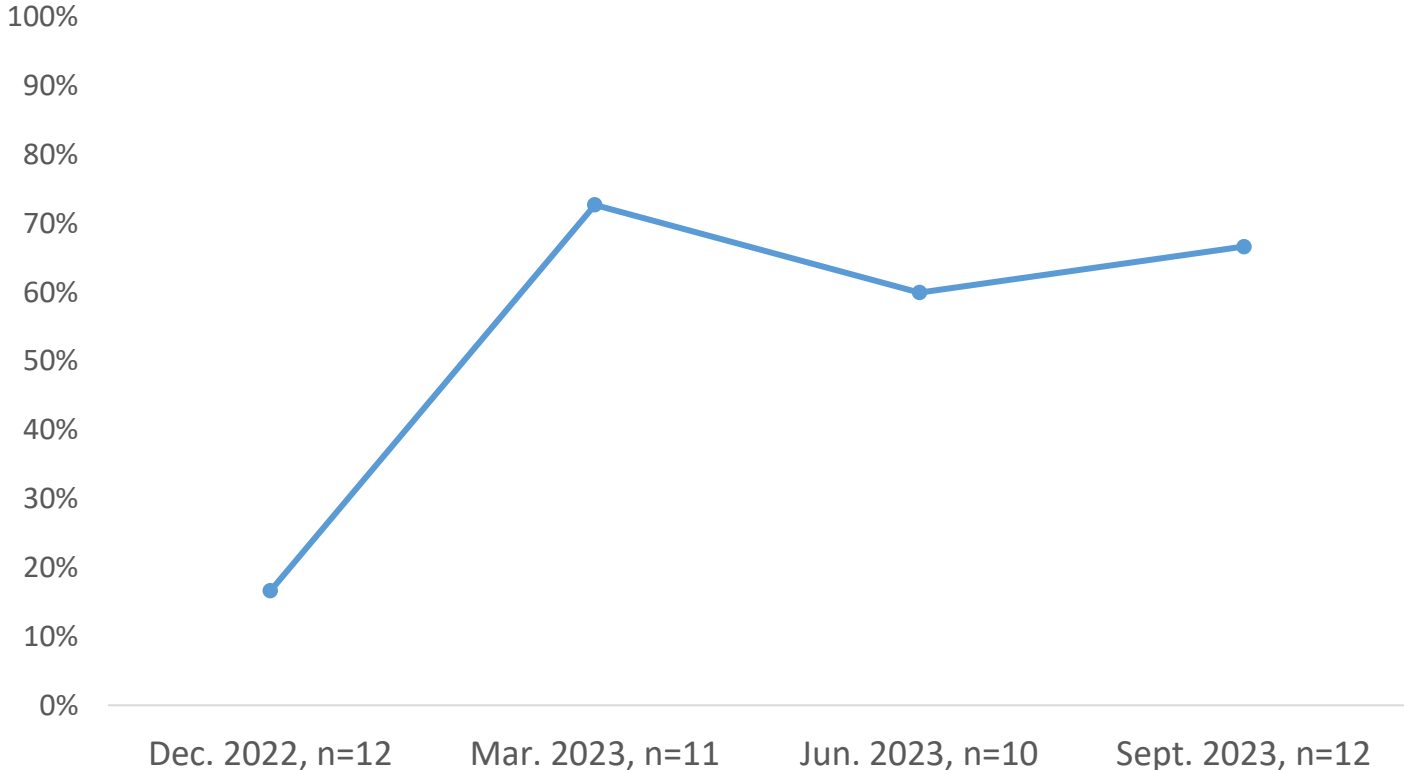
Percent of Completed PROs that Indicate Provider Reviewed PRO





Urology Data: Balancing Measure

Percent of Urology Staff Who Agree That PRO Questionnaire Completion is Efficiently Coordinated Between Team Members



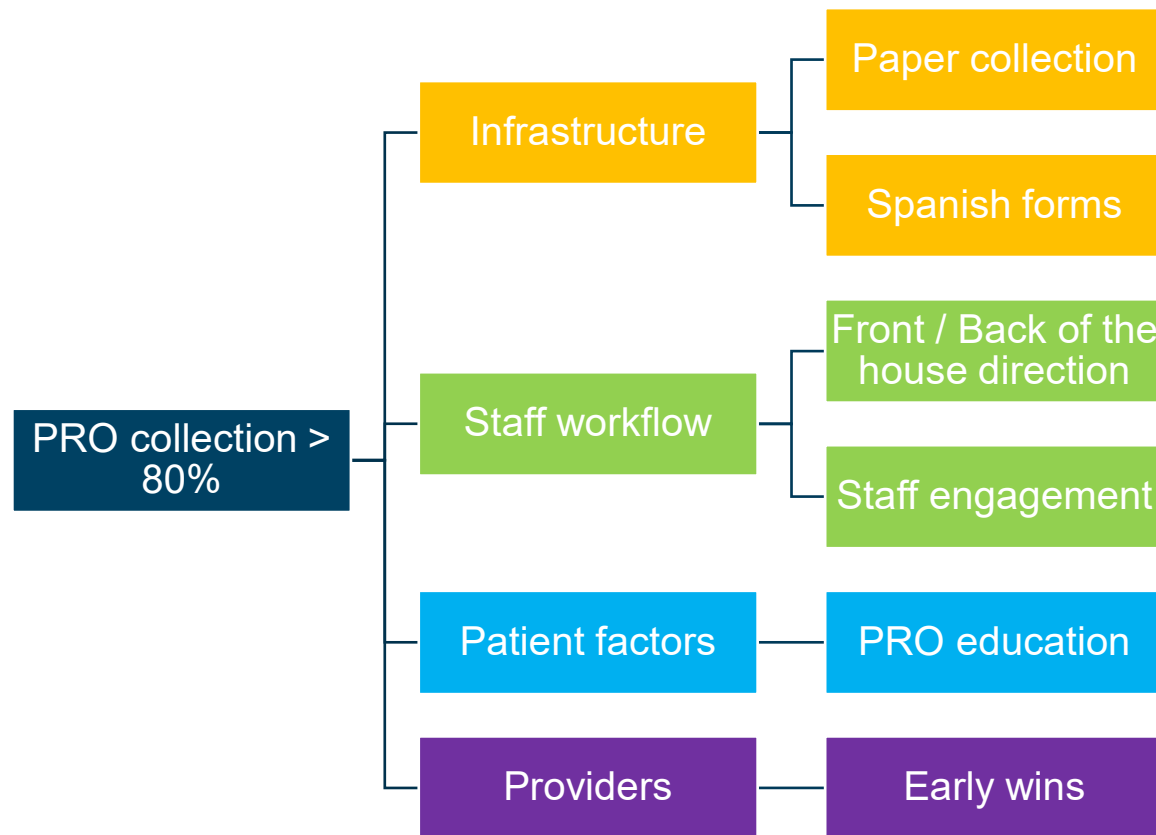


Drivers and PDSAs

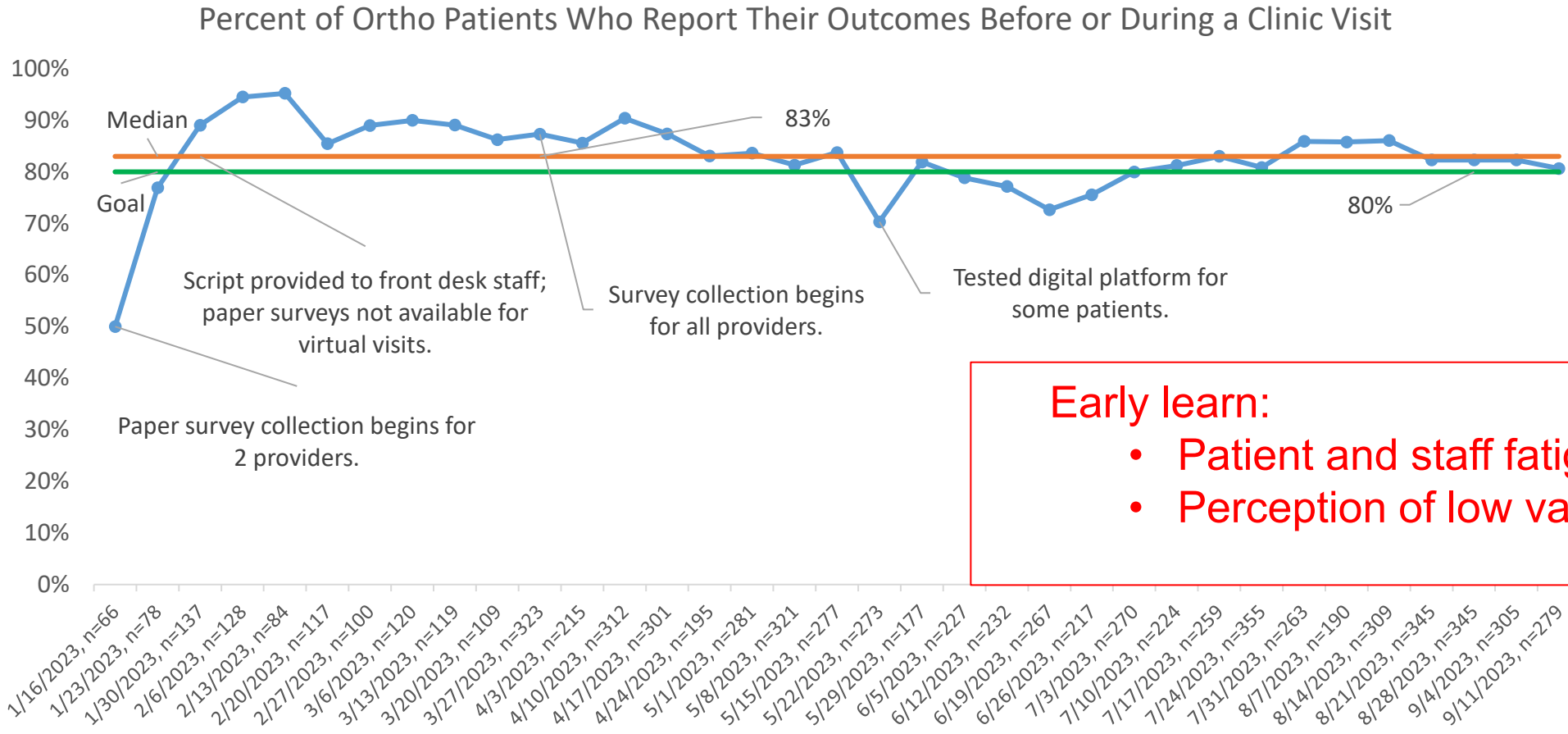
What changes can we make that will result in improvement?

Orthopedics

- Digital collection barriers
 - ISD / Compliance
- Early pivot to SF-PROMIS (PF and PIF)
- Patient and staff engagement
 - Continue closed loop feedback
- Provider engagement
- Spanish patient collection gap



Ortho Data: Outcome Measure



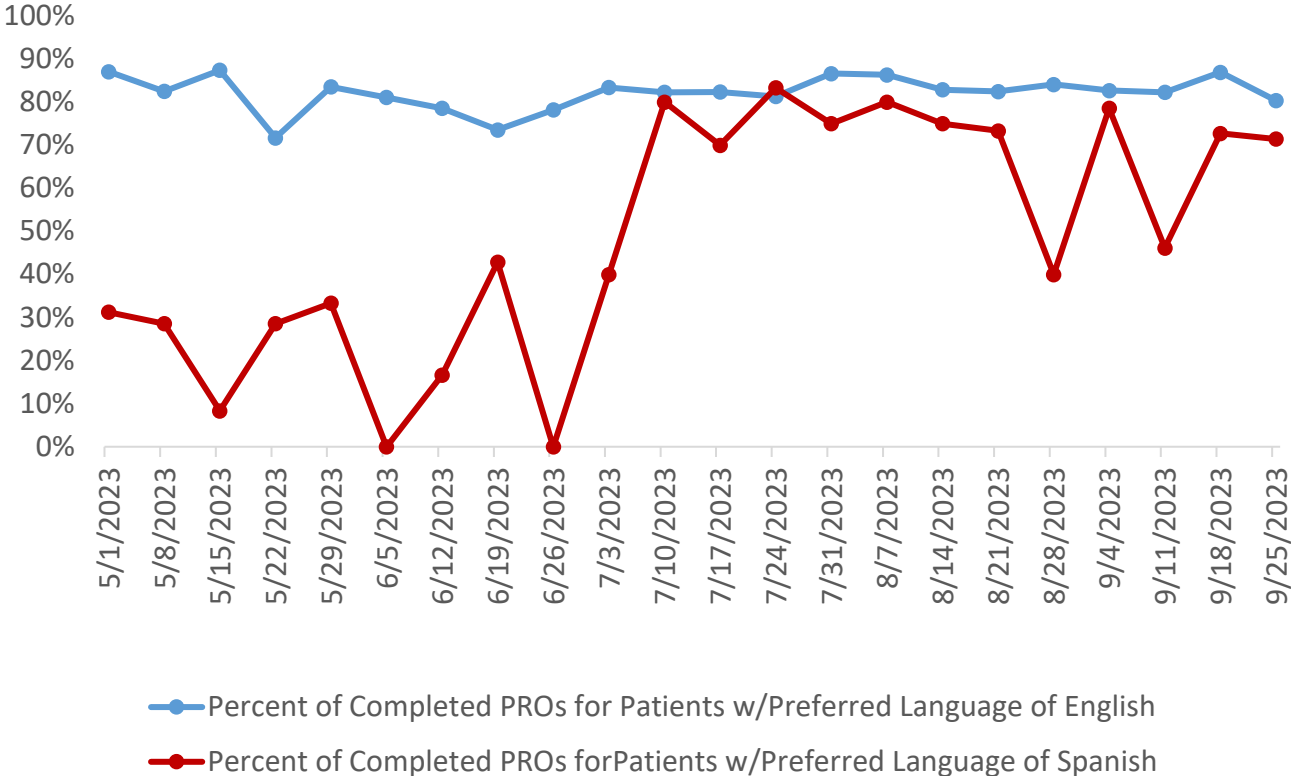
Early learn:

- Patient and staff fatigue
- Perception of low value



Ortho Data: Stratified Outcome Measure

Percent of Completed PROs Stratified by Preferred Language

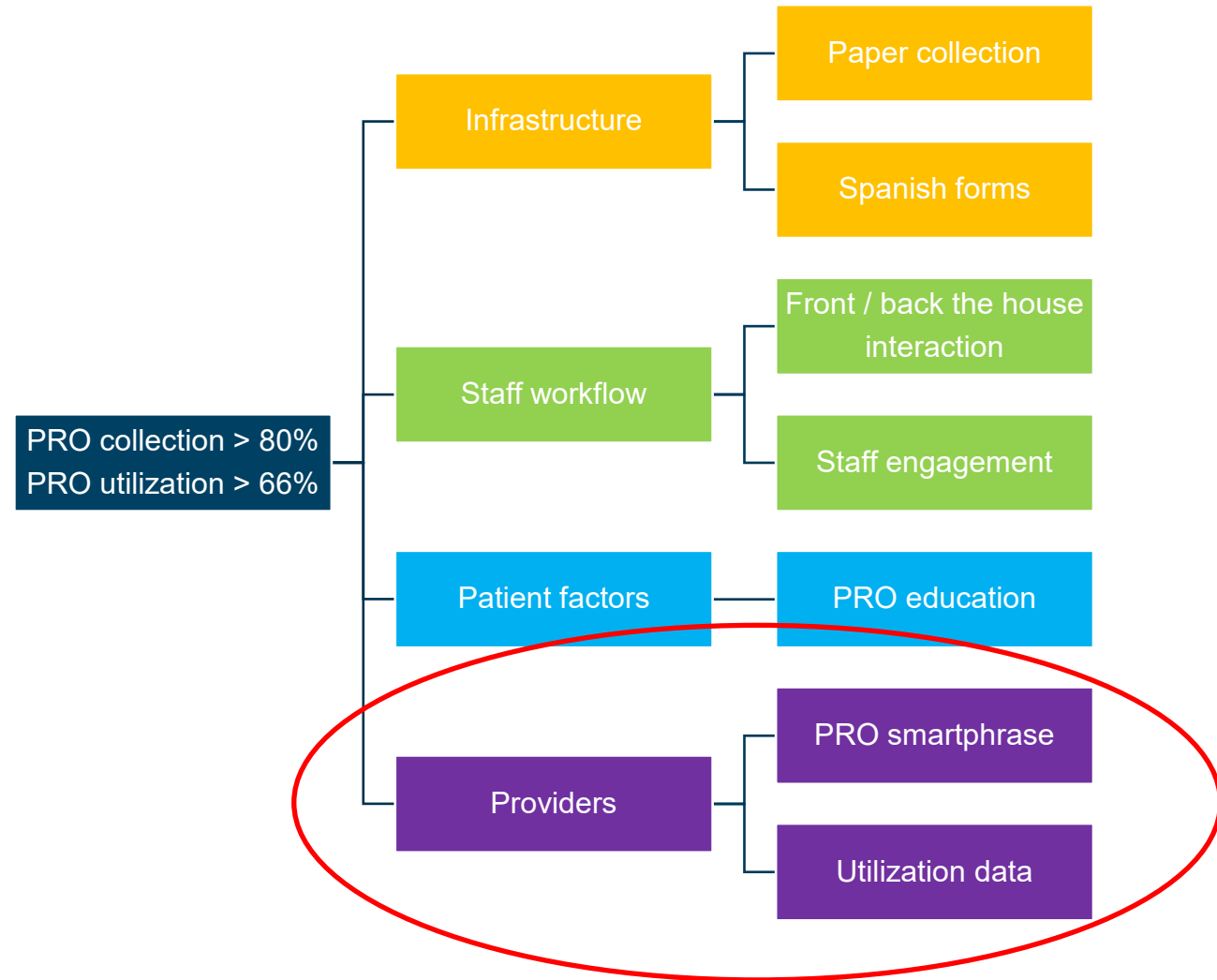


Drivers and PDSAs

What changes can we make that will result in improvement?

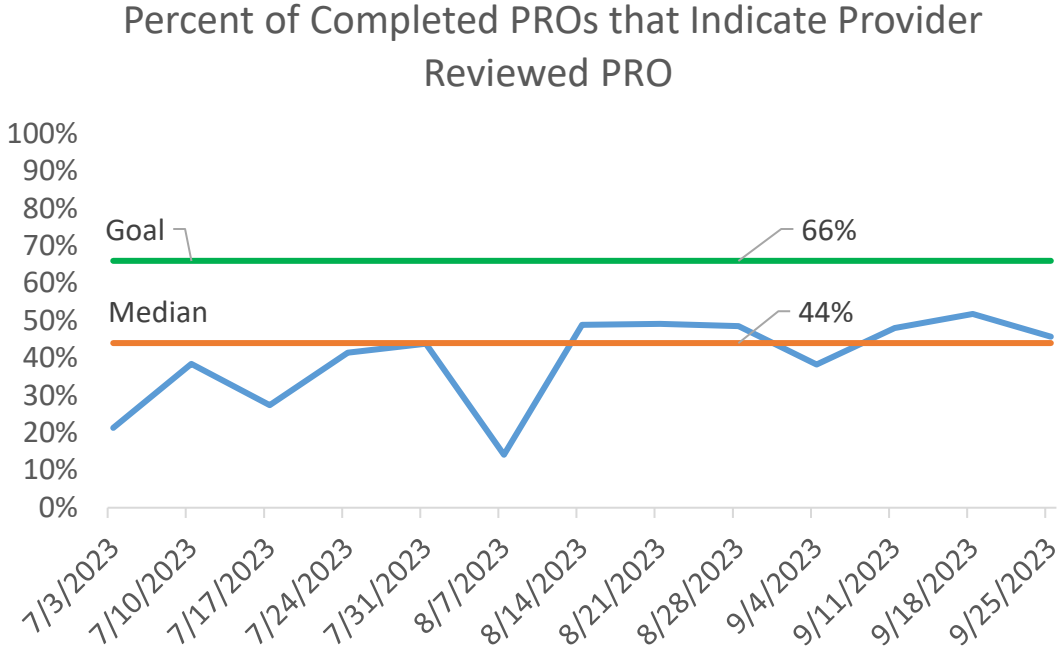
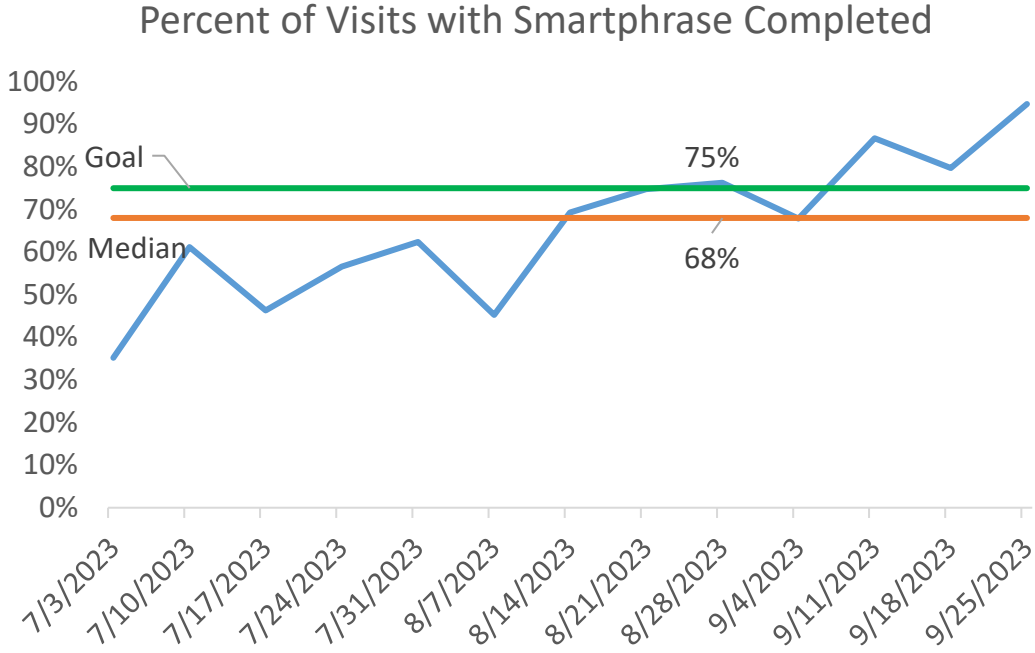
Orthopedics

- Provider real-time usage equally important
 - Universal note templated
 - Prepopulated PRO smartphrase





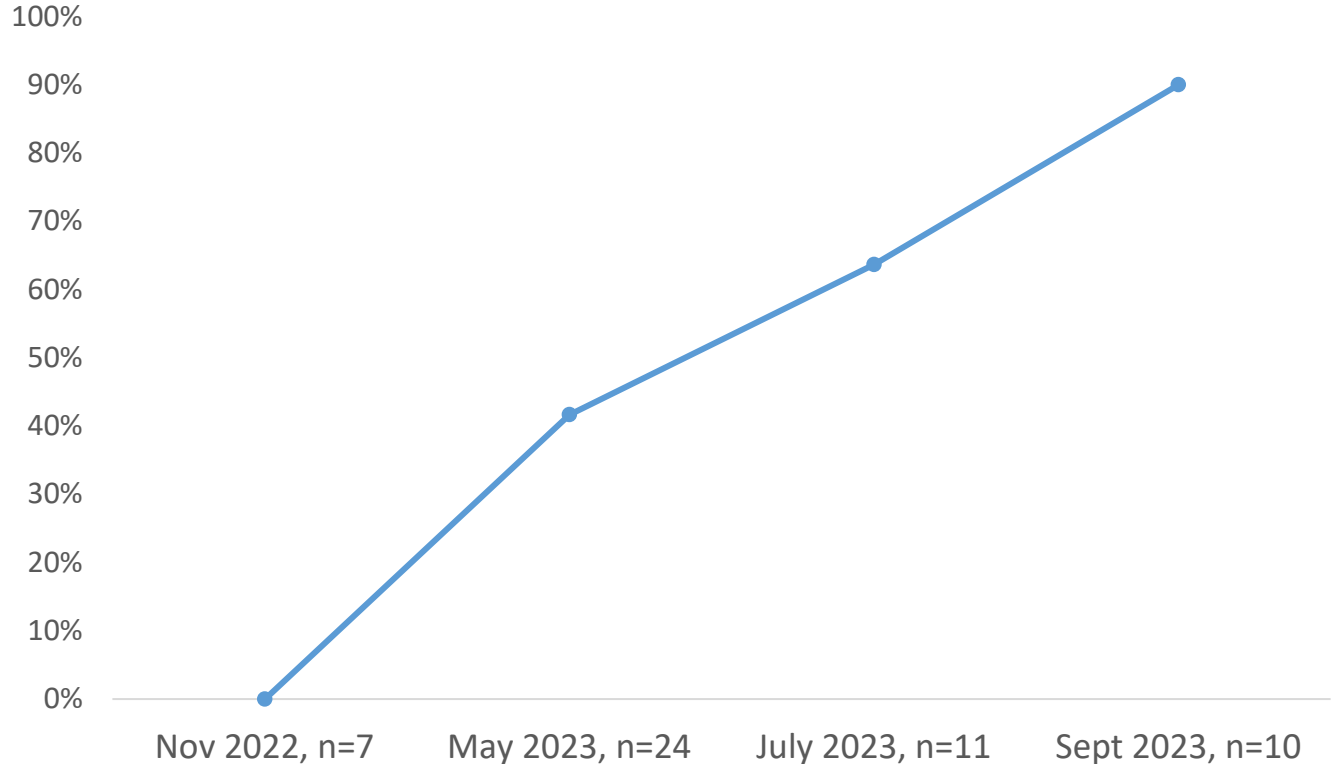
Ortho Data: Process Measures





Ortho Data: Balancing Measure

Percent of Ortho Staff Who Agree That PRO Questionnaire Completion is Efficiently Coordinated Between Team Members





Sustainment & Spread

Urology:

- **Leverage data-** personalized report for providers to see their own outcomes
- **Share data-** system for sharing data w/ staff once IHQI year is over
- **Expand-** plans to implement in Hillsborough and Radiation Oncology dept

Ortho:

- **Language barriers** - refine separate workflow concerns
- **Engage providers** - improve real time PRO usage
- **Digital PRO collection** – pre-clinic collection may streamline workflow



Lessons Learned from Implementing PROs in 2 Clinics

- **Simple and easy is critical for data collection**
 - Technology is not always the answer (iPad updates/technologic barriers were significant)
 - Allocation on diagnosis codes made this complicated in urology (ortho gave to all patients)
 - Paper was reliable → entry into Epic allowed to use technology fit to purpose
- **Simple and easy is also critical for provider engagement**
 - Smartphrases do not always accurately capture engagement
 - Helpful if providers already have an interest in using PROs to drive clinical decision-making
 - Unanswered questions on how to best measure provider engagement/review of PROs
- **Future work needed to build out resources, protocols, decision aids on how to ACT on results**

Acknowledgements

GU Project Team Members:

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