Michigan Urological Surgery Improvement Collaborative

Making Michigan #1 in Urologic Care

January 31, 2020

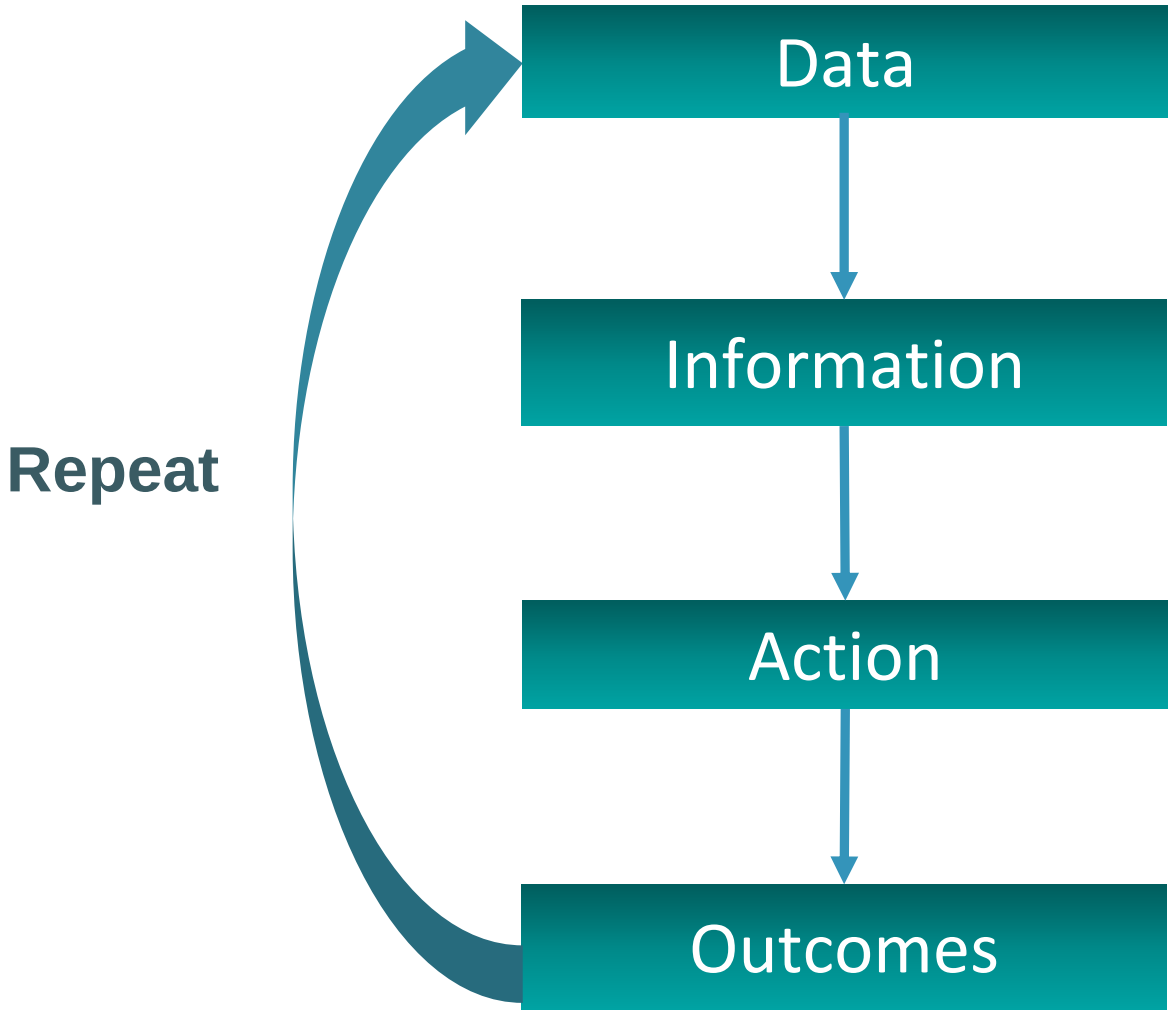
Agenda

- Prostate MRI Workshop*
- Data Abstractor Breakout*
- *Networking and Lunch*
- Welcome & Introductions
- Improving MRI Fusion Biopsy
- Quality of Active Surveillance: Selection and Management
- ROCKS - Ureteroscopy: Aligning Payments to Quality & Understanding the Patient Experience
- *Break*
- KIDNEY: Enhancing Chest Imaging Utilization and Avoiding Surgery for Benign Disease
- Clinical Trials:
  - G-MINOR: Early Results
  - New Happenings: G-MAJOR
- Closing Remarks

Principles

- Collegial
- Non-competitive
- Evidence-based
- Confidential
- No “billboards”
- Actionable data
- Focus on effectiveness
- Make a contribution
- No secrets

MUSIC Playbook



Welcome MUSIC members and guests

- Sanjeev Kaul – Comprehensive Urology
- Haider Rahbar – McLaren Port Huron
- William Spencer – Bronson Urology Specialists
- Kevin Carter – Michigan Resonance Imaging (Lapeer/Compass)
- Nicole Curci – Michigan Medicine
- Leena Mammen – Advanced Radiology (Spectrum/Bronson)
- Prasad Shankar – Michigan Medicine

Welcome MUSIC members and guests

- Sandra Defebaugh – Patient Advocate
- Mike Witt – Patient Advocate
- Serge Thomas – Patient Advocate

No Prostate Required!

How I dealt with prostate cancer and now enjoy a cancer-free, robust and full life

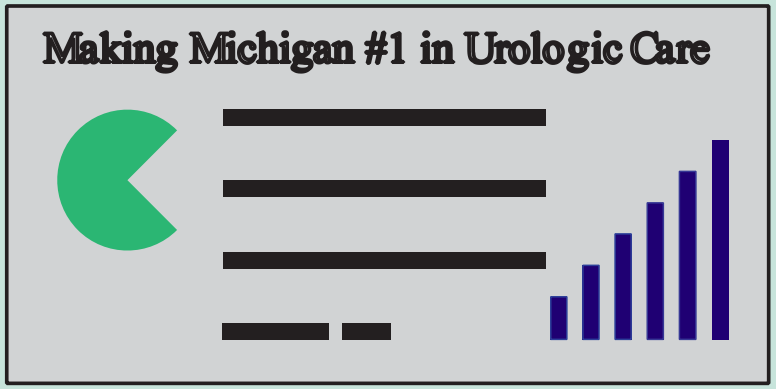
SERGE THOMAS

MUSIC at the AUA 2020 Annual Meeting

29 MUSIC Abstracts

16 Podium

13 Poster



45 MUSIC urologists as authors/co-authors

17 Prostate, 8 ROCKS, 4 KIDNEY

BCBSM Value-Based Reimbursement (VBR)

- VBR measured on population-based quality improvement (measures defined by MUSIC) and active participation in MUSIC

- BCBSM has paid an additional $1M+ per year to MUSIC urologists as part of the MUSIC Value-Based Reimbursement (VBR)

- **NEW:** MUSIC urologists now have the opportunity to earn an *ADDITIONAL* 2% through the incorporation of additional VBR measures

3% *standard* VBR + 2% *additional* VBR = 5% total MUSIC VBR

2021 MUSIC *standard* VBR payout

1. Population-Based Quality Improvement Measures*

Use of salvage radiation therapy for biochemical recurrence after radical prostatectomy

- Current: 40%
- Target: 45%

Post-ureteroscopy imaging for kidney stones

- Current: 37%
- Target: 45%

**MUSIC as a collaborative must meet the target for both metrics to be eligible for the VBR*

2. Practice-level participation metrics**

1	Participate in one implementation/dissemination site visit/year - MANDATORY
2	Implement Personal Patient Profile-Prostate (P3P)
3	PRO baseline completion > 65%
4	Identify local opportunities for reducing post-URS ED visits and develop a specific plan for improvement
5	Participate in MUSIC committee, working group, abstract and/or manuscript - 1 urologist per practice per year

***Practices must meet 3 of 5 metric targets*

2021 MUSIC *additional* VBR payout

1. Population-Based Quality Improvement Measures*

Prostate: Active Surveillance Follow-Up
- Current: 69%
- Target: 75%

ROCKS: ED visits within 30 days of ureteroscopy
- Current: 7.8%
- Target: 7.0%

KIDNEY: Chest imaging for renal masses 3.1-7cm
- Current: 51%
- Target: 55%

**MUSIC as a collaborative must meet 2 of the 3 metric targets to be eligible for the VBR*

2. Practice-level participation metrics**

>75% of eligible cases entered into the MUSIC Registry

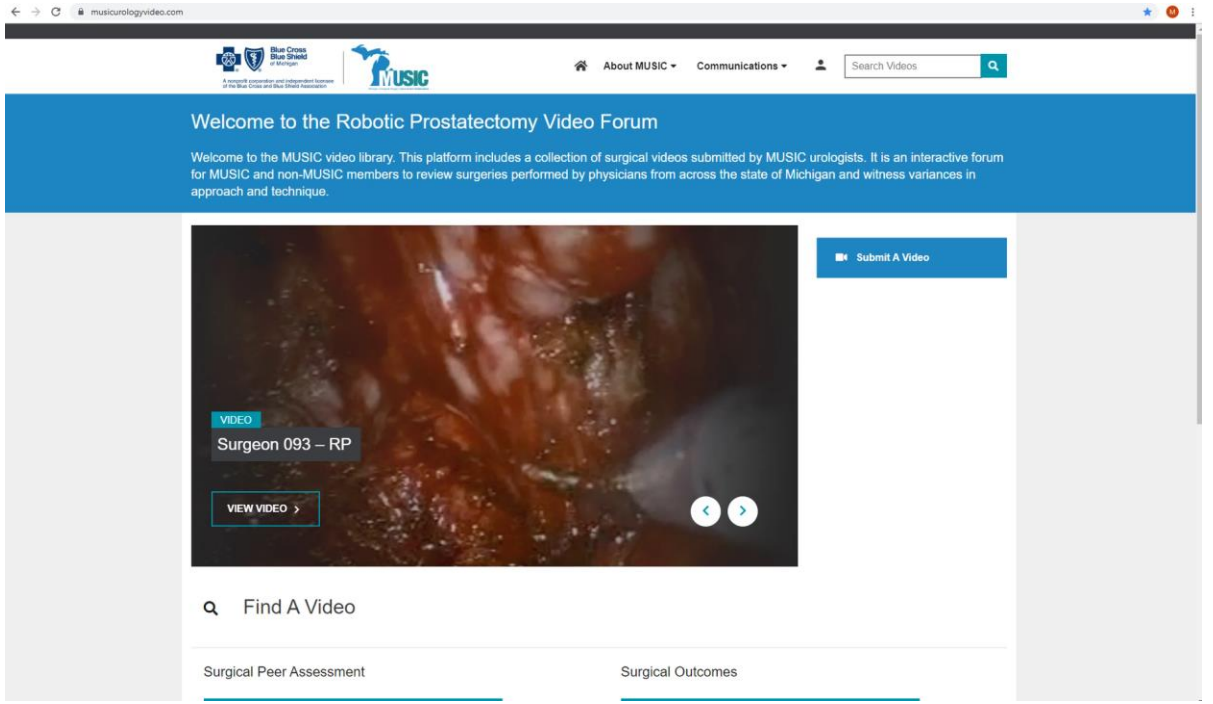
***Practices must meet target for all programs (e.g., Prostate, ROCKS and KIDNEY) in which it is participating*

2021 VBR payout – **Total opportunity**

Equates to an additional $1.8 Million+ to MUSIC urologists

Robotic Prostatectomy video library

- Open source collection of videos categorized by skill and outcomes
- >60 de-identified cases from 31 MUSIC surgeons
- Interactive forum for MUSIC and non-MUSIC members to review surgeries and witness variances in approach and technique



www.musicurologyvideo.com

Indiana University survey – NCI K23 award

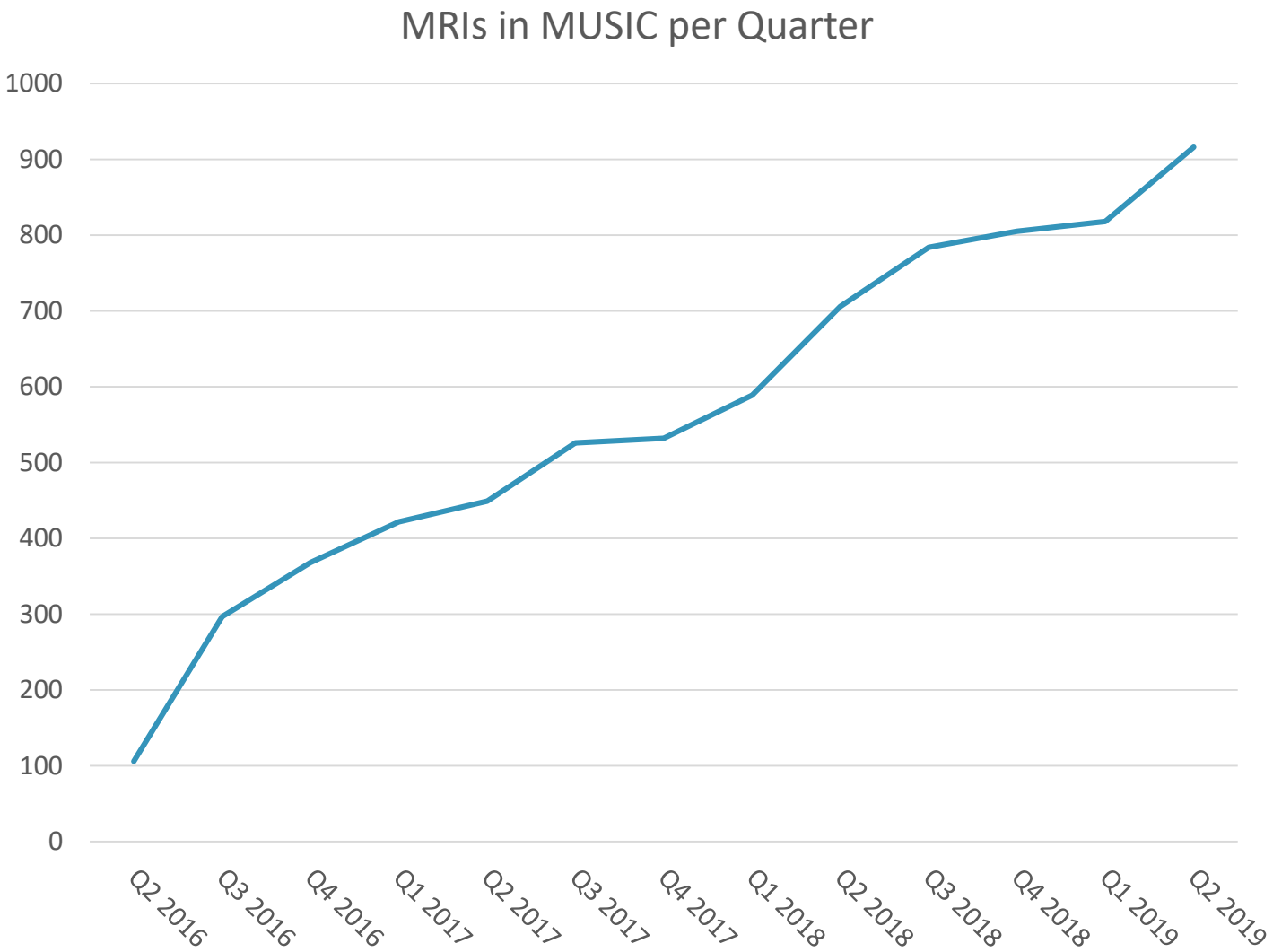
- Project Title: Understanding barriers to single-dose intravesical chemotherapy in non-muscle invasive bladder cancer
  - Significant amount of data supporting use of intravescial chemotherapy immediately follow TURBT for reducing cancer recurrences
  - Many studies demonstrating its use is suboptimal in clinical practice
  - The clinical vignettes are part of the larger grant to help understand not only what the barriers might be but also to rank their order of importance
  - This will hopefully allow more tailored interventions focused on what really matters

MUSIC urologists will receive a survey following today's meeting –
Thank you, in advance, for providing your perspective!

Improving MRI Fusion Biopsy

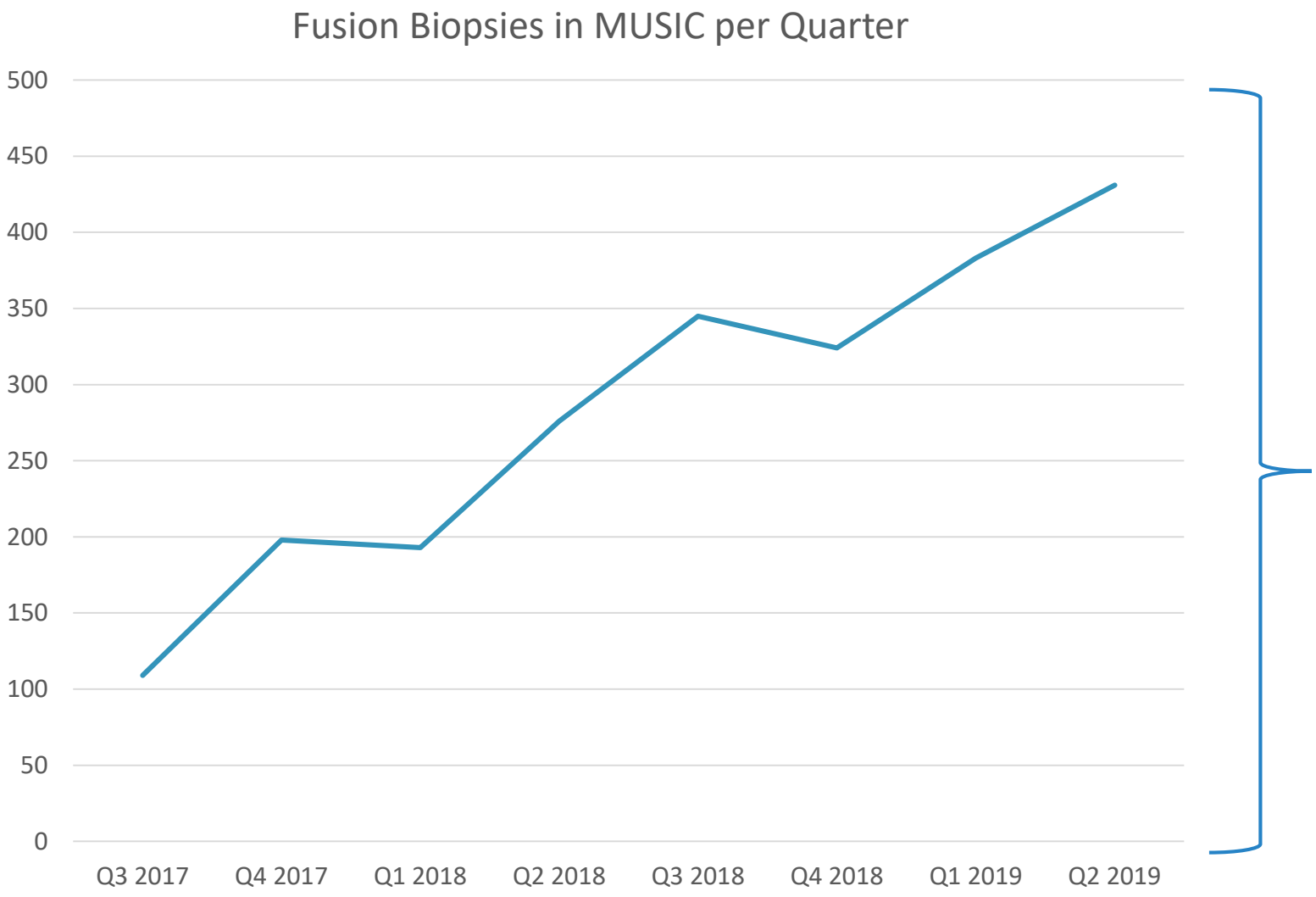
Arvin George, MD

MRI use in Michigan



- >8000 MRIs since June 2016
- >300 per month in 2019
- 37 MUSIC practices ordering prostate MRI
- ~30% of newly diagnosed PCa patients receive MRI

Fusion Biopsy in Michigan



- ~3000 fusion biopsies in MUSIC
- >100/month in 2019
- 22 MUSIC practices performing fusion biopsies

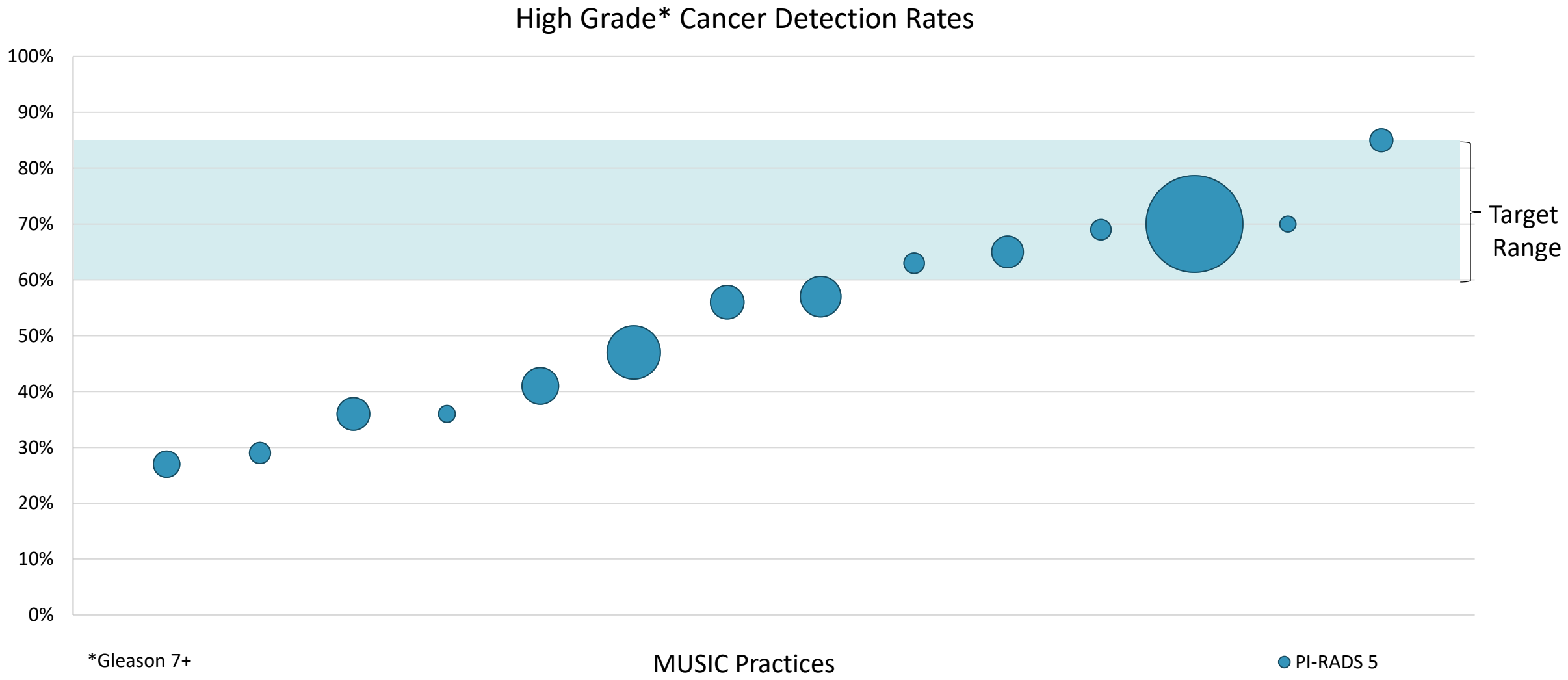
MRI Fusion Biopsy Scorecard

METRIC	BENCHMARK	COLLABORATIVE-WIDE PERFORMANCE	
Lesion Level High Grade* Cancer Detection Rates			
PI-RADS 3 HG CDR	10-25%	15%	
PI-RADS 4 HG CDR	25-60%	31%	
PI-RADS 5 HG CDR	60-85%	58%	
Patient Level Upgrading			
Upgrading to HG by Standard Cores	<15%	9%	
Upgrading to HG by Targeted Cores	>20%	12%	

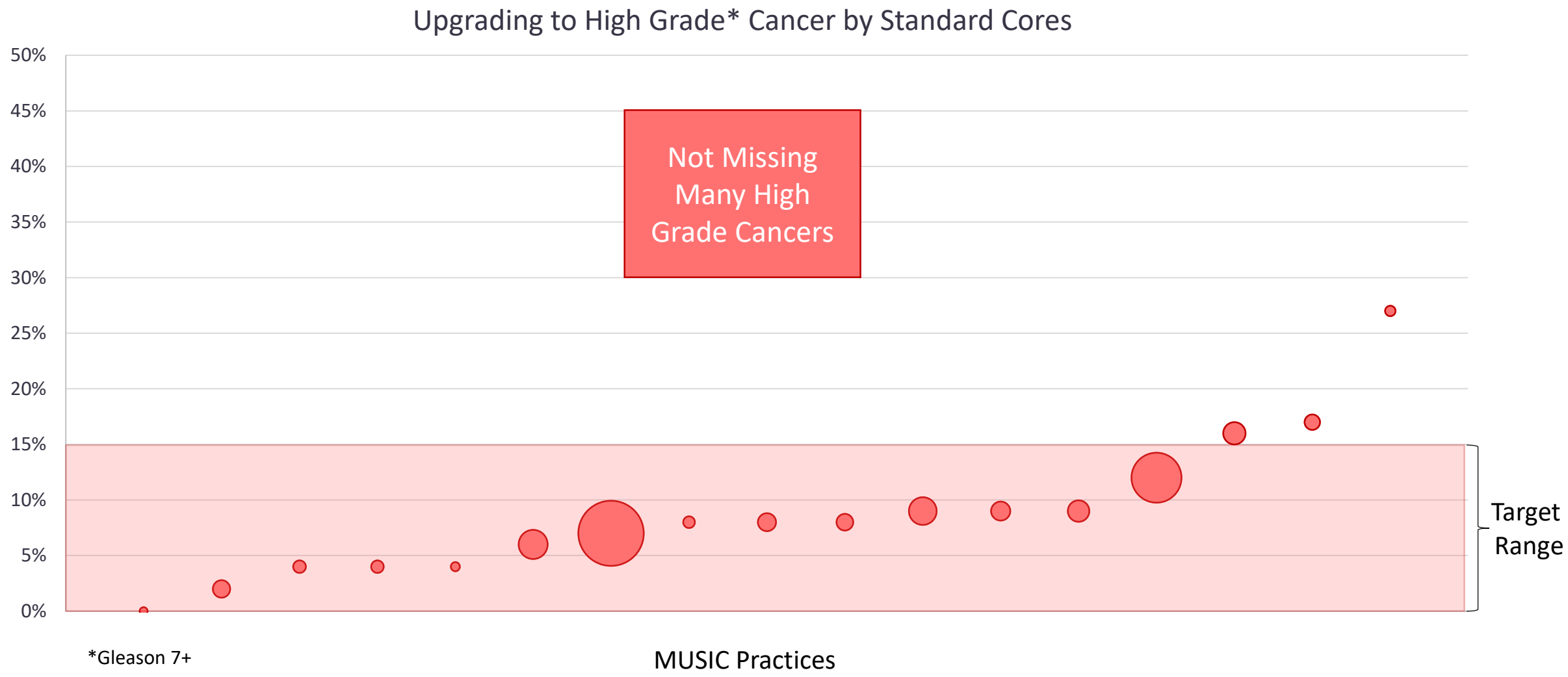
*High Grade = Gleason 7+

 = meeting target = within 10% of target  > 10% from target

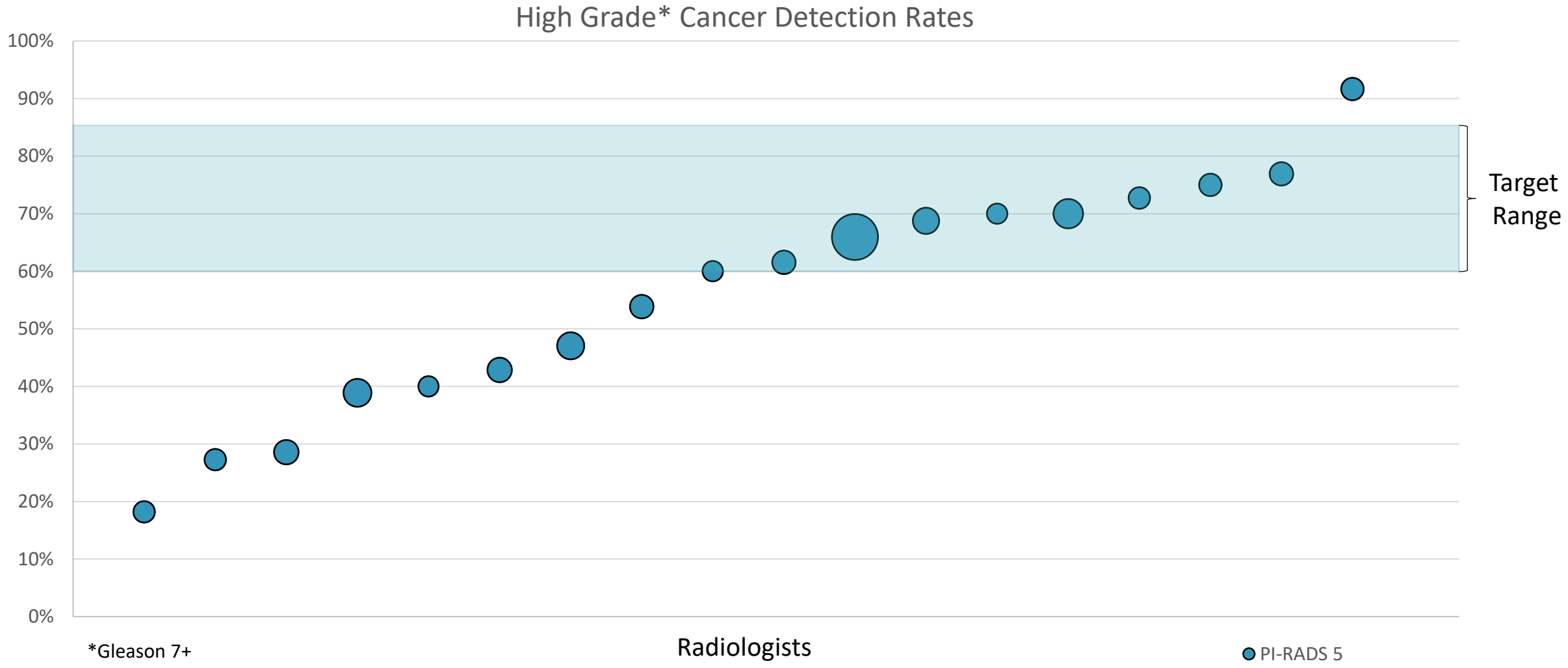
Practice-level variation



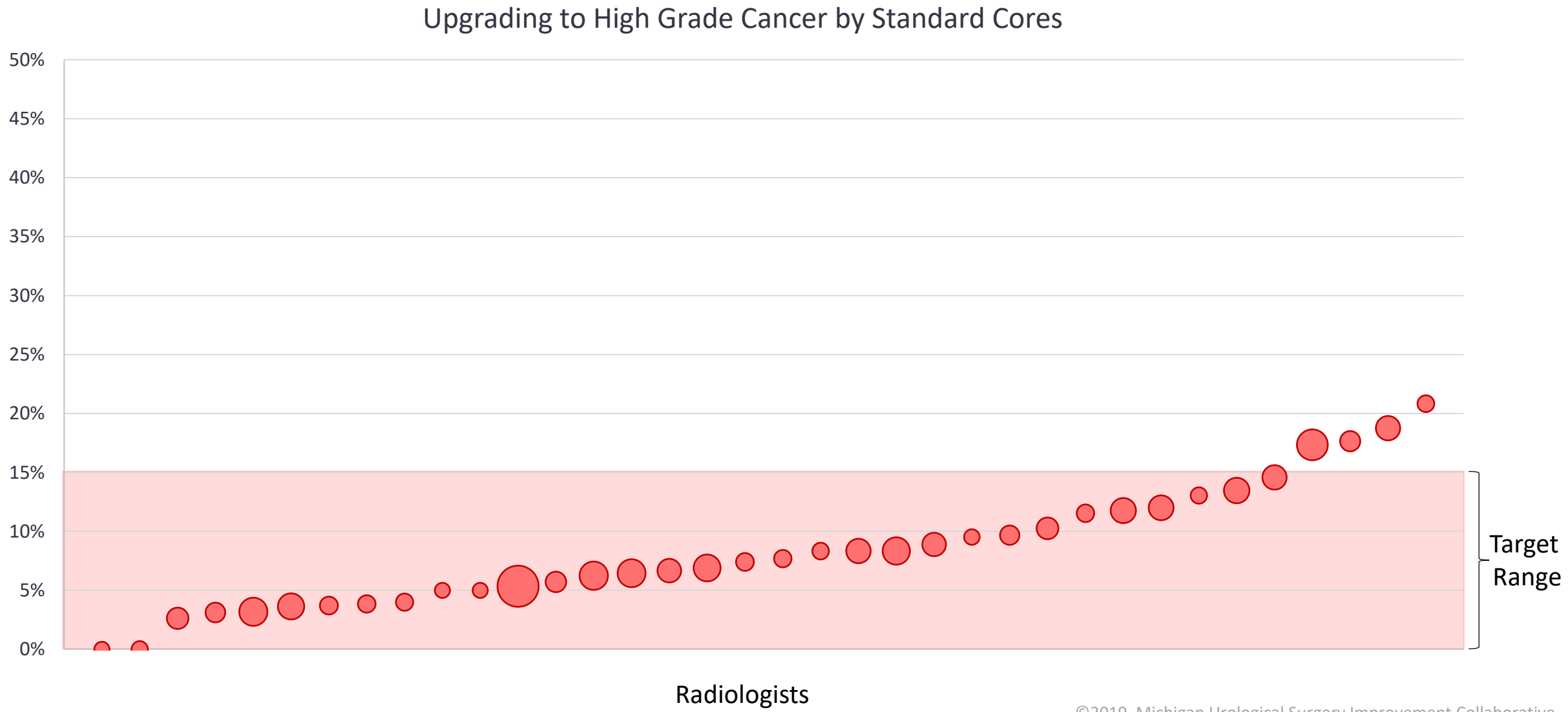
Practice-level variation



Radiologist-level variation

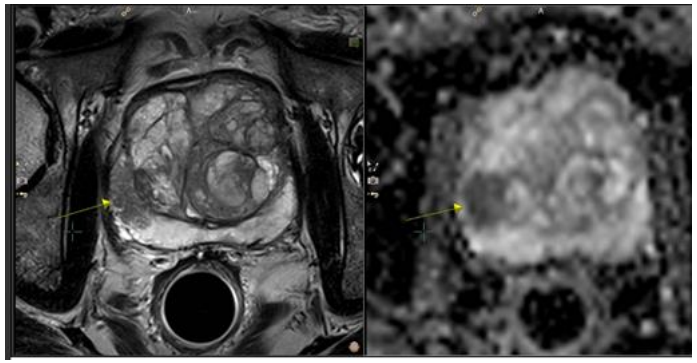


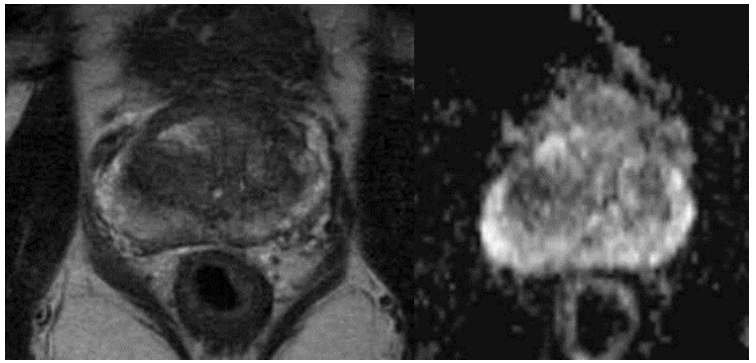
Radiologist-level variation

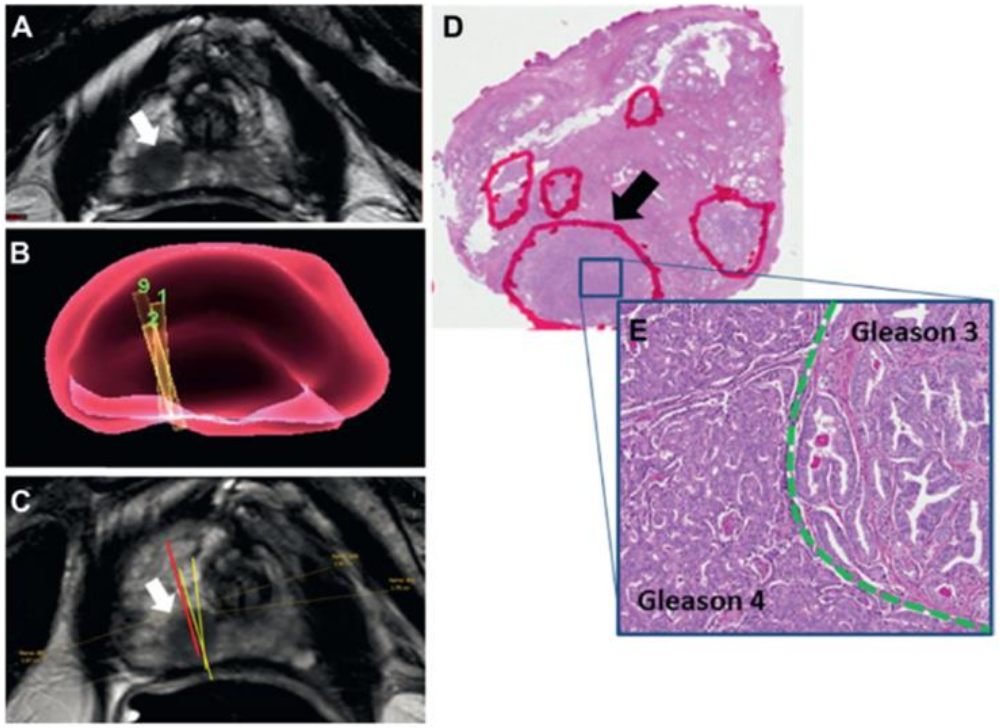


Where can variation exist?

- Radiology Factors
  - MRI acquisition
  - MRI Interpretation
- Urology Factors
  - Biopsy technique
- Patient/Tumor Factors
  - MR Invisible
  - Gleason heterogeneity

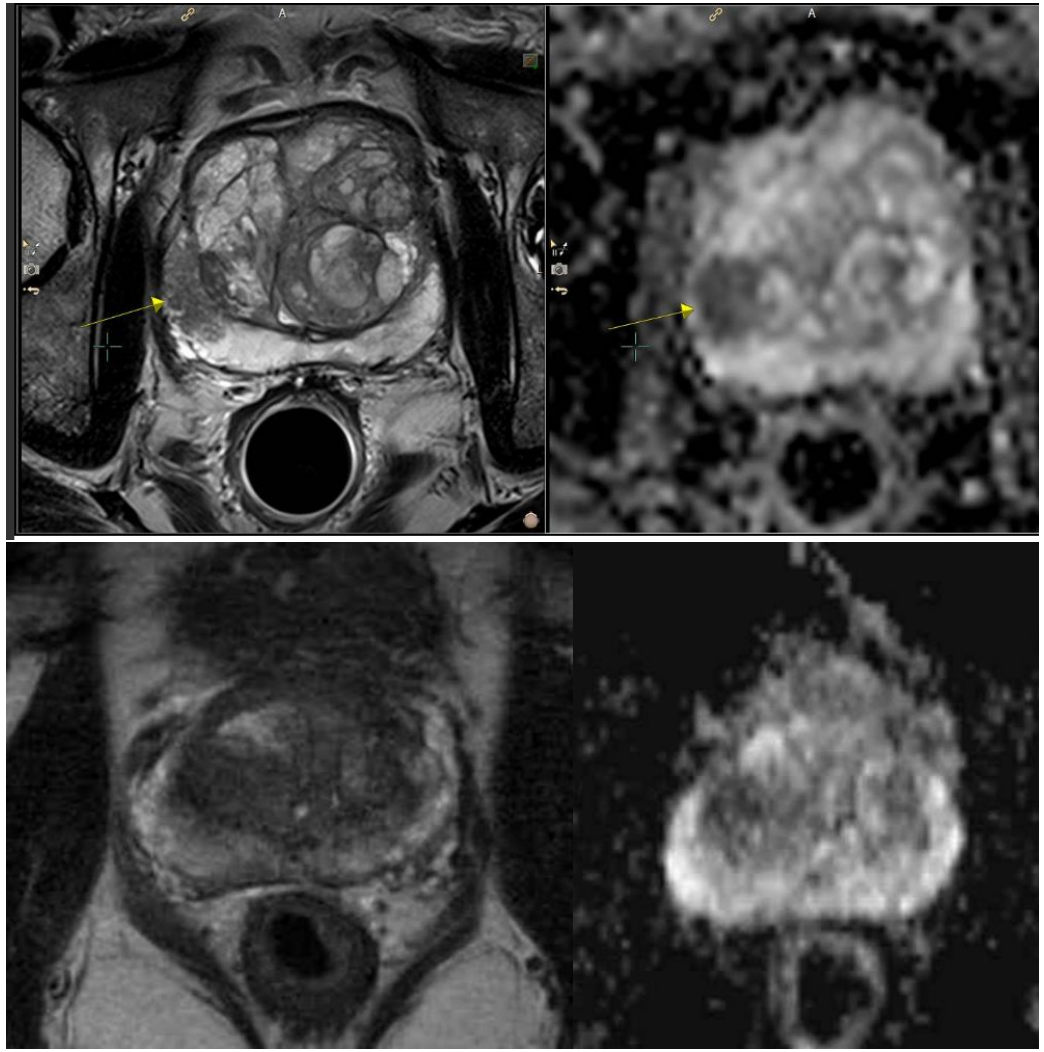






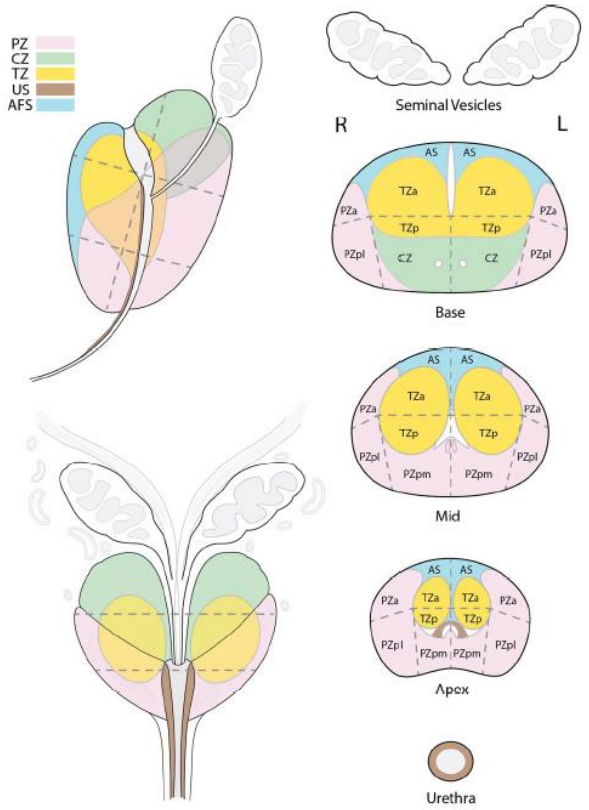
Where can variation exist?

- MRI acquisition
  - Hardware
  - Sequences
  - Protocol



Where can variation exist?

- MR Interpretation
  - Scoring
  - Template
  - Experience
  - Segmentation



Findings:

The prostate gland measures: 6.2 x 6.3 x 4.4 cm (volume: 89 mL).

There is a large anterior PI-RADS 5 mass involving the transition zone and peripheral zone with contralateral extension, possible extracapsular extension at the right anterolateral 11-12:00 position of the midgland and apex, and brief contact with the anterior superior margin of the membranous urethra. Details follow:

Lesion: 1
Series / Image: Series 7 images 18-21
Side: Bilateral
Craniocaudal location: Mid gland and apex
Anteroposterior location: Anterior
Medial / lateral location: Medial greater than lateral
Zonal involvement: Transition zone and anterior horns of the right and left peripheral zone
Size: 3.6 x 1.3 cm
Morphology: Mass
Margins: Poorly defined
Signal intensity on T2w imaging: Hypointense
Visible on b-1600?: Yes
ADC min: 456
Hypervascular?: Yes
Length of capsular contact: 25 mm of craniocaudal contact from the 11-12:00 position of the midgland and apex
Specific sign(s) of extracapsular disease?: Yes, focal capsular bulge
Right seminal vesicle: No invasion
Left seminal vesicle: No invasion
Bladder neck: No invasion
Membranous urethra: Possible invasion
PI-RADS: 5

There is substantial BPH. The median lobe is moderately enlarged.

The length of the membranous urethra is 14 mm on coronal imaging.

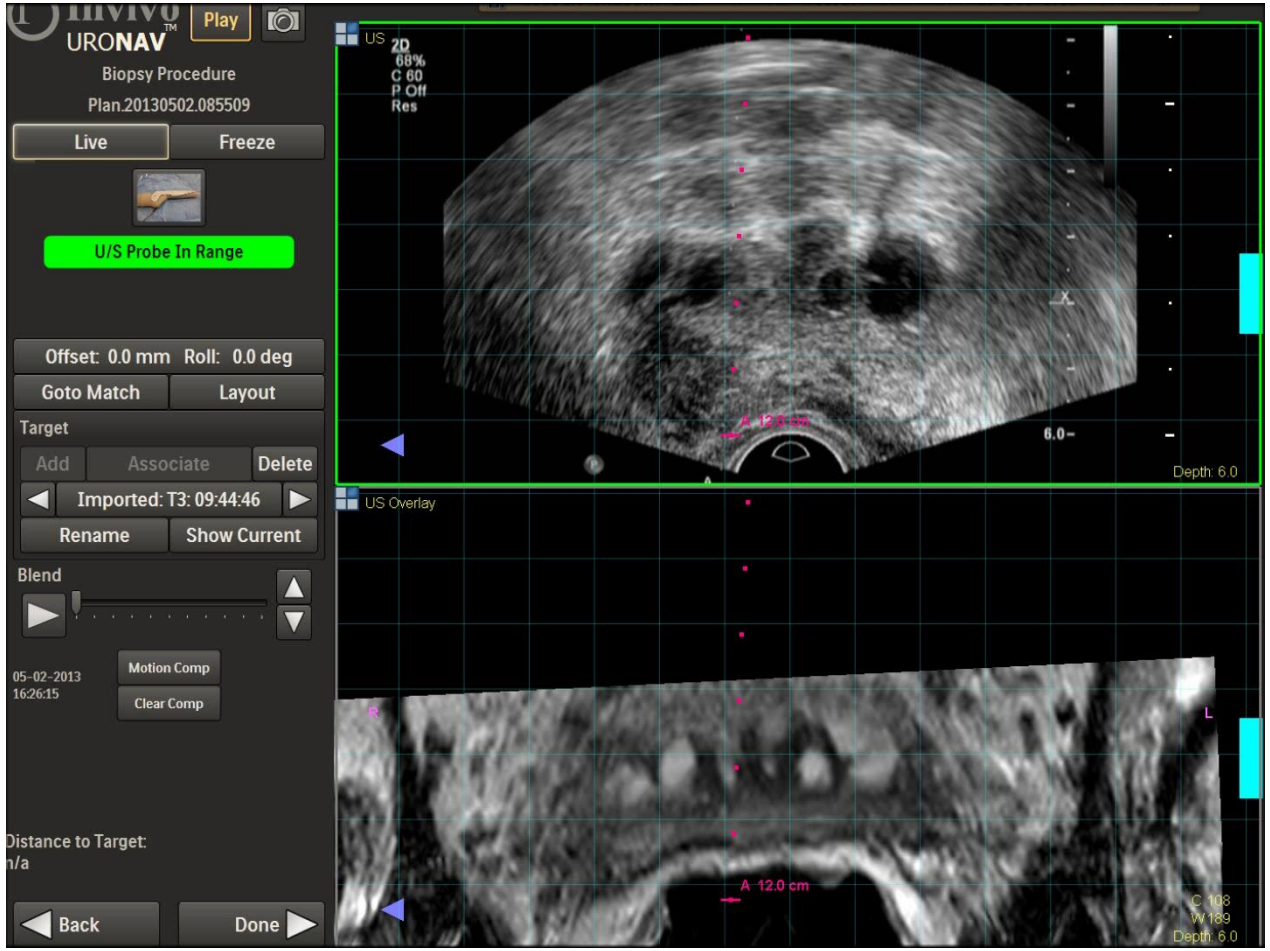
Nodes: No enlarged pelvic lymph node

Bones: No aggressive osseous lesion

Extraprostatic Findings: Severe colonic diverticulosis

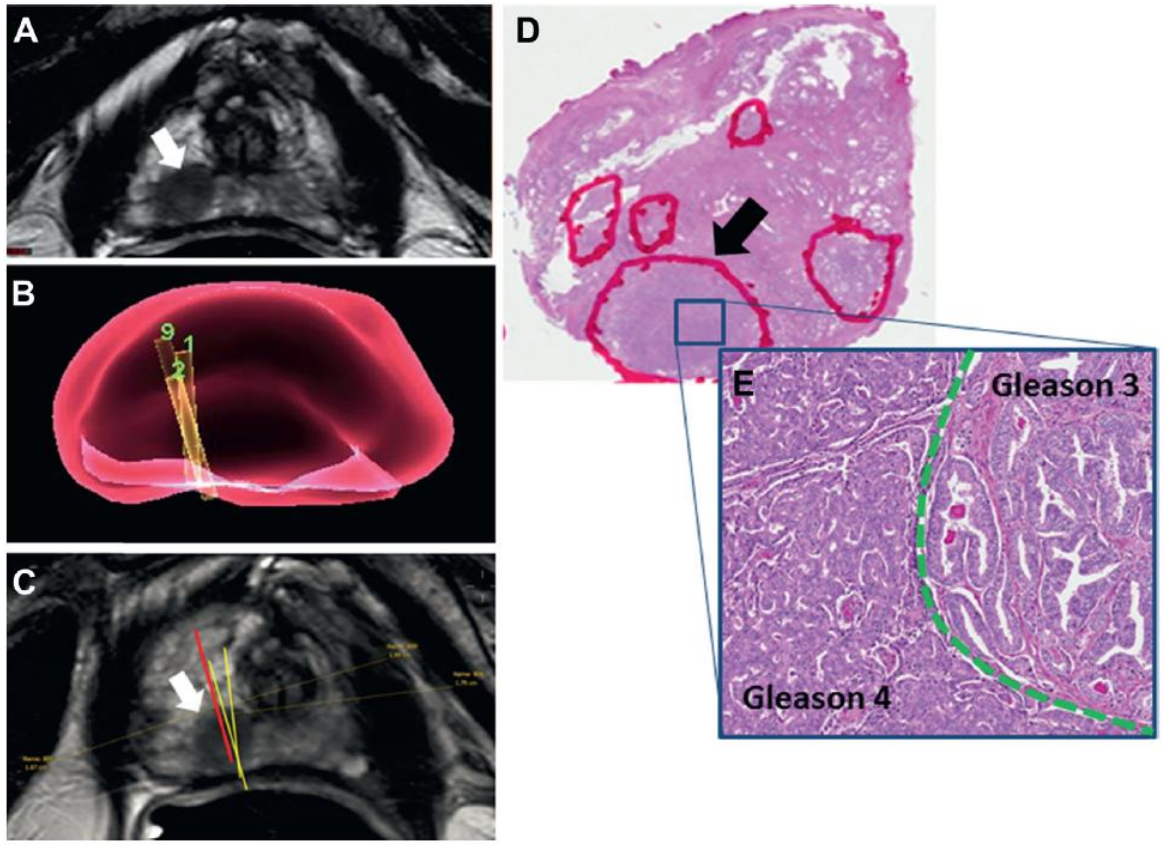
Where can variation exist?

- Fusion Biopsy
  - Hardware
  - Technique
  - Undersampling
  - Experience



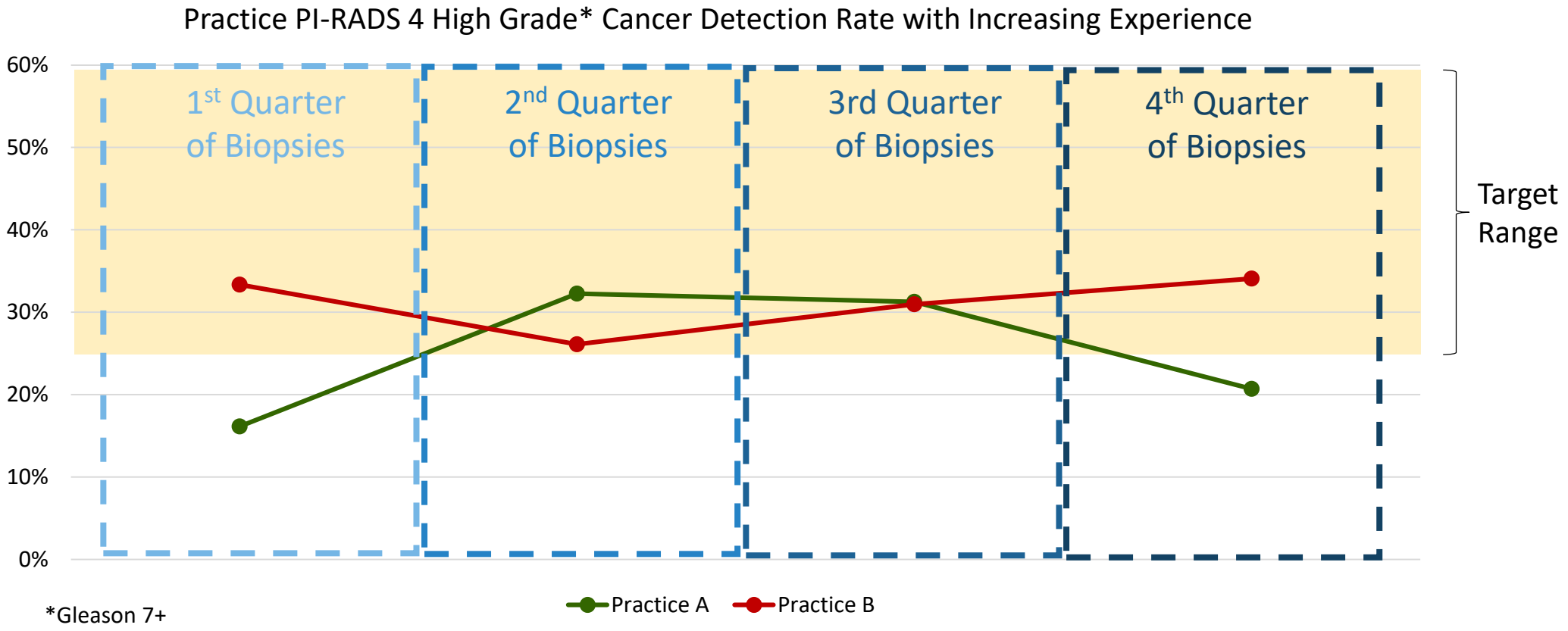
Discordant results

- MR Invisible
  - Low grade
  - Low volume
  - Truly MR invisible
- Gleason heterogeneity



How can we improve?

- Experience



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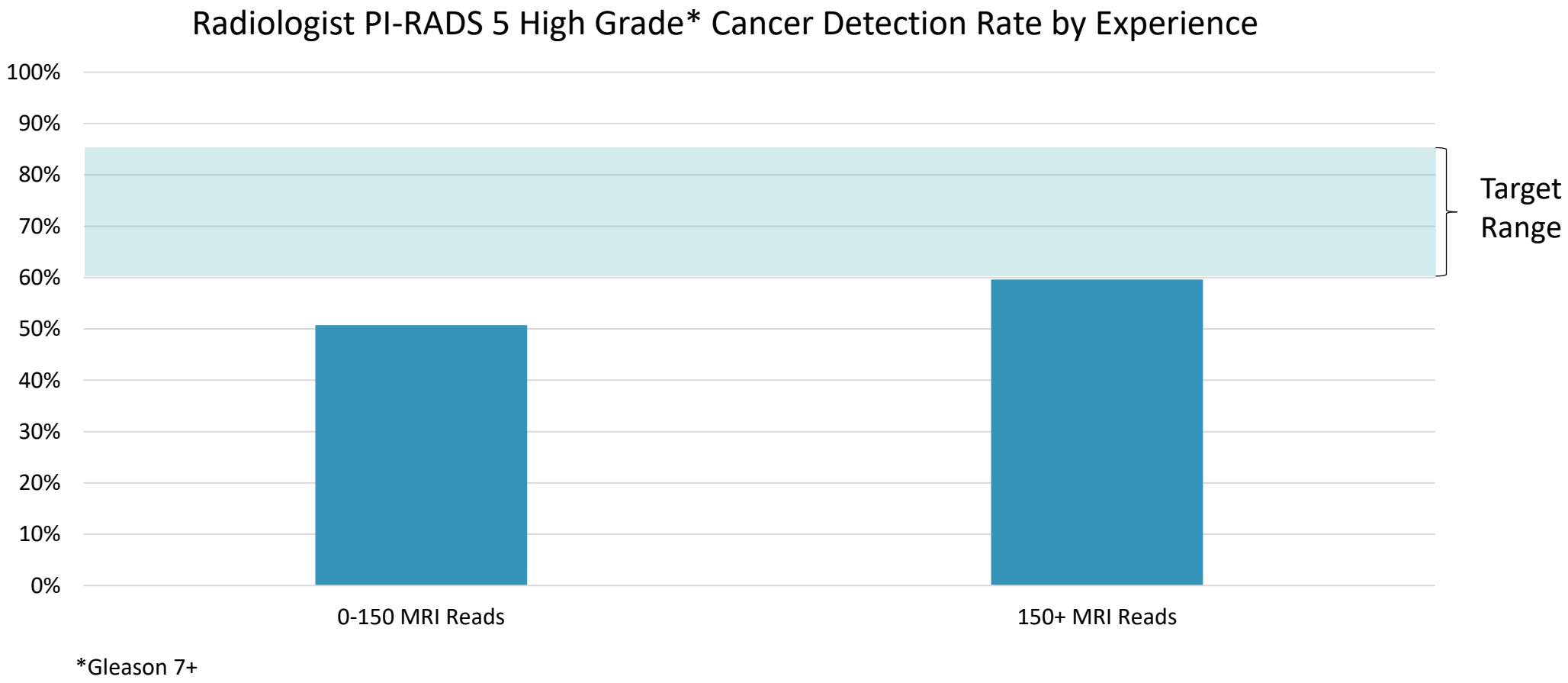
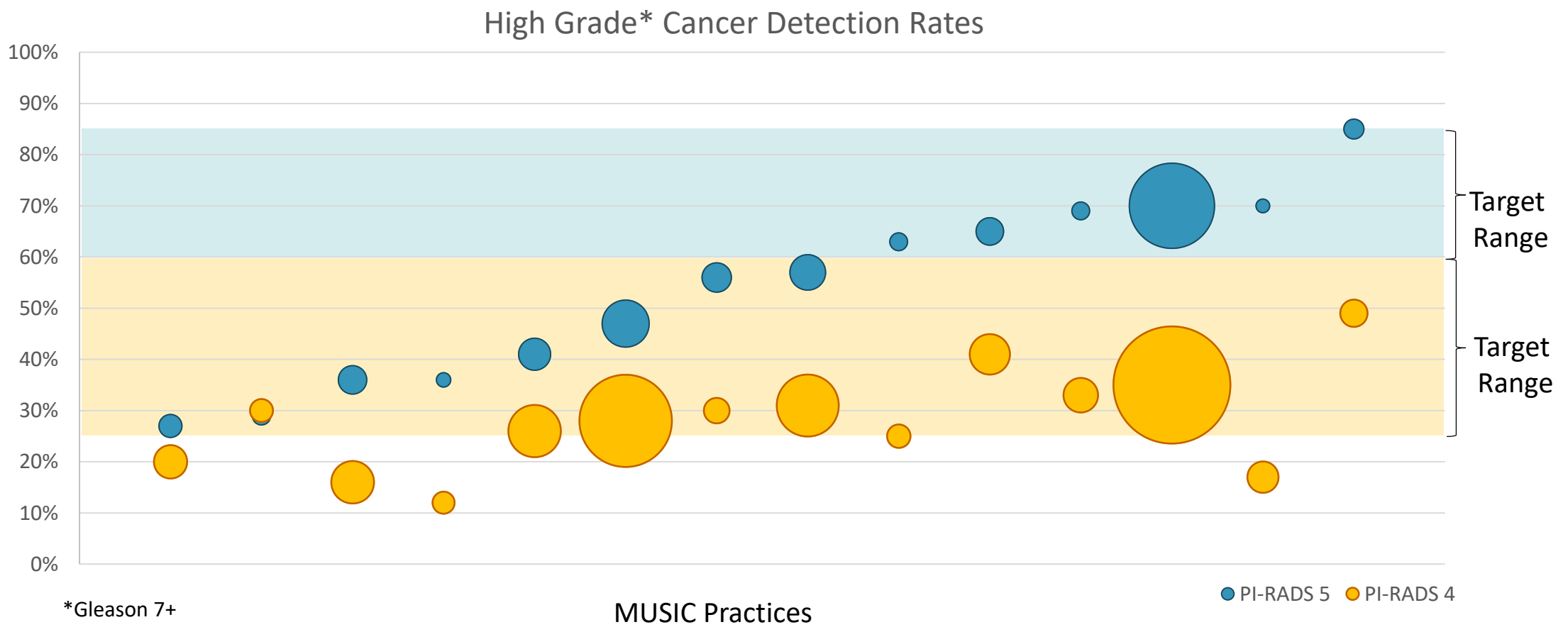


How can we improve?

- Multidisciplinary Reviews



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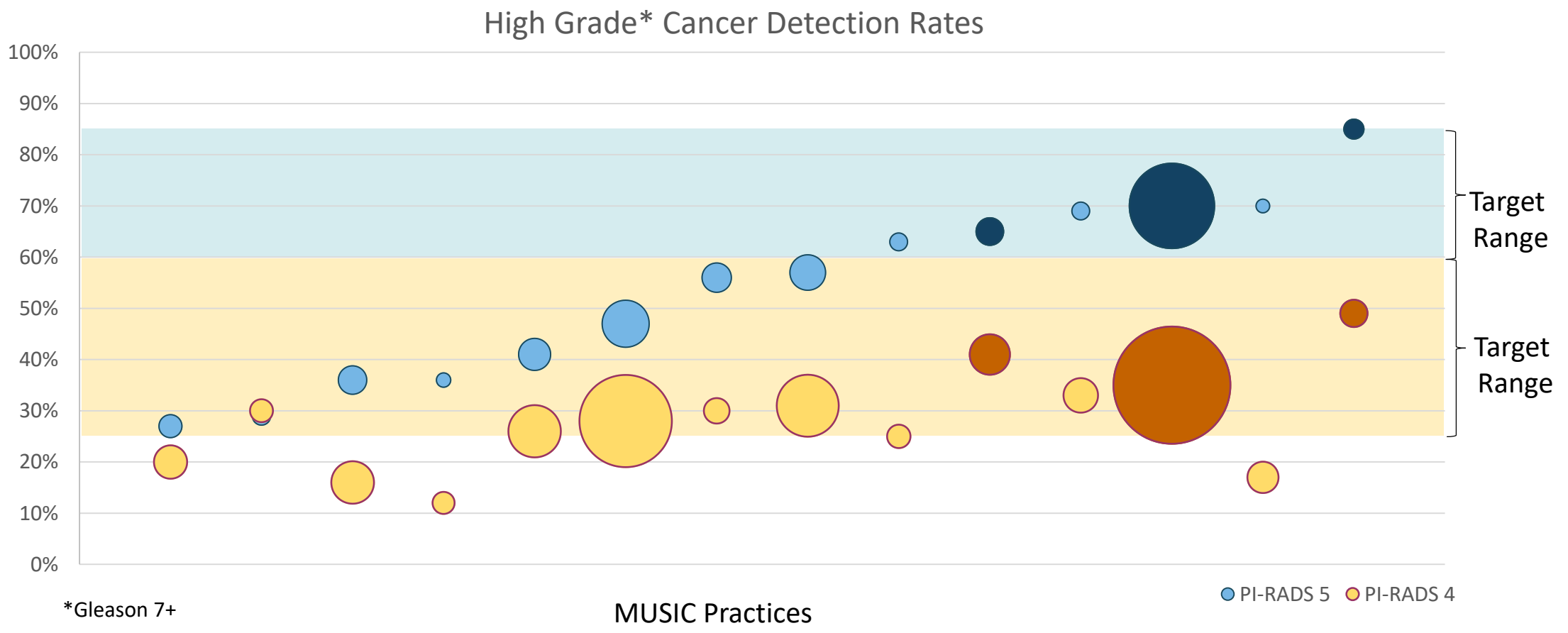
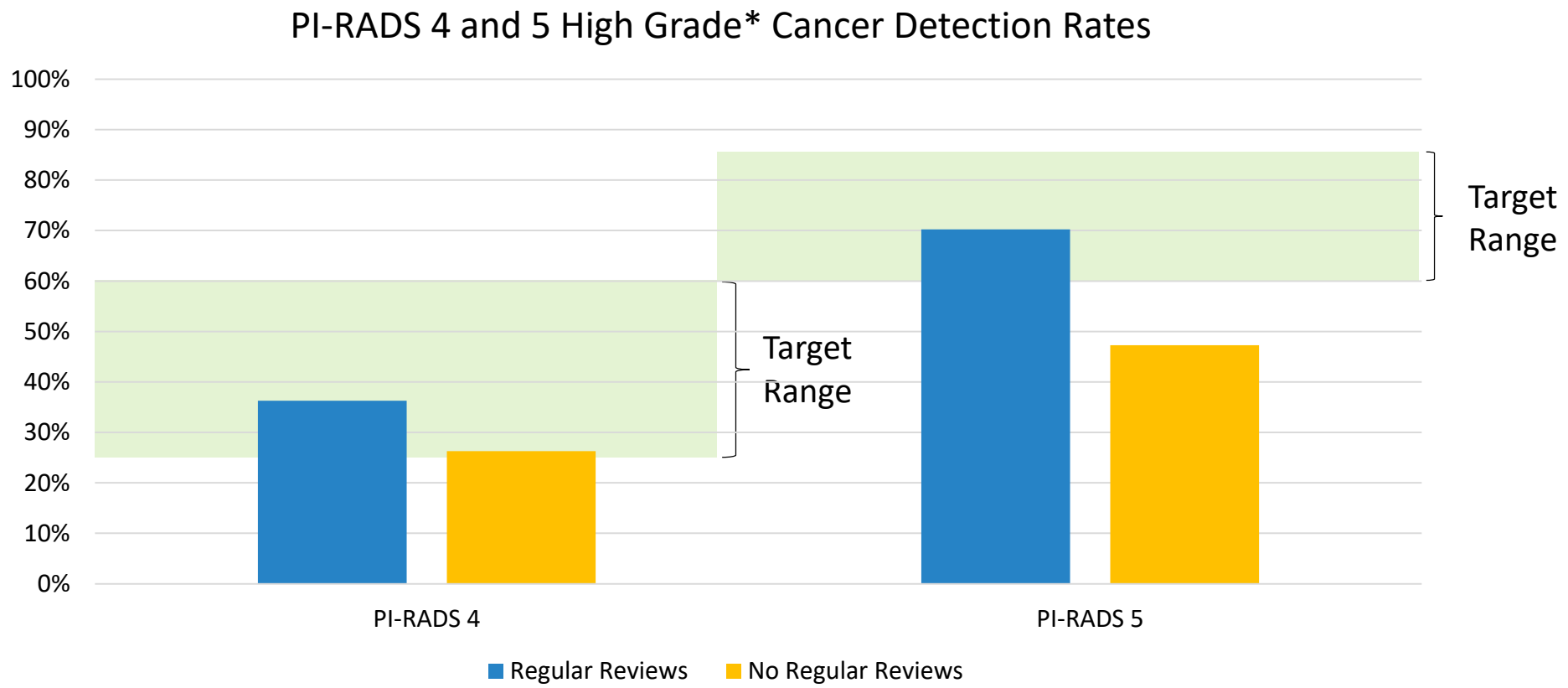


How can we improve?

- Multidisciplinary Reviews

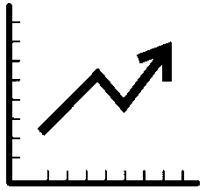


Key takeaways

- Variation is multifactorial – must optimize each component

 Acquisition  Interpretation  Biopsy

- Do experience and feedback make a difference?

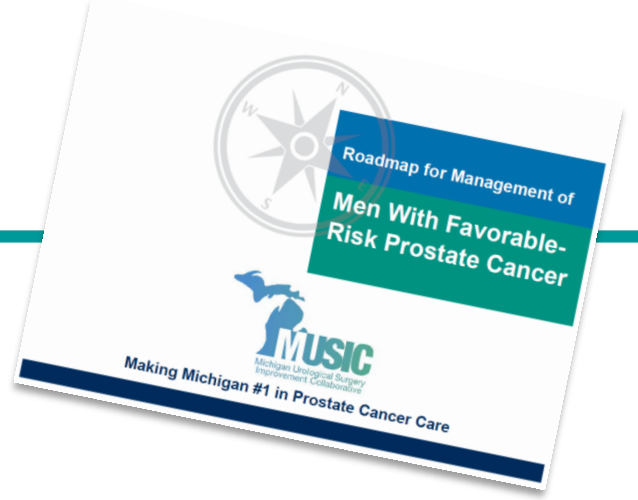
 Evaluation of experience ongoing

 Regular rad/path correlation and feedback can help

Quality of Active Surveillance: Selection and Management

David Miller, MD, MPH
Kevin Ginsburg, MD
Arvin George, MD

The AS Roadmap



Auffenberg *et al. J Urology,* Dec 2017

Consideration Phase

Steps to take while considering AS

Step 1: Estimate life-expectancy

Step 2: Determine appropriateness for AS

Step 3: Obtain confirmatory testing

Step 4: Engage in shared decision making

Surveillance Phase

How to perform surveillance

Step 1: Select surveillance plan

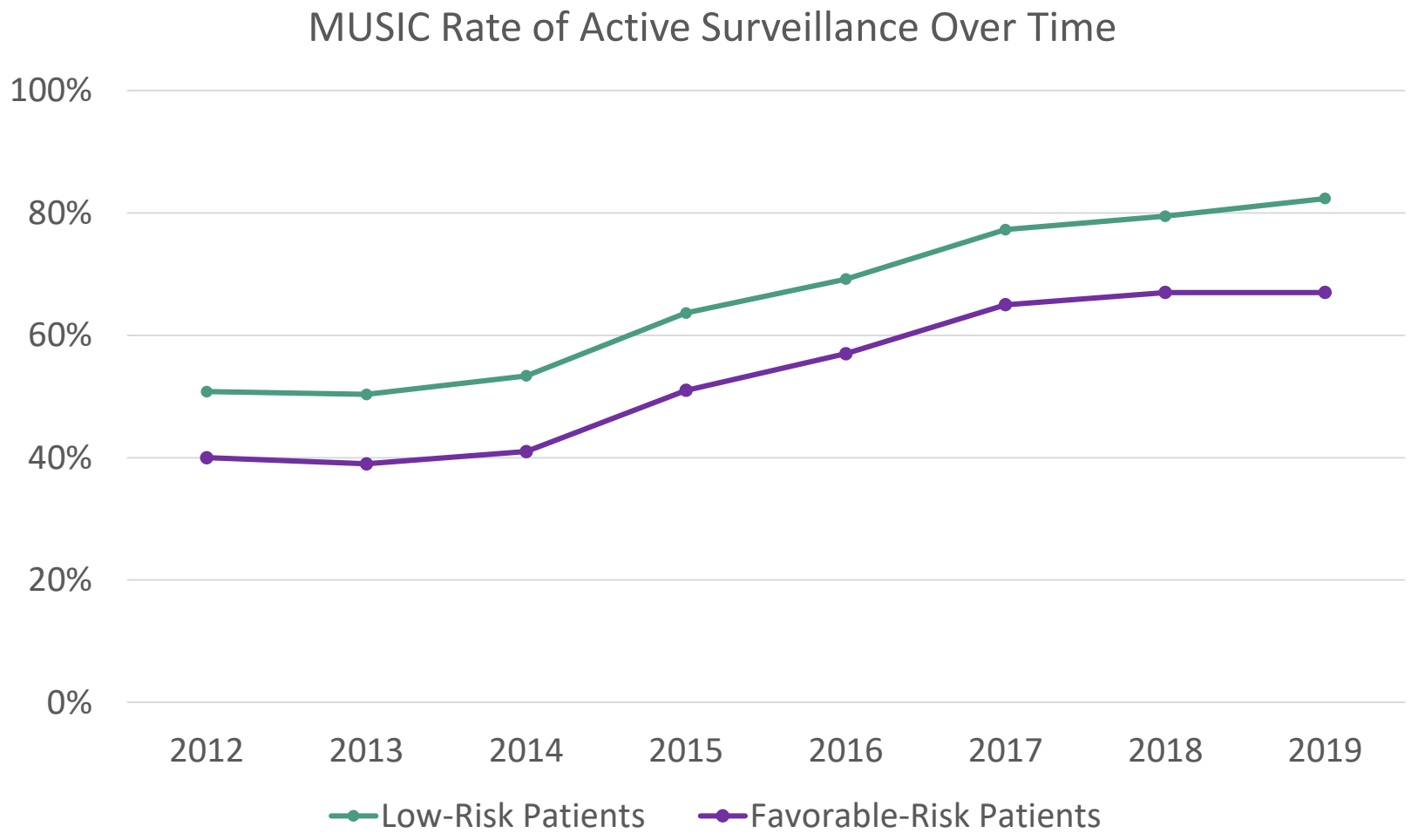
Step 2: Monitor disease longitudinally

Step 3: Assess need for transition to other treatment(s)

MUSIC goals

- Expand use of Active Surveillance (AS) for patients with favorable-risk prostate cancer
- Optimize selection of patients for AS through the use of life expectancy estimation, confirmatory testing, and shared decision making
- Ensure quality of follow-up for patients on AS

Use of Active Surveillance: Current performance



*Favorable-risk patients: Patients with early-stage tumors with a Gleason Score of 6 or less, as well as select patients with low-volume Gleason Score 3+4=7 cancer

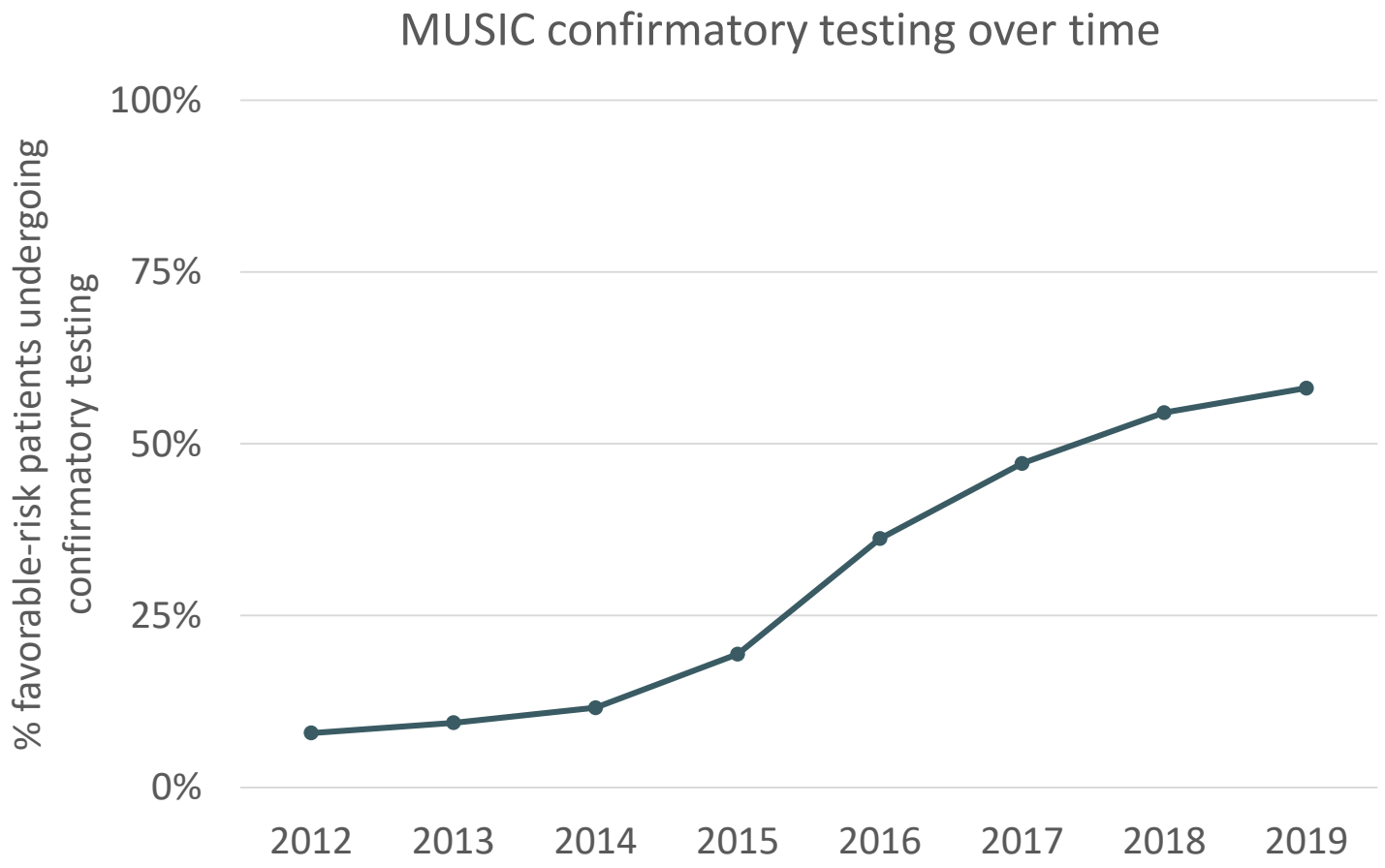
MUSIC goals

- Expand use of Active Surveillance (AS) for patients with favorable-risk prostate cancer

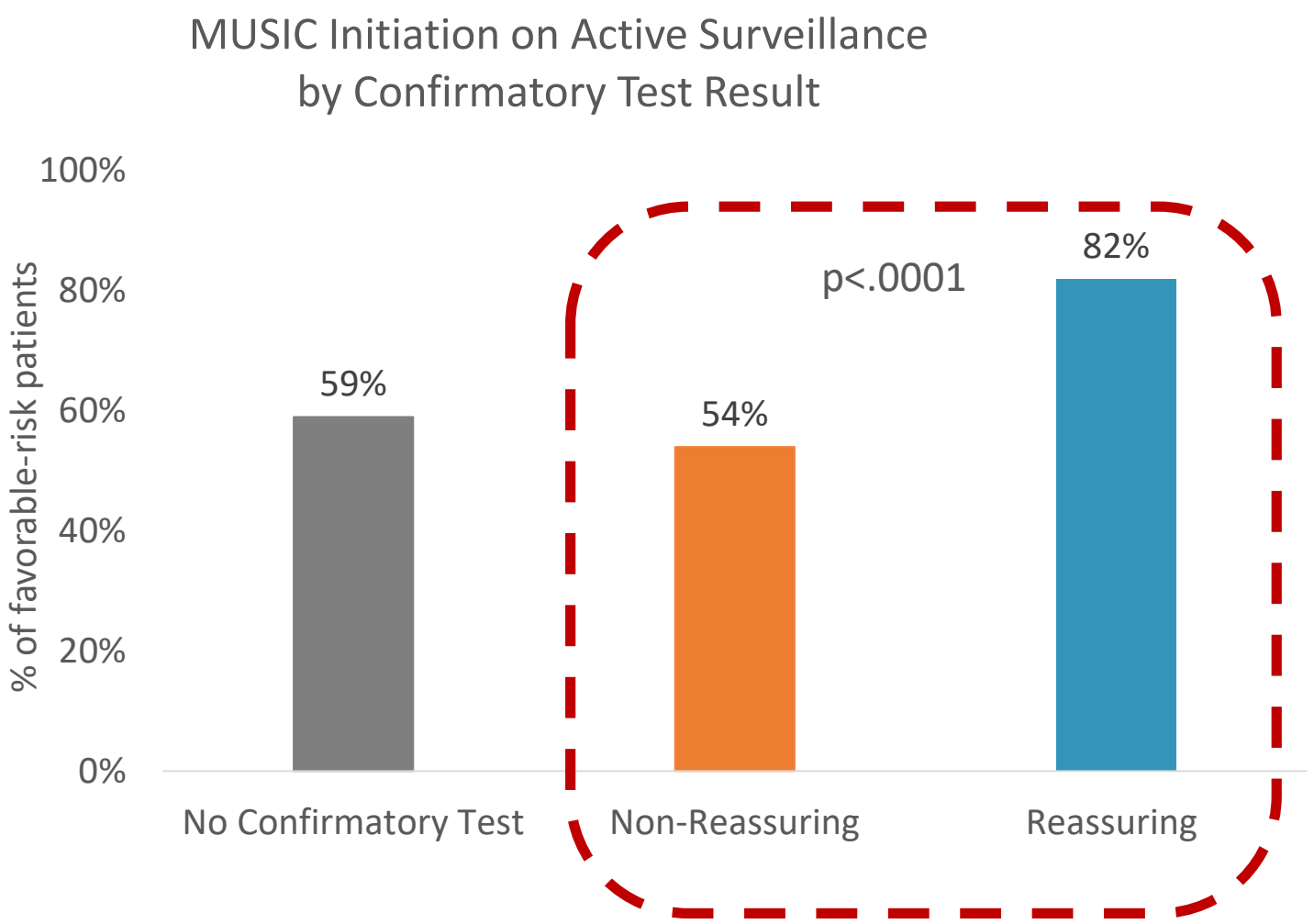
- **Optimize selection of patients for AS through the use of life expectancy estimation, confirmatory testing, and shared decision making**

- Ensure quality of follow-up for patients on AS

Confirmatory testing: Current performance



Confirmatory test results increase a patient's likelihood of continuing on surveillance

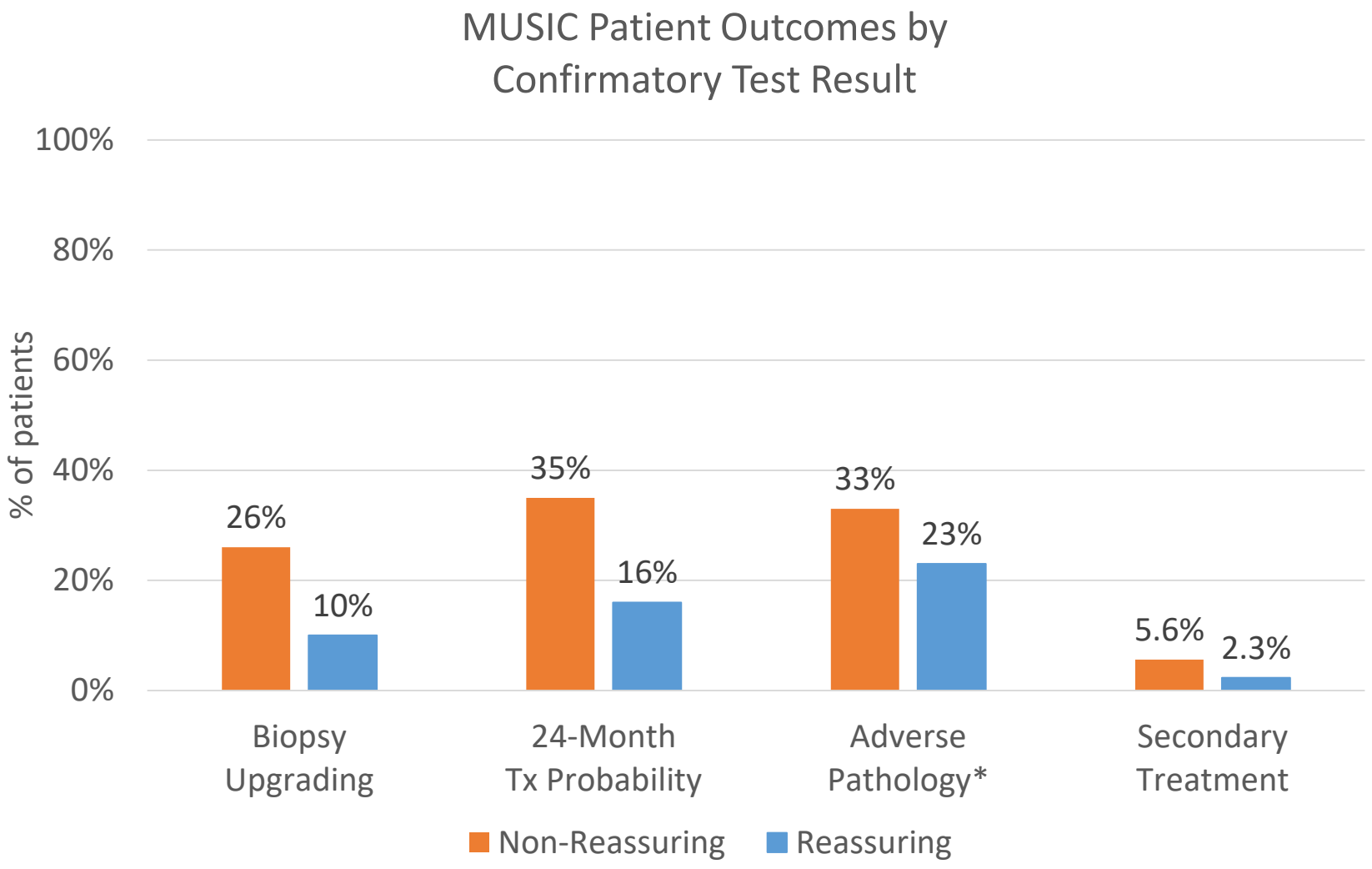


Test Options	Reassuring Test Result
Biopsy	Biopsy grade and volume remain consistent
MRI	Absence of PIRADS 4 or 5 lesion
Genomics	• Prolaris: < 3% probability of Pca mortality • OncotypeDX: > 80% Freedom from High Grade Disease or ≤ 20% High Grade Disease • Decipher score <0.45

How do confirmatory test results correlate with patient outcomes?

1) Biopsy upgrading
2) 24-month treatment probability
3) Adverse pathology
4) Secondary treatment

Confirmatory testing results correlate with patient outcomes



Patients with a reassuring confirmatory test:

1. Less biopsy upgrading
2. Lower likelihood of treatment
3. Lower risk of adverse pathology
4. Less use of secondary treatment

**Adverse pathology is defined as the presence of one or more of the following: primary GS pattern 4, EPE, SVI, positive LN*

Confirmatory testing key takeaways

- Recommended for all favorable-risk prostate cancer patients
- Facilitates the identification of patients with more aggressive disease at diagnosis
- Non-reassuring confirmatory test does not necessarily exclude patients from Active Surveillance
- Improves adoption of Active Surveillance in appropriate candidates

MUSIC goals

- Expand use of Active Surveillance (AS) for patients with favorable-risk prostate cancer
- Optimize selection of patients for AS through the use of life expectancy estimation, confirmatory testing, and shared decision making
- **Ensure quality of follow-up for patients on AS**

When are we doing too much and when we are doing too little?

Active Surveillance (AS) follow-up: MUSIC guidelines

High-Intensity Surveillance Plan

Diagnosis	Confirmatory Test	Surveillance Phase	
PSA		Obtain every 6 months	Continue until deterioration in health or age or change in patient preferences
DRE		Obtain every 6 months	
Tumor Burden Reassessment*+ (Biopsy or MRI)	Obtain test(s) within 6 months of Diagnosis	Obtain every 12 months	

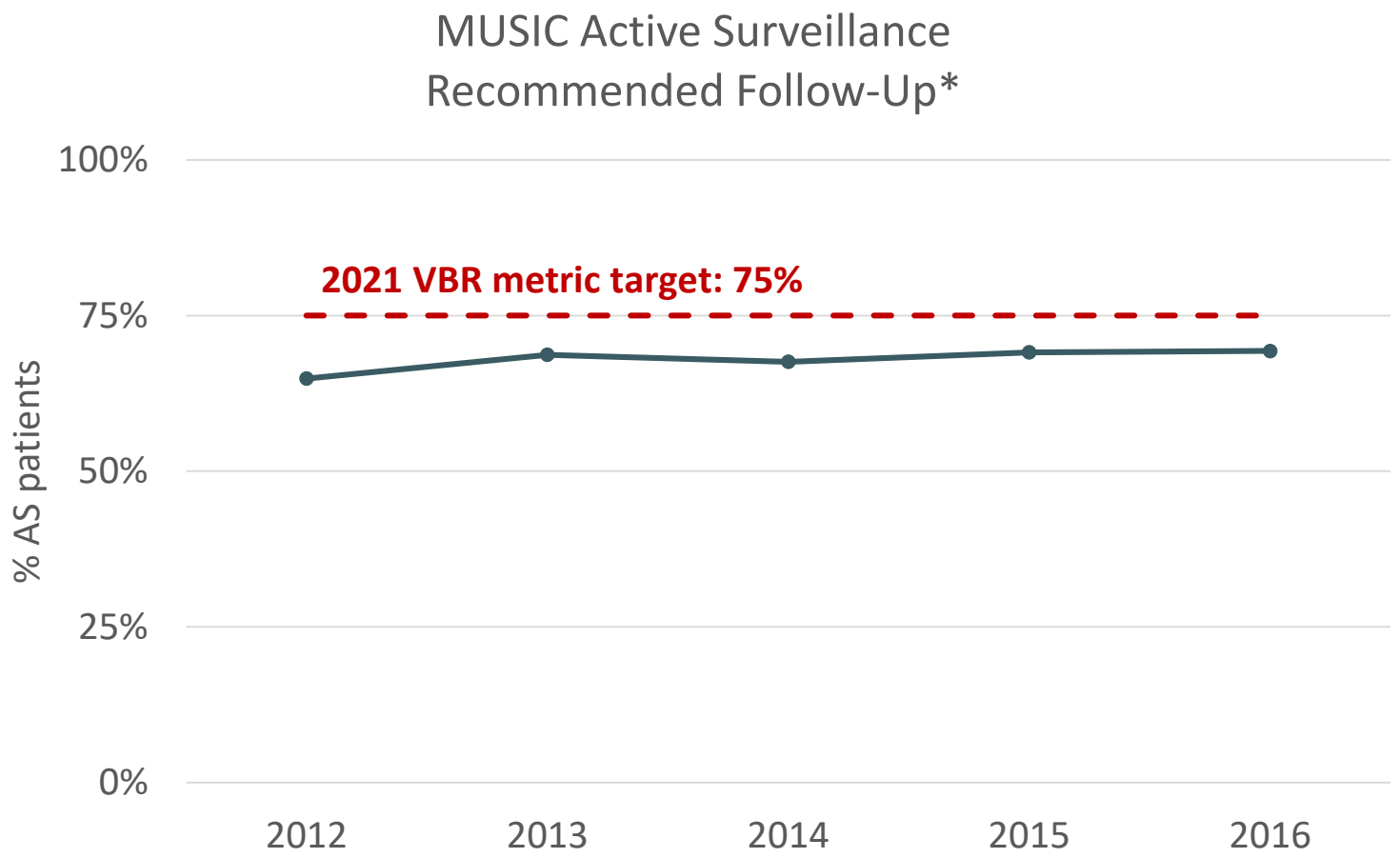
Low-Intensity Surveillance Plan

Diagnosis	Confirmatory Test	Surveillance Phase	
PSA		Obtain every 12 months	Continue until deterioration in health or age or change in patient preferences
DRE		Obtain every 12 months	
Tumor Burden Reassessment* (Biopsy or MRI)	Obtain test(s) within 6 months of Diagnosis	Obtain at least once every 3 years	

* Biopsy should occur at least every 2 years.
+ Genomic testing can be obtained on initial or subsequent biopsy at provider discretion. Consider likelihood of non-reimbursement for repeat genomic testing since this is not yet an established process.

Quality of AS follow-up: Current state

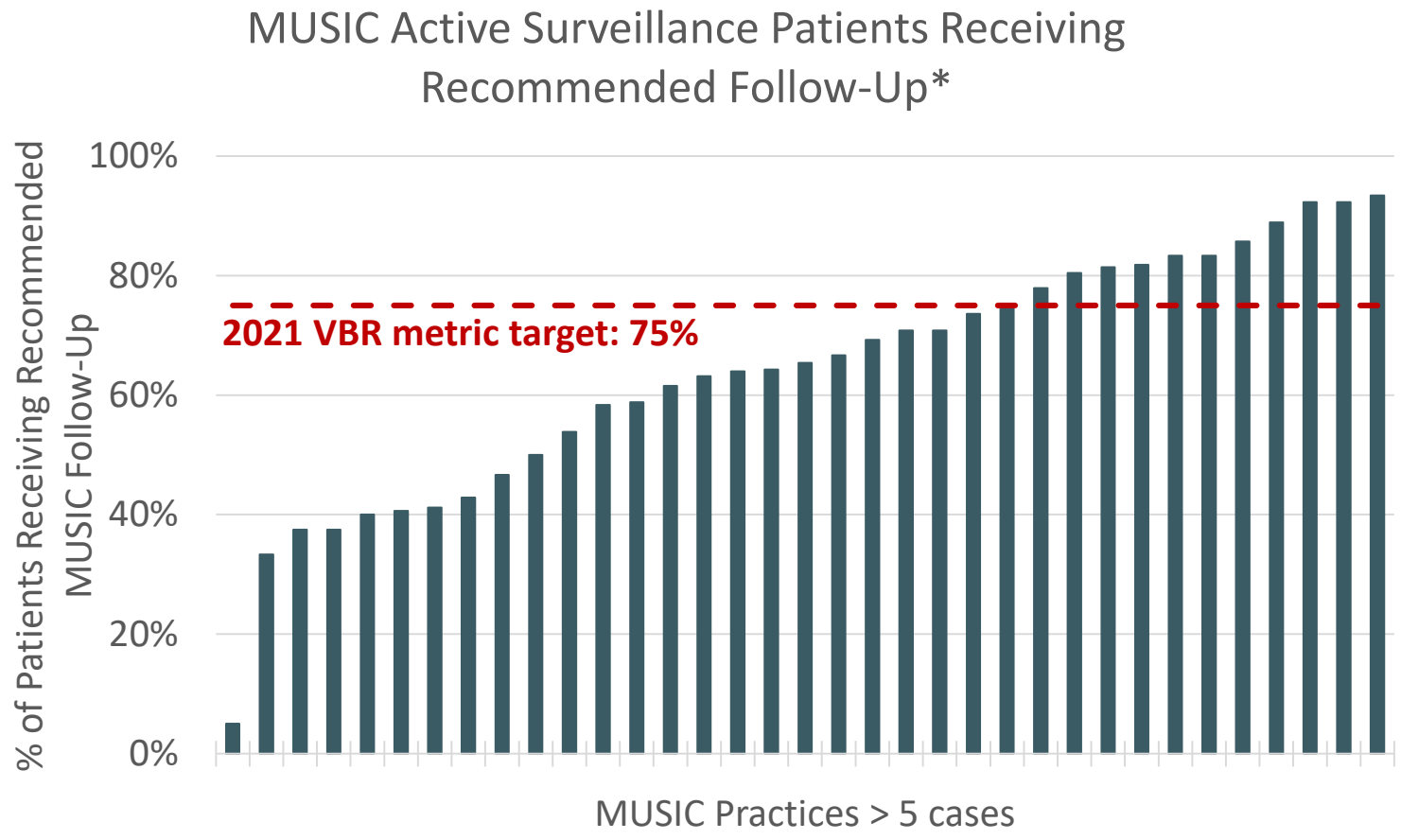
VBR Measure



**3 PSAs and 1 Tumor Burden Reassessment within 42 Months of Diagnosis*

Quality of AS follow-up: Practice-level variation

VBR Measure



**3 PSAs and 1 Tumor Burden Reassessments within 42 Months of Diagnosis;*
Figure reflects for data for patients diagnosed between 1/1/15 – 7/31/16

Quality of follow-up: Key takeaways

- Urologists responsibility to ensure patients receive the necessary testing
  - ➢We can do better!

- Active Surveillance follow-up testing is a BCBSM VBR metric and thus the greater use of follow-up testing will result in a greater return to MUSIC urologists

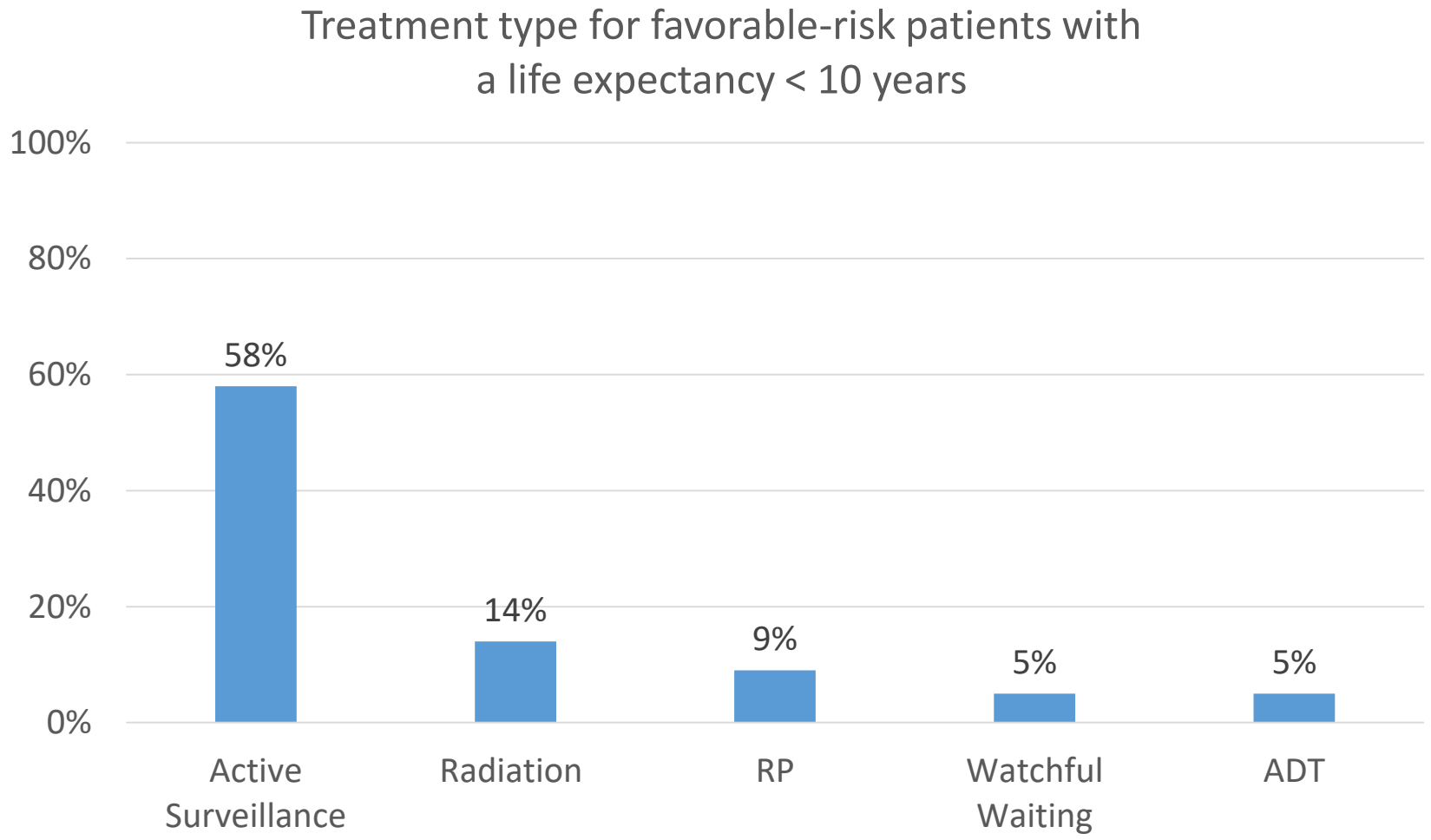
- Are some Active Surveillance patients more appropriate for Watchful Waiting?

Watchful Waiting in MUSIC

Watchful Waiting is typically reserved for men with an estimated life expectancy of less than 10 years.

Diagnosis	Surveillance Phase	
PSA	Obtain every 12 months	Consider imaging or systemic therapy (ADT) for suspicion of metastases
DRE	Obtain every 12 months	
Tumor Burden Reassessment (Biopsy or MRI)	Not performed	
Genomics	Not performed	

Treatment for patients with life expectancy < 10 years



Key takeaways

- Appropriately classify patients on expectant management
- Limit overtreatment in patients who likely will not benefit (e.g., life expectancy < 10 years)
- If a patient is truly on Active Surveillance, perform the necessary testing

Overall takeaways

- Consider Active Surveillance for patients with favorable-risk prostate cancer
- Utilize confirmatory testing and react to test results
- Appropriately classify and follow patients on expectant management

Ureteroscopy:
Aligning Payments to Quality & Understanding the Patient Experience

Khurshid Ghani, MD

Making Michigan the best for URS

Ureteroscopy Continuum of Care

MUSIC QI Initiative

Pre-operative	Surgery	Post-operative
• Patient education (e.g., Stent leaflet; Pain Optimization Pathway, "POP")	• Stent appropriateness criteria *(coming soon!)* • **Patient Reported Outcomes (PROs)**	• MUSIC Pain-control Optimization Pathway (MPOP) • **Post-operative imaging**

Outcomes

Pre-operative	Surgery	Post-operative
• Patient has clear expectations and plan for managing stent and pain following surgery	• Avoid, or reduce, stent dwell times • Improve patient experience and recovery	• Pain managed without opioids • No **ED visits** or hospitalizations • Stone-free, no need for repeat surgery

Objectives for todays ROCKS session

1. Discuss progress on reducing ED visits for URS and linking EXTRA payments (VBR) to the quality of URS

2. Provide data on imaging utilization and discuss imaging after URS

3. Present pilot PRO data for URS patients and discuss future opportunities to measure PROs after kidney stone surgery

Value-Based Reimbursement (VBR) for ROCKS (URS)

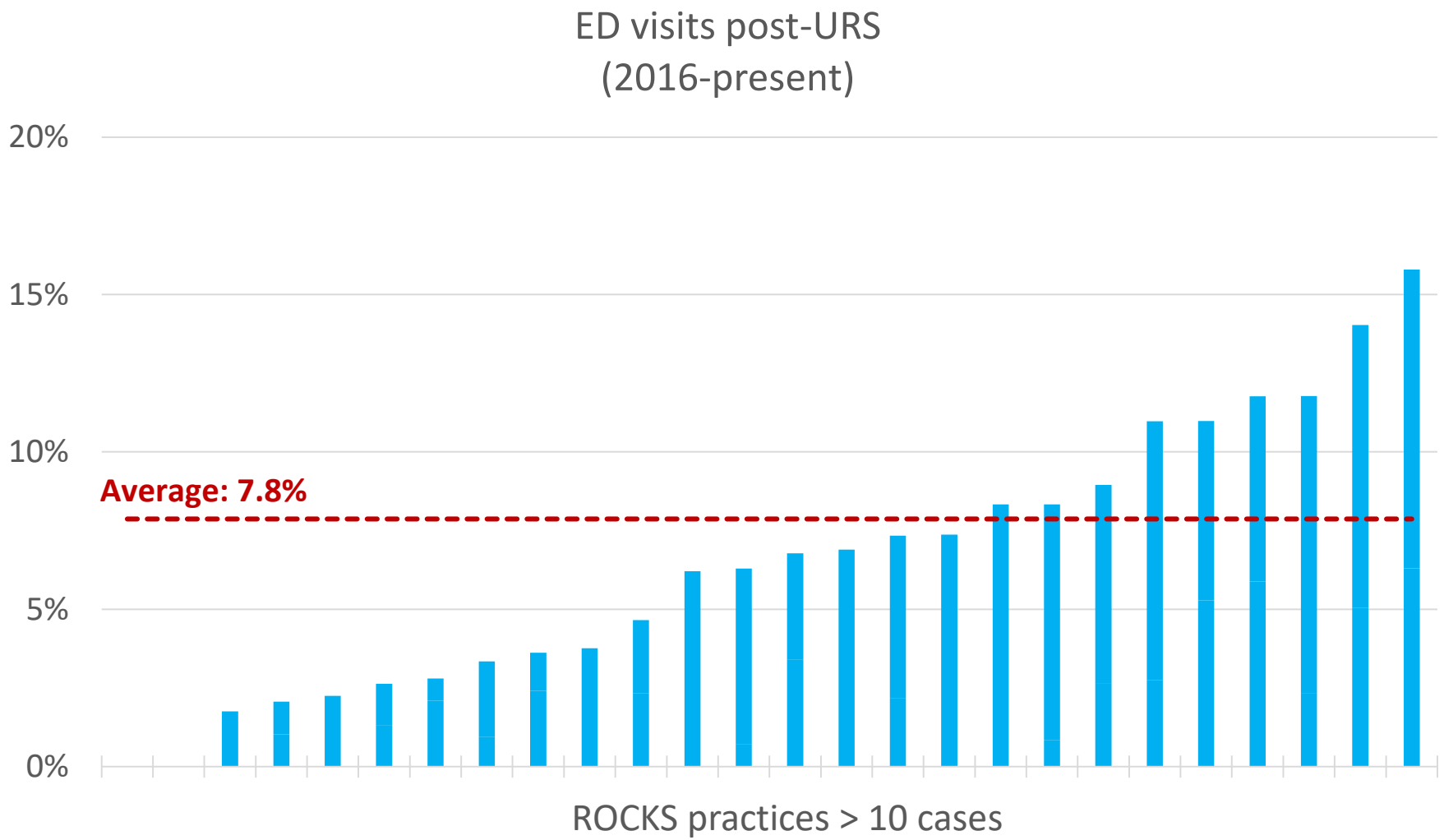
#1 Reducing ED visits

#2 Imaging

$$\text{Value} = \frac{\textbf{Quality}}{\text{Cost}} * \text{Appropriateness}$$

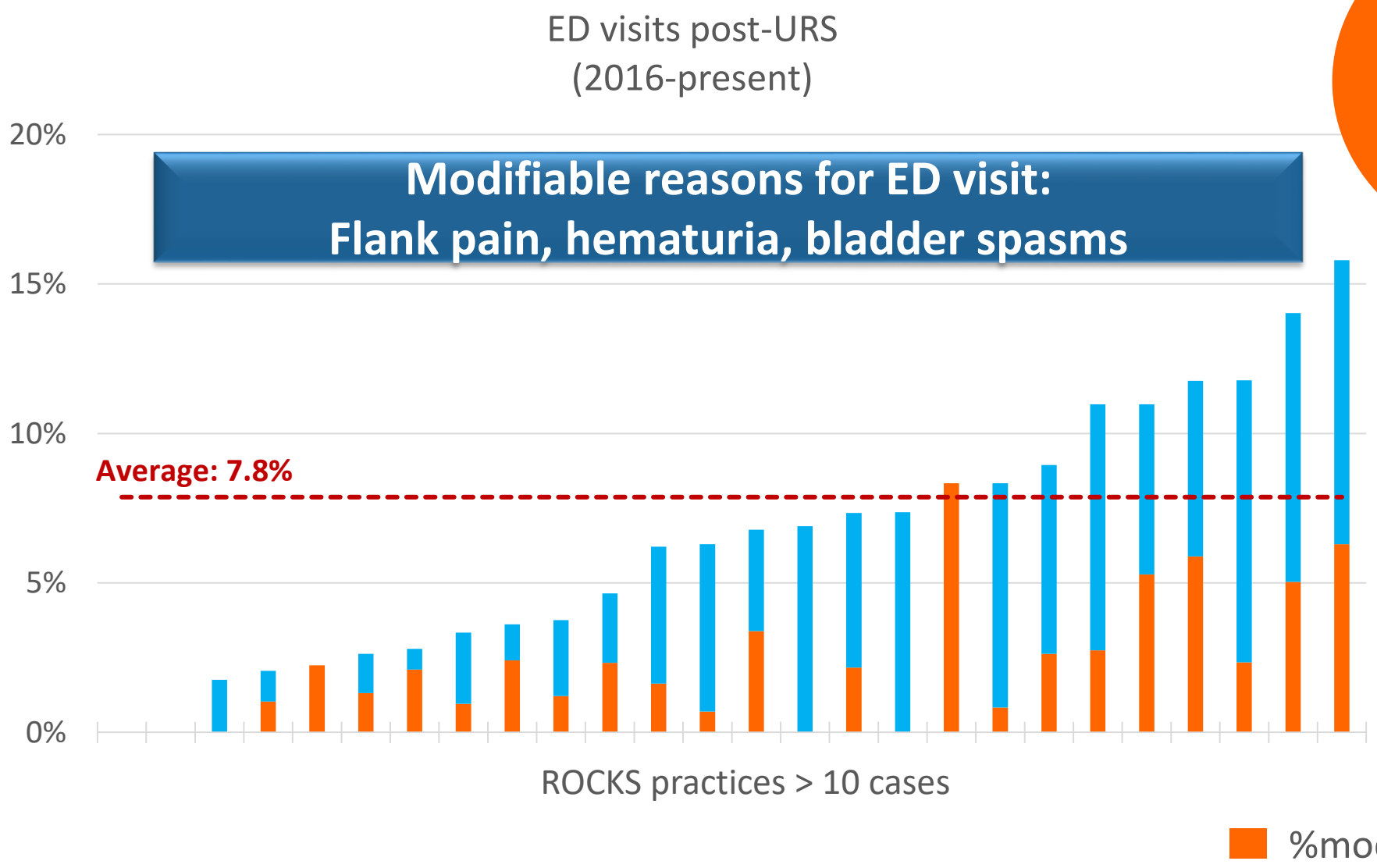
All MUSIC urologists may be eligible to be reimbursed up to 105% of standard fee schedules for eligible services from BCBSM if both #1 and #2 targets are reached

ED visits post-URS: Progress so far



ED visits post-URS: Progress so far

30% are Modifiable



ED visits post-URS: Goal

Current State:

- ED Visits post-URS: 7.8%
- ~30% are modifiable

Goal:

Reduce modifiable ED visits by **25%**

Stretch Goal:

Reduce modifiable ED visits by **33%**

Quality Improvement efforts so far

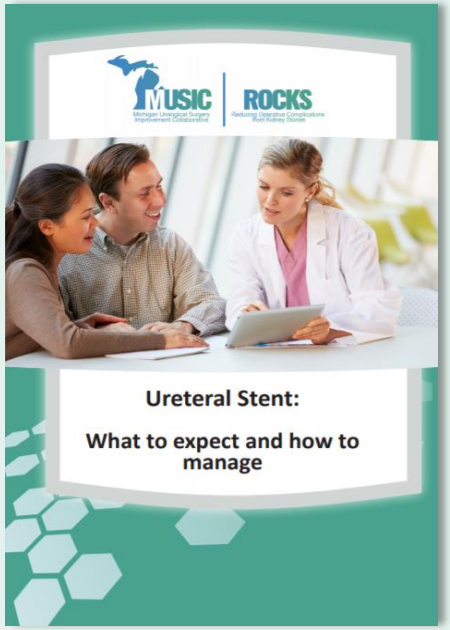
1. Patient education (e.g., stent symptoms)

2. Optimize pain-control after ureteroscopy (POP)

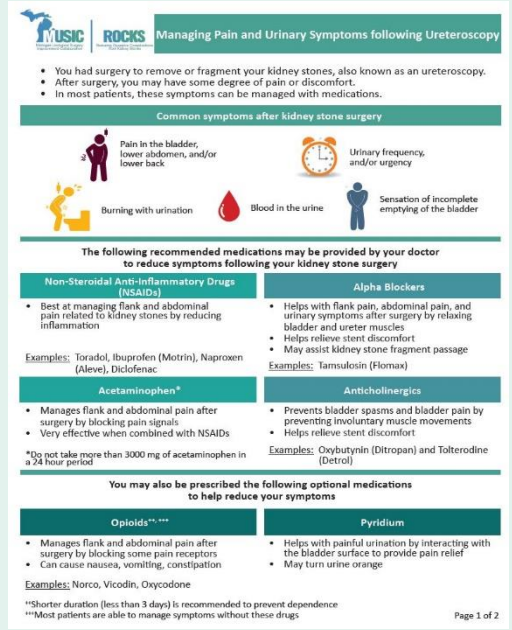
3. Grassroots effort for identifying local QI opportunities

1. Patient education: Stents & managing symptoms

Implementation and dissemination site visits completed in 98% of MUSIC practices

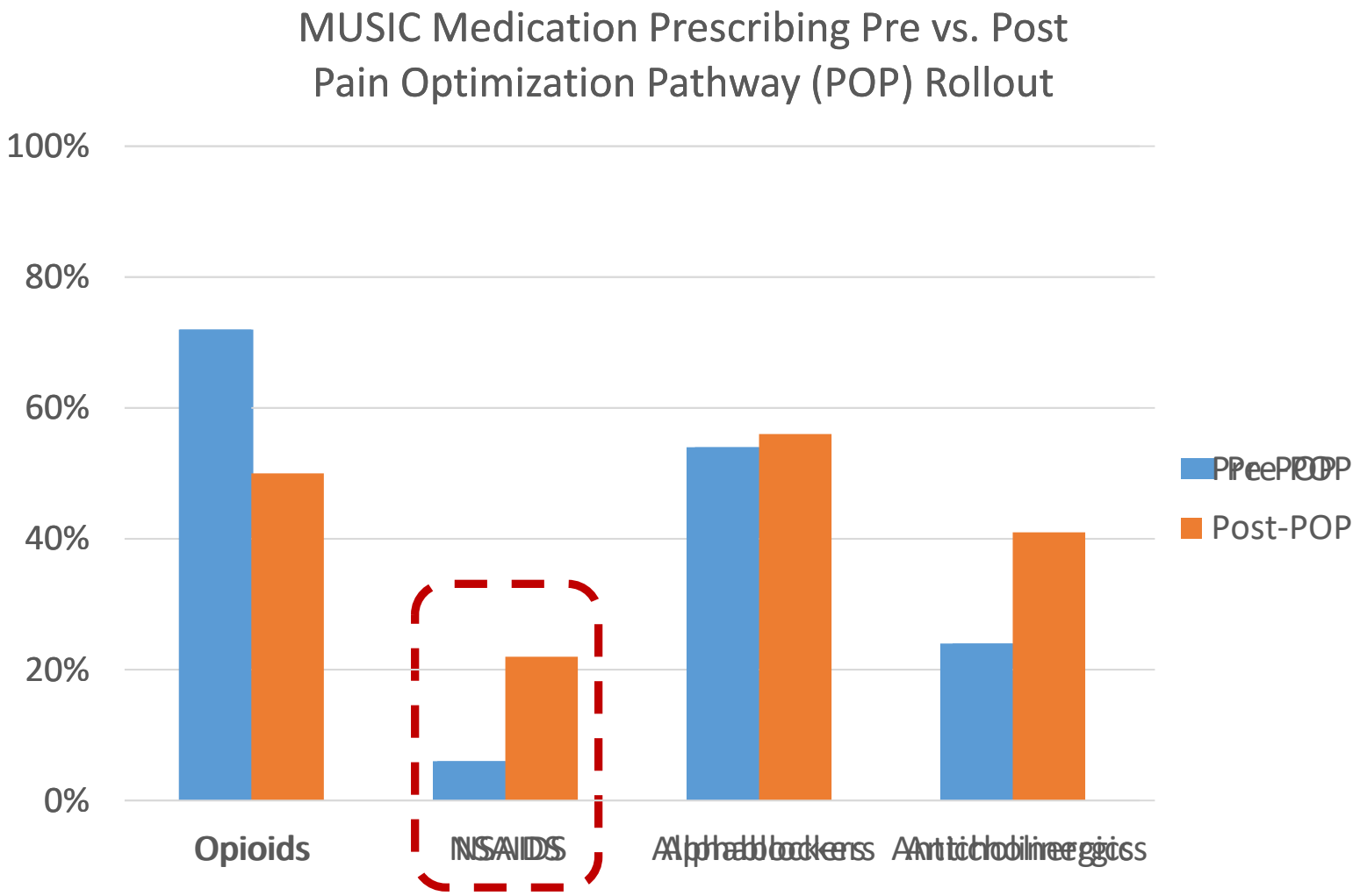


- **10,000+ ureteral stent leaflets**
- 16+ practices are routinely providing stent leaflet to patients



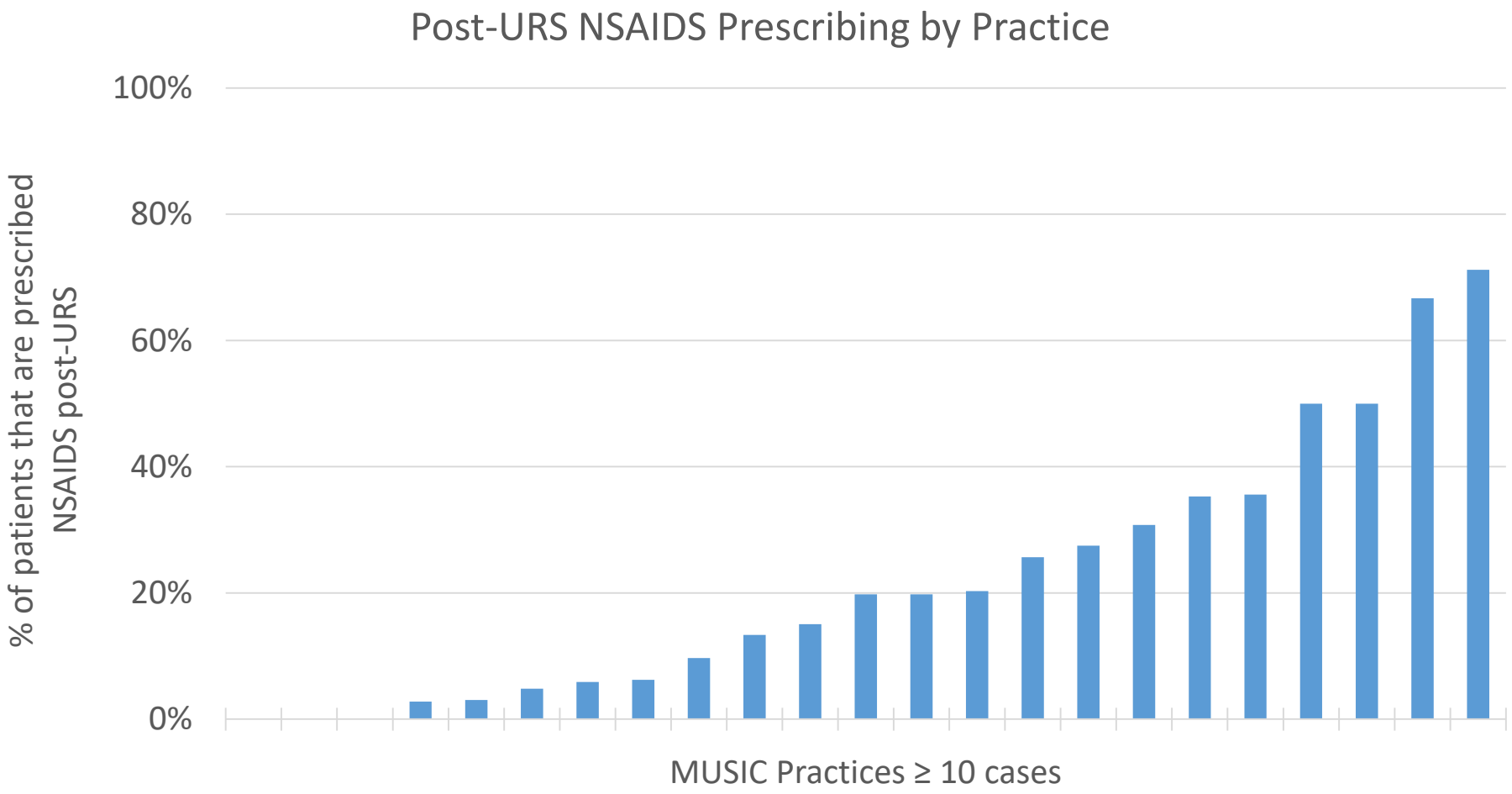
- 14+ practices are providing this patient handout

2. Optimize pain-control after ureteroscopy (POP)



7%

Practice-level NSAIDS prescribing



2-2. Optimize pain-control after ureteroscopy: MUSIC Pain-control Optimization Pathway (MPOP)

June 2016 – June 2019

37%
of patients prescribed **zero** opioids at discharge

7%
of urologists prescribing zero opioids in ≥ 80% of patients

July 2019 - Present

62%
of patients prescribed **zero** opioids at discharge

38%
of urologists prescribing zero opioids in ≥ 80% of patients

p<.001

2-2. Optimize pain-control after ureteroscopy: MUSIC Pain-control Optimization Pathway (MPOP)

1,500
fewer patients receiving opioids

31,000
fewer opioids in the community

100
fewer patients become opioid dependent

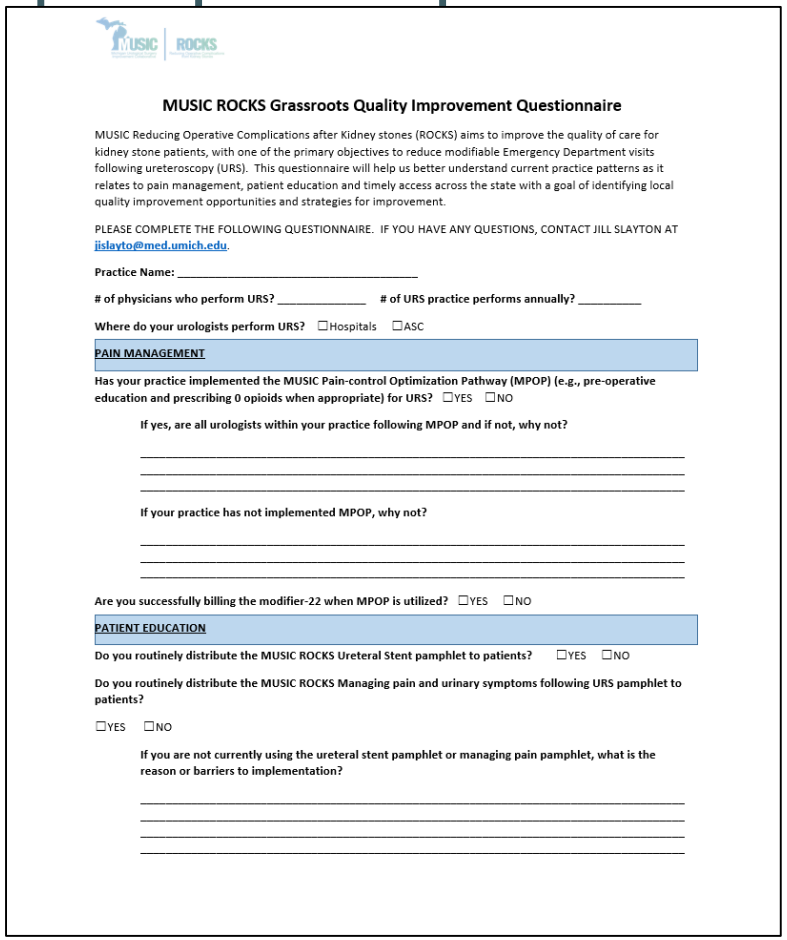
but…

We can get even better!

3. Grassroots effort for improvement

MUSIC practices asked to identify local opportunities for reducing post-URS ED visits and develop a specific plan for improvement

- Pain management
- Patient education
- **Timely access**



MUSIC | ROCKS

MUSIC ROCKS Grassroots Quality Improvement Questionnaire

MUSIC Reducing Operative Complications after Kidney stones (ROCKS) aims to improve the quality of care for kidney stone patients, with one of the primary objectives to reduce modifiable Emergency Department visits following ureteroscopy (URS). This questionnaire will help us better understand current practice patterns as it relates to pain management, patient education and timely access across the state with a goal of identifying local quality improvement opportunities and strategies for improvement.

PLEASE COMPLETE THE FOLLOWING QUESTIONNAIRE. IF YOU HAVE ANY QUESTIONS, CONTACT JILL SLAYTON AT jislayto@med.umich.edu.

Practice Name: _____

# of physicians who perform URS? _____ **# of URS practice performs annually?** _____

Where do your urologists perform URS? ☐Hospitals ☐ASC

PAIN MANAGEMENT

Has your practice implemented the MUSIC Pain-control Optimization Pathway (MPOP) (e.g., pre-operative education and prescribing 0 opioids when appropriate) for URS? ☐YES ☐NO

If yes, are all urologists within your practice following MPOP and if not, why not?

_____
_____
_____

If your practice has not implemented MPOP, why not?

_____
_____
_____

Are you successfully billing the modifier-22 when MPOP is utilized? ☐YES ☐NO

PATIENT EDUCATION

Do you routinely distribute the MUSIC ROCKS Ureteral Stent pamphlet to patients? ☐YES ☐NO

Do you routinely distribute the MUSIC ROCKS Managing pain and urinary symptoms following URS pamphlet to patients?

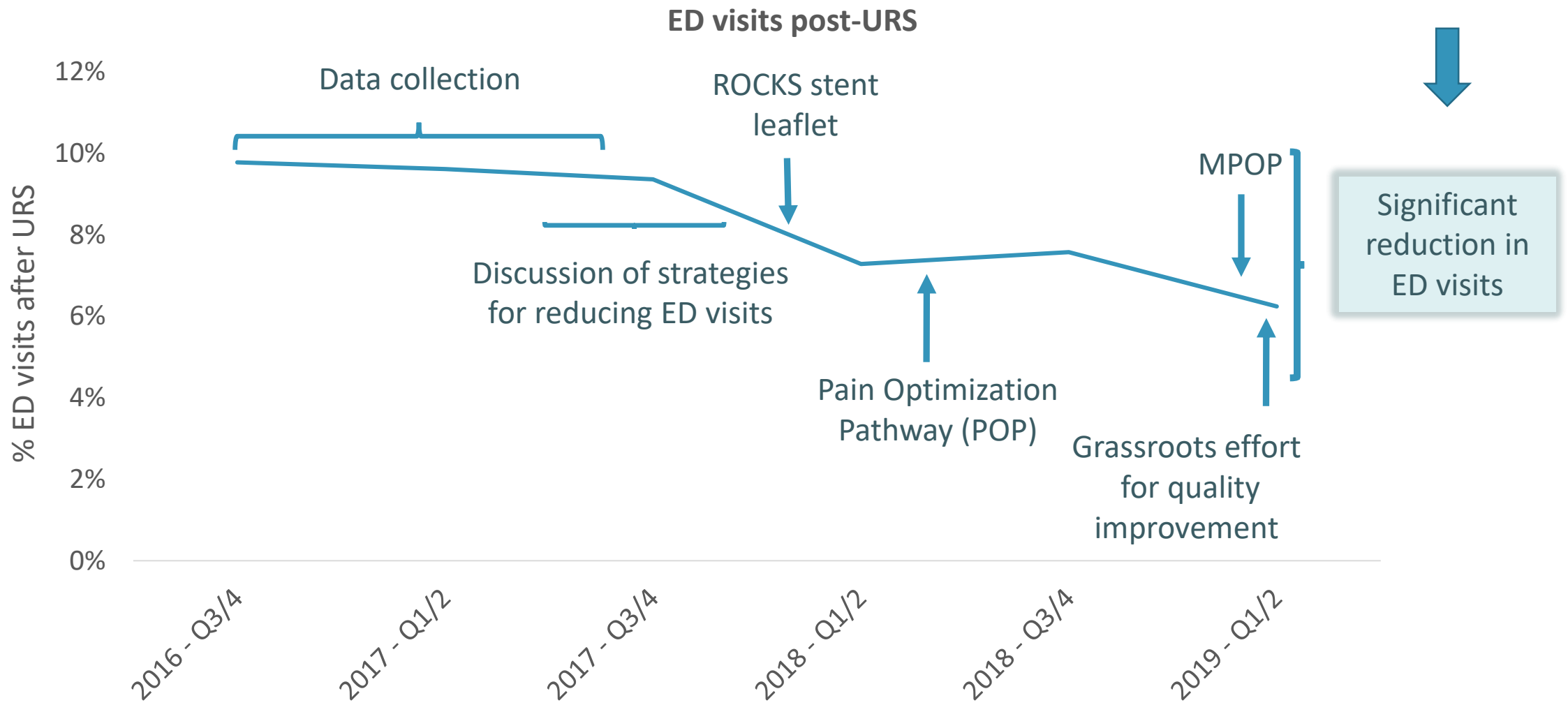
☐YES ☐NO

If you are not currently using the ureteral stent pamphlet or managing pain pamphlet, what is the reason or barriers to implementation?

_____
_____
_____
_____

Have these measures worked?

MUSIC Playbook | **Data** → **Information** → **Action** → **Outcomes**



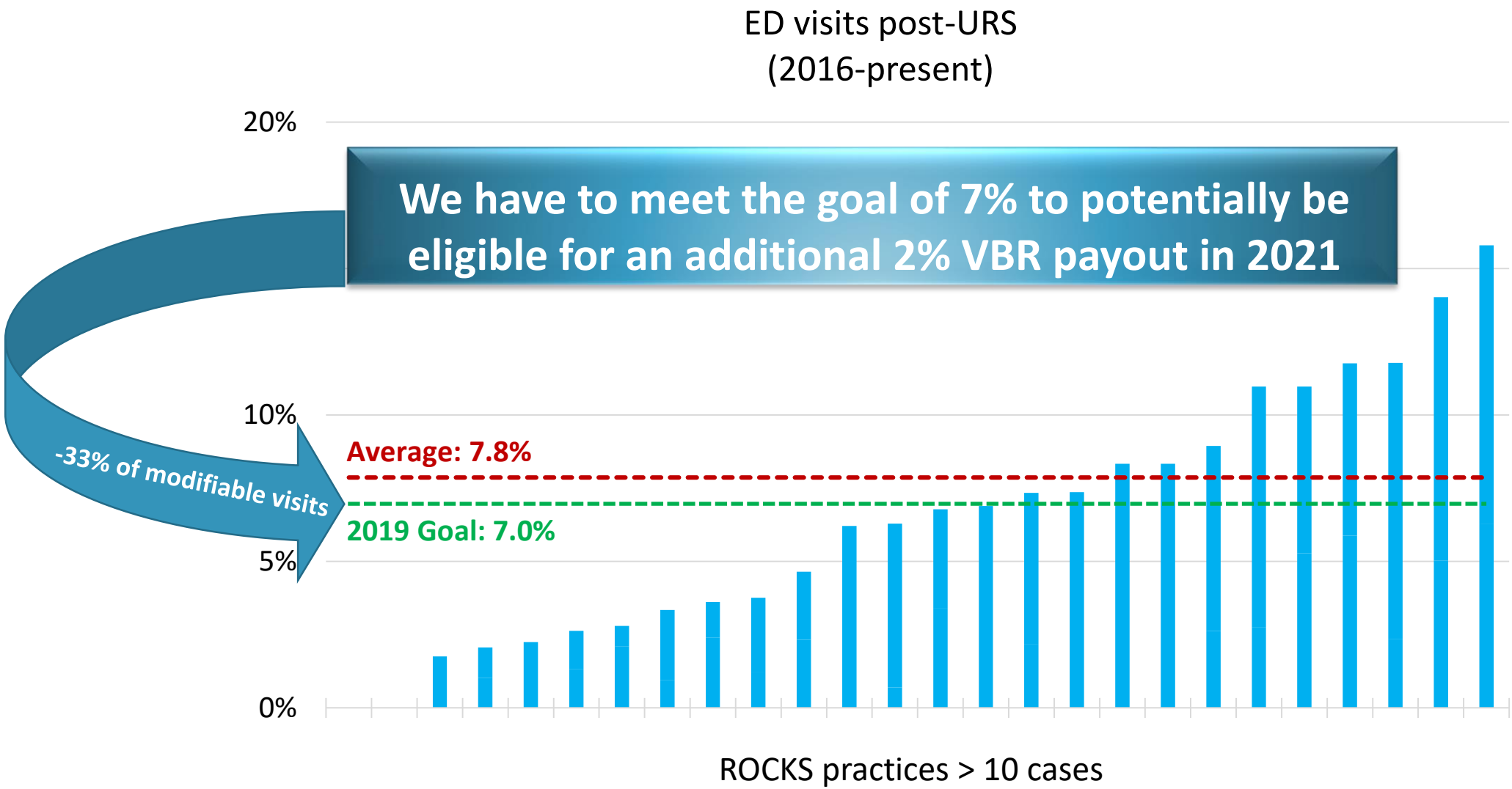
Measuring the impact

215 fewer patients have gone to the ED

+

$2.1 Million in cost savings by avoiding ED visits

2021 BCBSM VBR: Annual savings



Value-Based Reimbursement for ROCKS

#1 Reducing ED visits

#2 Imaging

$$\text{Value} = \frac{\textbf{Quality}}{\text{Cost}} * \text{Appropriateness}$$

2021 BCBSM Value-Based Reimbursement (VBR)

Post-ureteroscopy imaging for kidney stones

Current rate: 37%

Target: 45%

MUSIC
Michigan Urological Surgery Improvement Collaborative

ROCKS
Reducing Operative Complications from Kidney Stones

Optimizing post-ureteroscopy imaging

Mohammad Jafri, MD

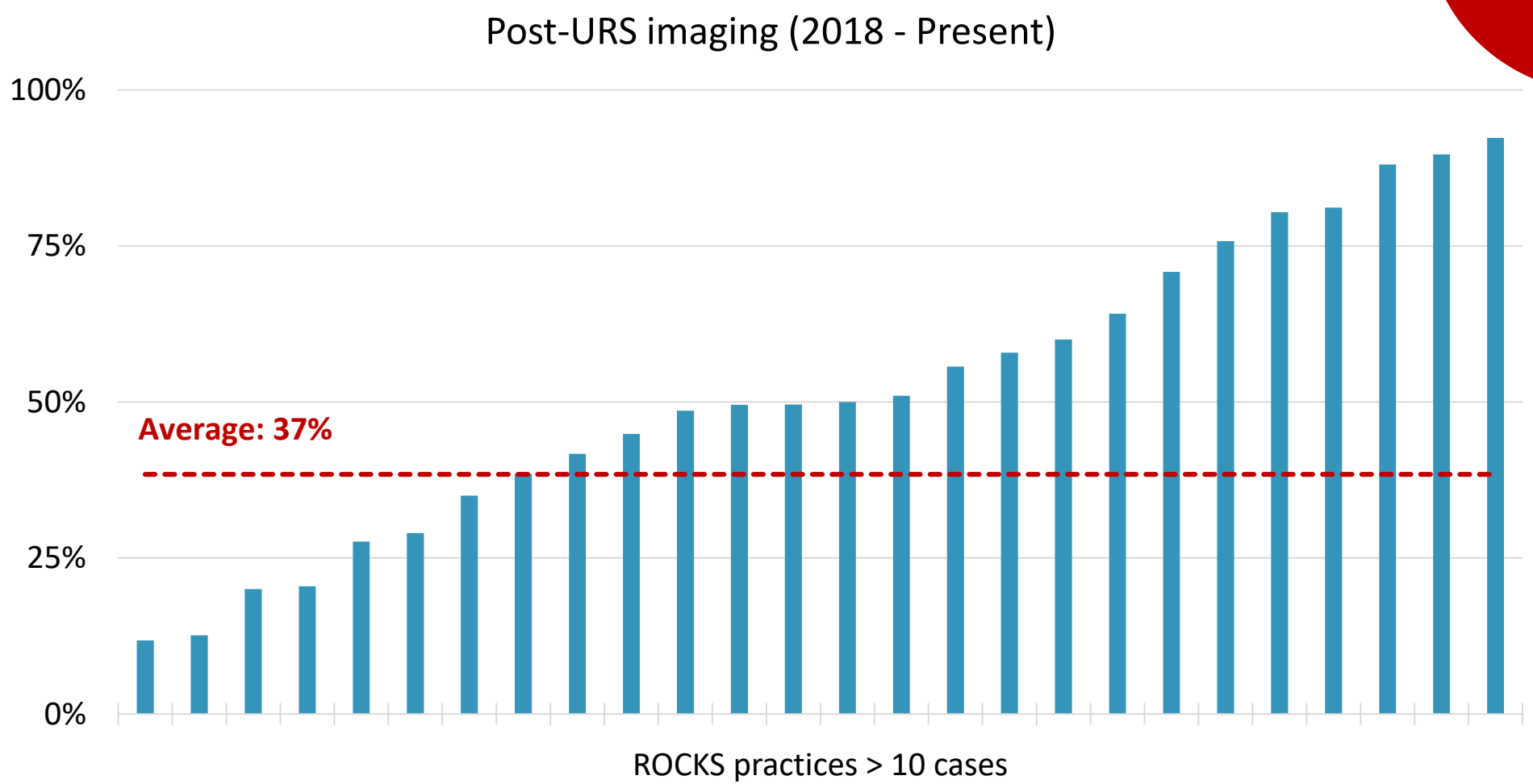
Should patients have imaging after URS?

Case scenario:

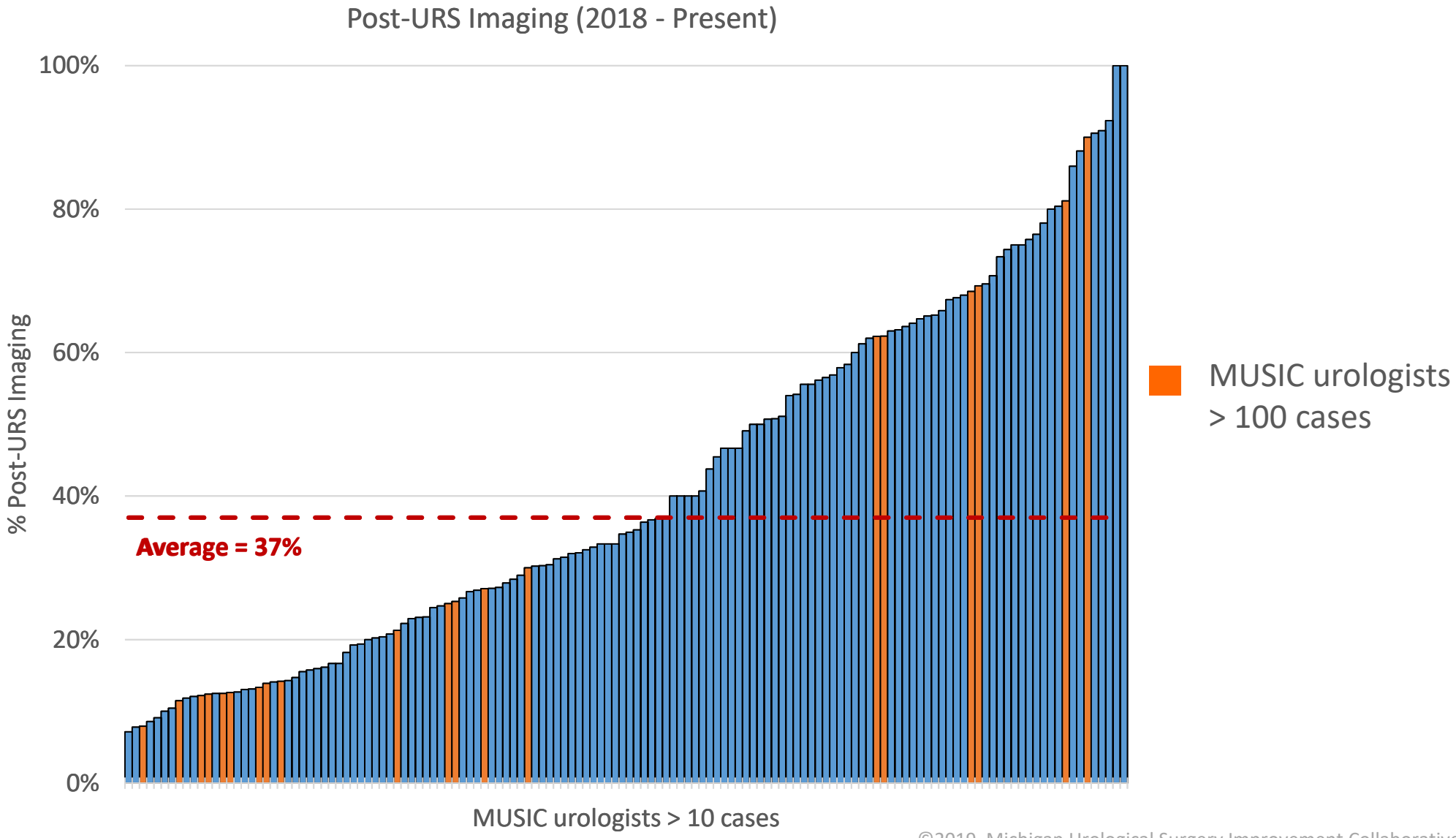
- 38 year old female with left side flank pain
- KUB = 8mm left proximal ureteral stone
- Undergoes uncomplicated URS
- Stent is placed and removed on postoperative day 7

Practice-level post-URS imaging

Stone-free rate 59%



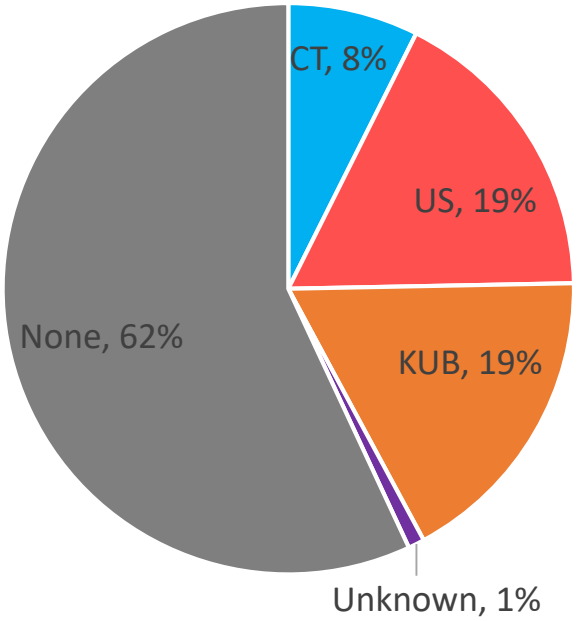
Provider-level post-URS imaging



Imaging practice patterns: We are not alone

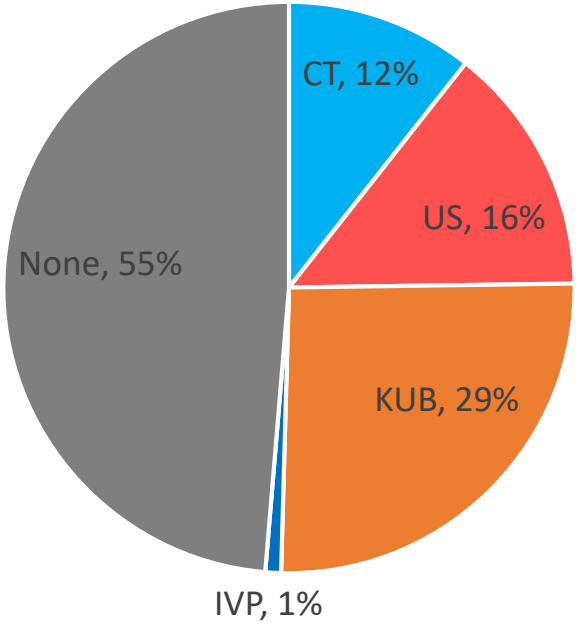
MUSIC

Post-op imaging within 60 days of surgery*



National

Post-op imaging within 0 - 3 months of surgery*



Ahn, et. al., J Urol 2015; 193: 1265.

*Cumulative imaging percentages > 100% due to some patients receiving > 1 type of imaging

Why is post-URS imaging important?

Outcomes

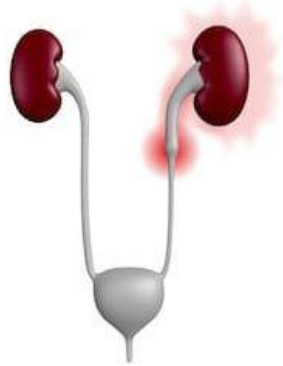
Physicians and patients need to know outcomes

Pearle, Urology, Editorial Comment, 2019

Regrowth

Residual stones have important clinical implications for patients

Chew, et. al. Journal of Urology, 2016



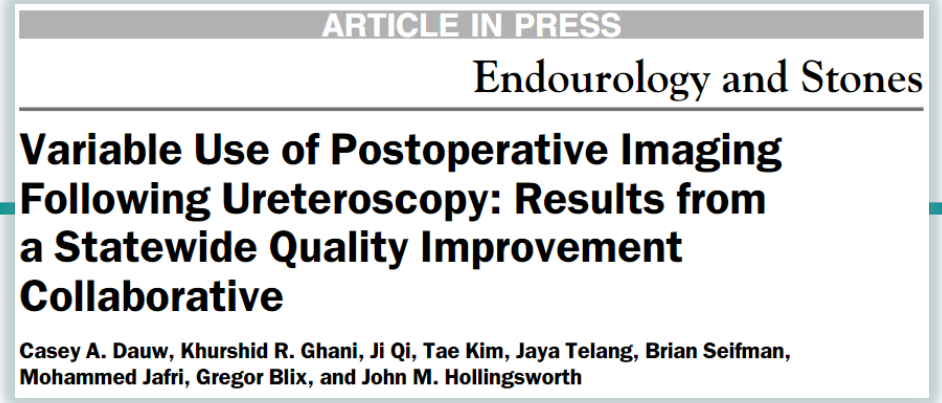
Obstruction

Although silent ureteral obstruction is rare, it has dire consequence

Lotan, et. al. Journal of Urology, 2012

Weizer, et. al. Journal of Urology, 2002

Raising awareness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Endourology and Stones

Variable Use of Postoperative Imaging Following Ureteroscopy: Results from a Statewide Quality Improvement Collaborative

Casey A. Dauw, Khurshid R. Ghani, Ji Qi, Tae Kim, Jaya Telang, Brian Seifman, Mohammed Jafri, Gregor Blix, and John M. Hollingsworth

By identifying the scope of the problem, the MUSIC ROCKS initiative raises awareness and offers the potential to implement a strategy to improve adherence to the recommended imaging protocol after URS. It is only by being honest with ourselves and our patients that we can identify and correct the shortcomings of any surgical intervention and provide better care for our patients.

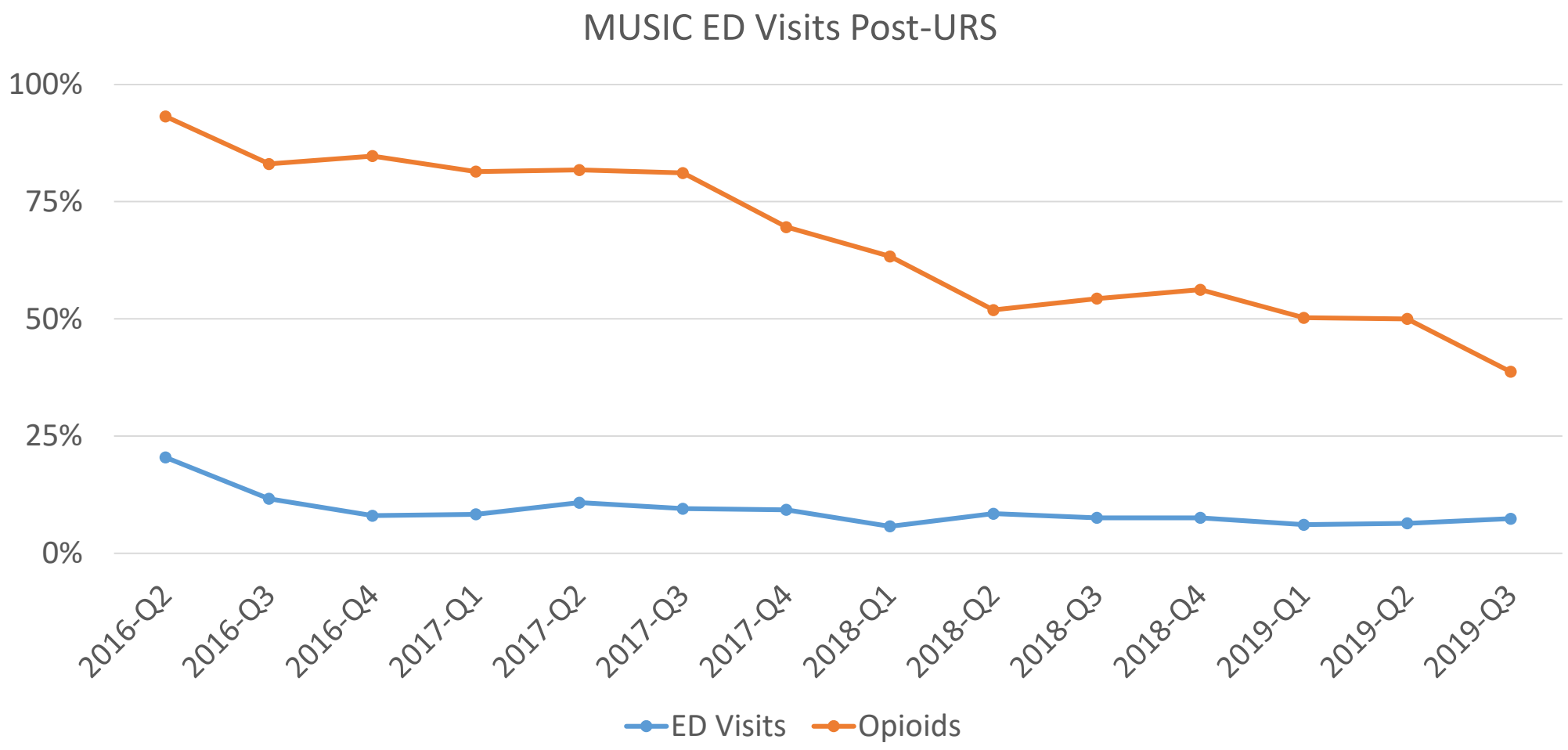
Margaret S. Pearle,
Urology, Editorial Comment, 2019

ROCKS
Reducing Operative Complications
from Kidney Stones

ROCKS Future Direction:
PRO (Patient Reported Outcomes)

Casey Dauw, MD

What really matters to patients?

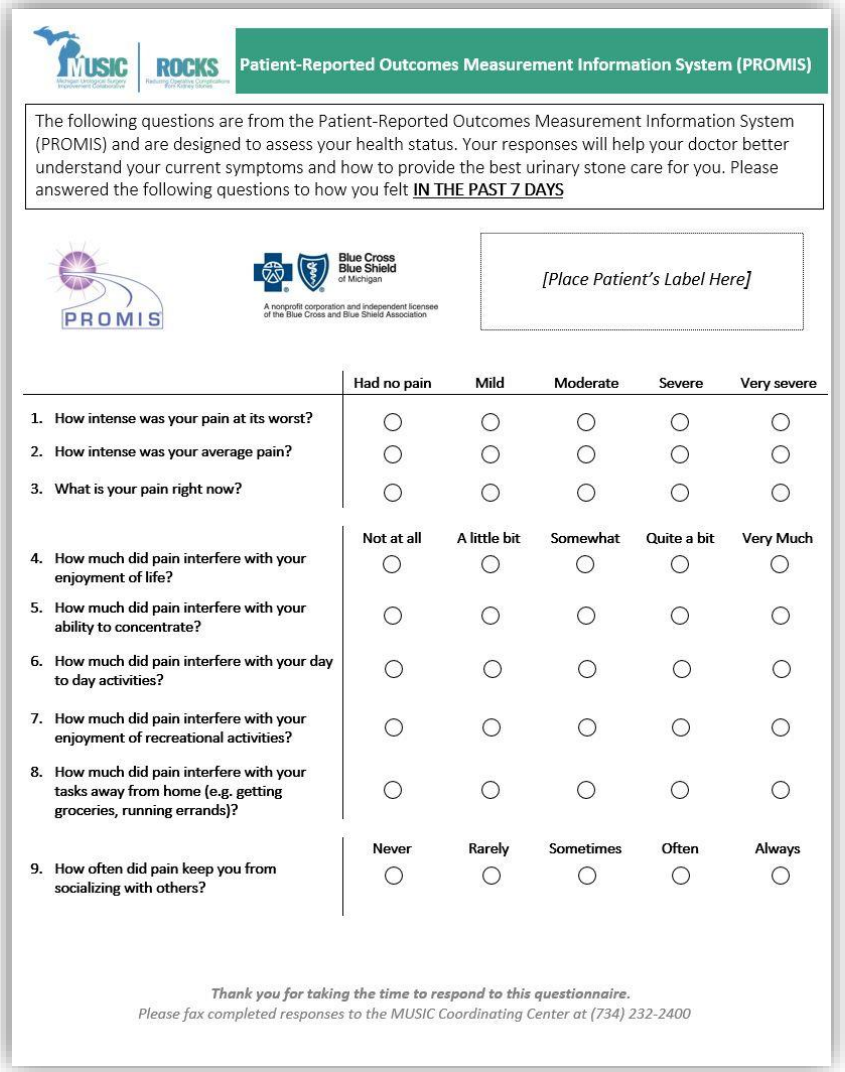


Collection of PROs: What can we learn?

- Feasibility of collecting PROs data for patients undergoing kidney stone surgery
- Impact of an opiate-free (OF) pathway
- Practicality of omitting a stent
- Impact of treatment selection on outcomes

Pilot MUSIC ROCKS PRO data collection: Overview

- Manually collected PROs for Michigan Medicine URS patients
- Utilized the PROMIS survey
- Surveyed 80 patients
  - Pre-operatively
  - 7 – 10 days post-op
  - 4 – 6 weeks post-op



MUSIC ROCKS **Patient-Reported Outcomes Measurement Information System (PROMIS)**

The following questions are from the Patient-Reported Outcomes Measurement Information System (PROMIS) and are designed to assess your health status. Your responses will help your doctor better understand your current symptoms and how to provide the best urinary stone care for you. Please answered the following questions to how you felt **IN THE PAST 7 DAYS**

PROMIS

Blue Cross Blue Shield of Michigan
A nonprofit corporation and independent licensee of the Blue Cross and Blue Shield Association

[Place Patient's Label Here]

	Had no pain	Mild	Moderate	Severe	Very severe
1. How intense was your pain at its worst?	○	○	○	○	○
2. How intense was your average pain?	○	○	○	○	○
3. What is your pain right now?	○	○	○	○	○

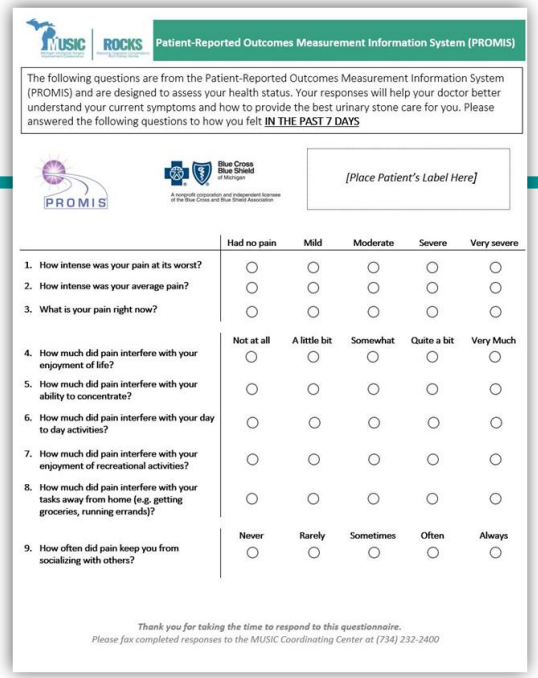
	Not at all	A little bit	Somewhat	Quite a bit	Very Much
4. How much did pain interfere with your enjoyment of life?	○	○	○	○	○
5. How much did pain interfere with your ability to concentrate?	○	○	○	○	○
6. How much did pain interfere with your day to day activities?	○	○	○	○	○
7. How much did pain interfere with your enjoyment of recreational activities?	○	○	○	○	○
8. How much did pain interfere with your tasks away from home (e.g. getting groceries, running errands)?	○	○	○	○	○

	Never	Rarely	Sometimes	Often	Always
9. How often did pain keep you from socializing with others?	○	○	○	○	○

Thank you for taking the time to respond to this questionnaire.
Please fax completed responses to the MUSIC Coordinating Center at (734) 232-2400

PRO pilot: Overview

- Pilot study at Michigan Medicine
- 119 patients completed baseline
- 76 completed baseline and 7-10 day questionnaires
  - **67.8**% response rate
- 54 completed baseline, 7-10 day and 4-6 week questionnaires
  - **65.6**% completion rate



MUSIC | ROCKS

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PROMIS

Blue Cross Blue Shield of Michigan

[Place Patient's Label Here]

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1. How intense was your pain at its worst?	○	○	○	○	○
2. How intense was your average pain?	○	○	○	○	○
3. What is your pain right now?	○	○	○	○	○

	Not at all	A little bit	Somewhat	Quite a bit	Very Much
4. How much did pain interfere with your enjoyment of life?	○	○	○	○	○
5. How much did pain interfere with your ability to concentrate?	○	○	○	○	○
6. How much did pain interfere with your day to day activities?	○	○	○	○	○
7. How much did pain interfere with your enjoyment of recreational activities?	○	○	○	○	○
8. How much did pain interfere with your tasks away from home (e.g. getting groceries, running errands)?	○	○	○	○	○

	Never	Rarely	Sometimes	Often	Always
9. How often did pain keep you from socializing with others?	○	○	○	○	○

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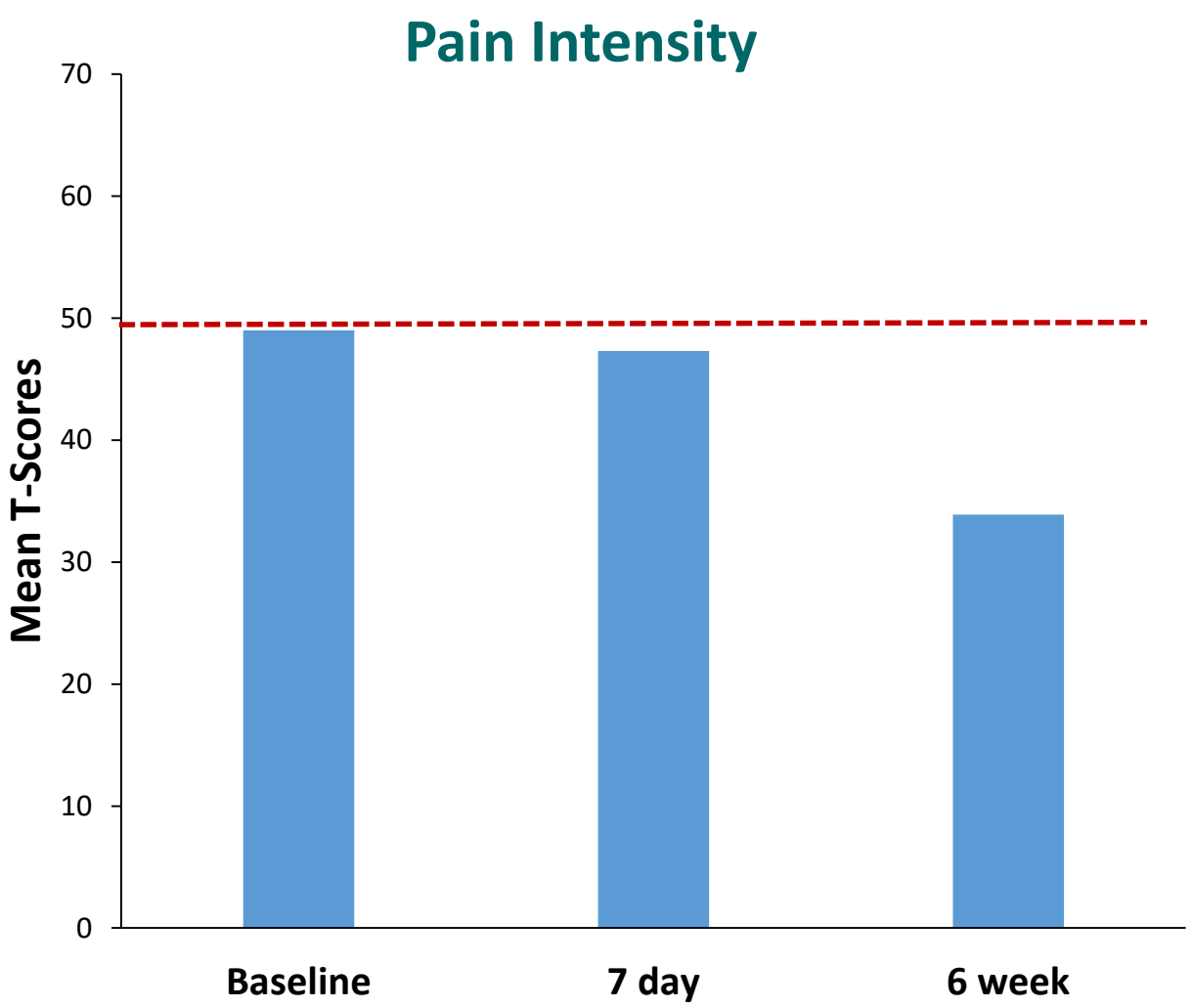
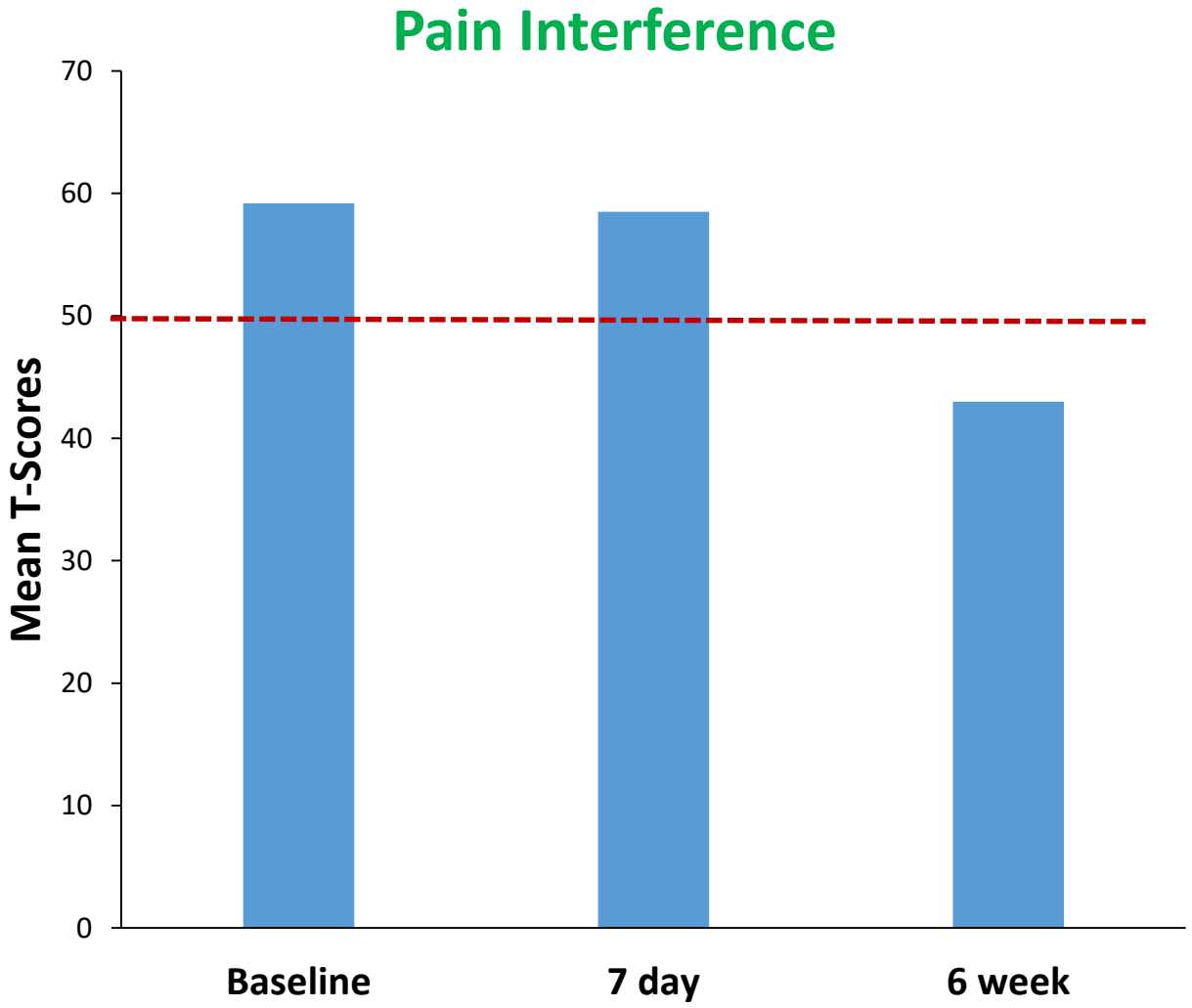
PRO pilot: Cohort description

- 76 completed baseline and 7-10 day questionnaires
- Opiates: **22.4%**
- Stenting rate: **67.1%**
- ED visit rate: **9.2%**

- Mean stone size:
  - 7.4 mm
- Stone location:
  - Renal - 36
  - Ureteral - 27
  - Both - 13

PRO pilot: Overall Mean T-Scores

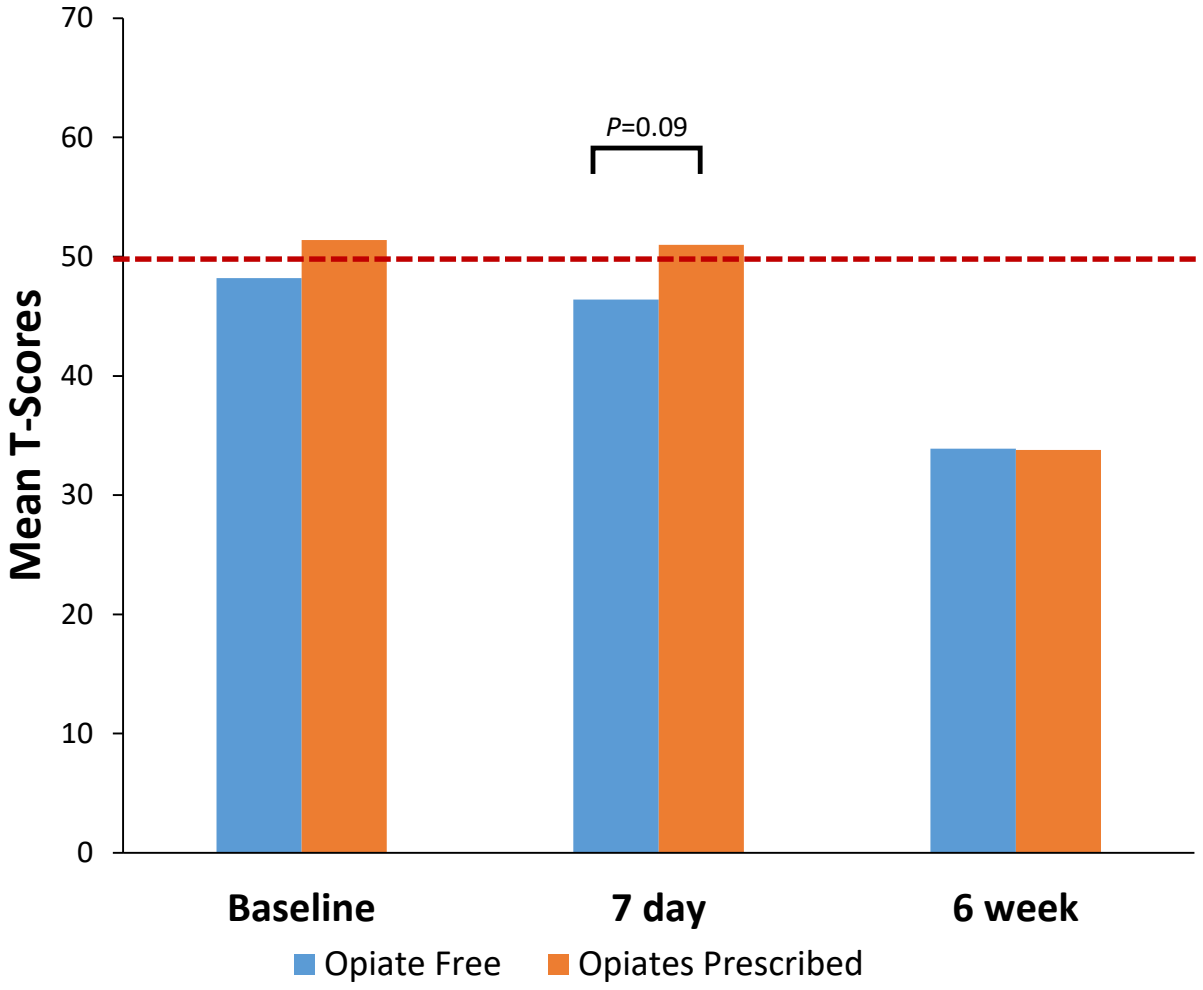




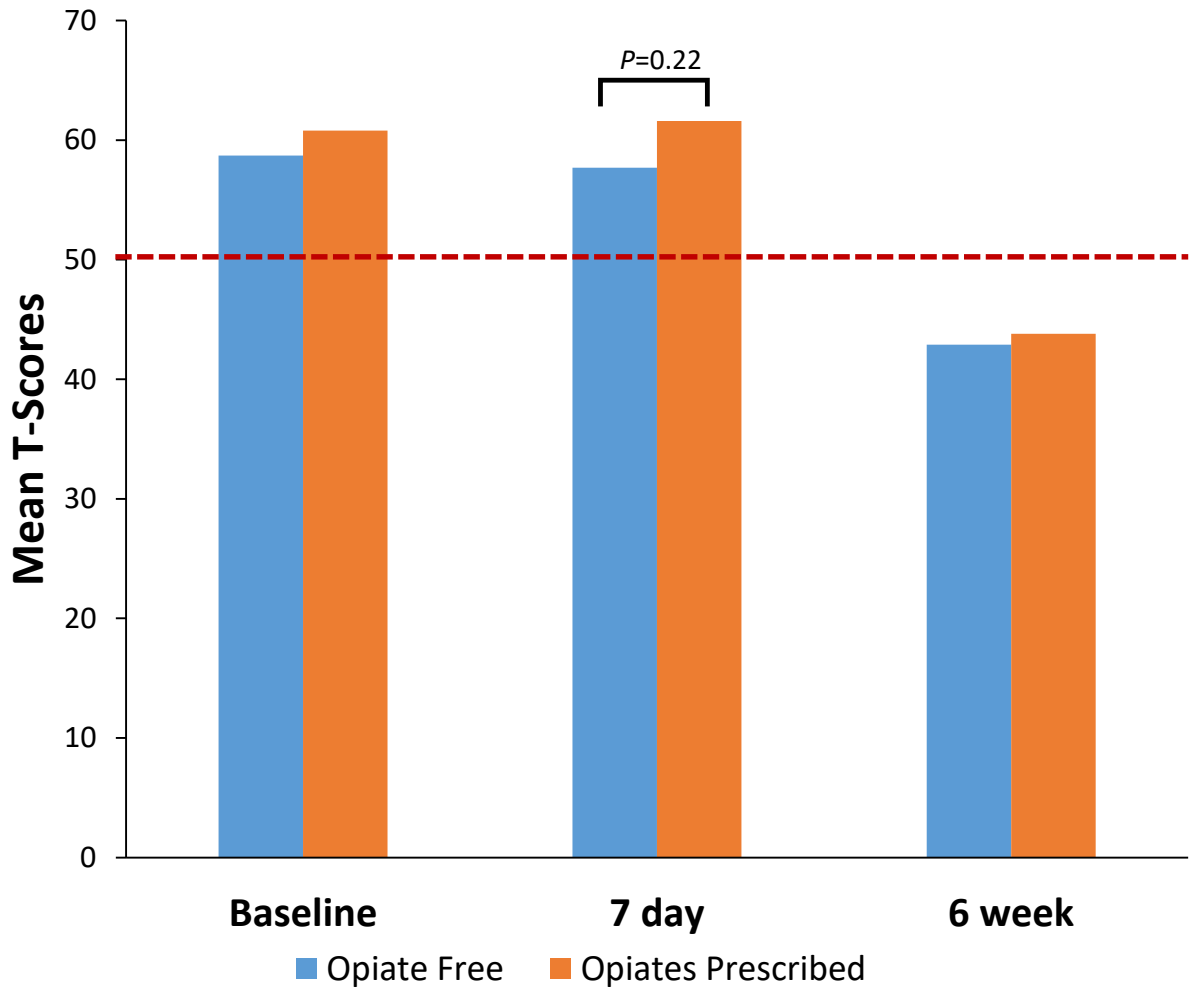
--- PROMIS Standardized T-score Mean

PRO pilot: Opiate-Free vs Opiates Prescribed

Pain Intensity

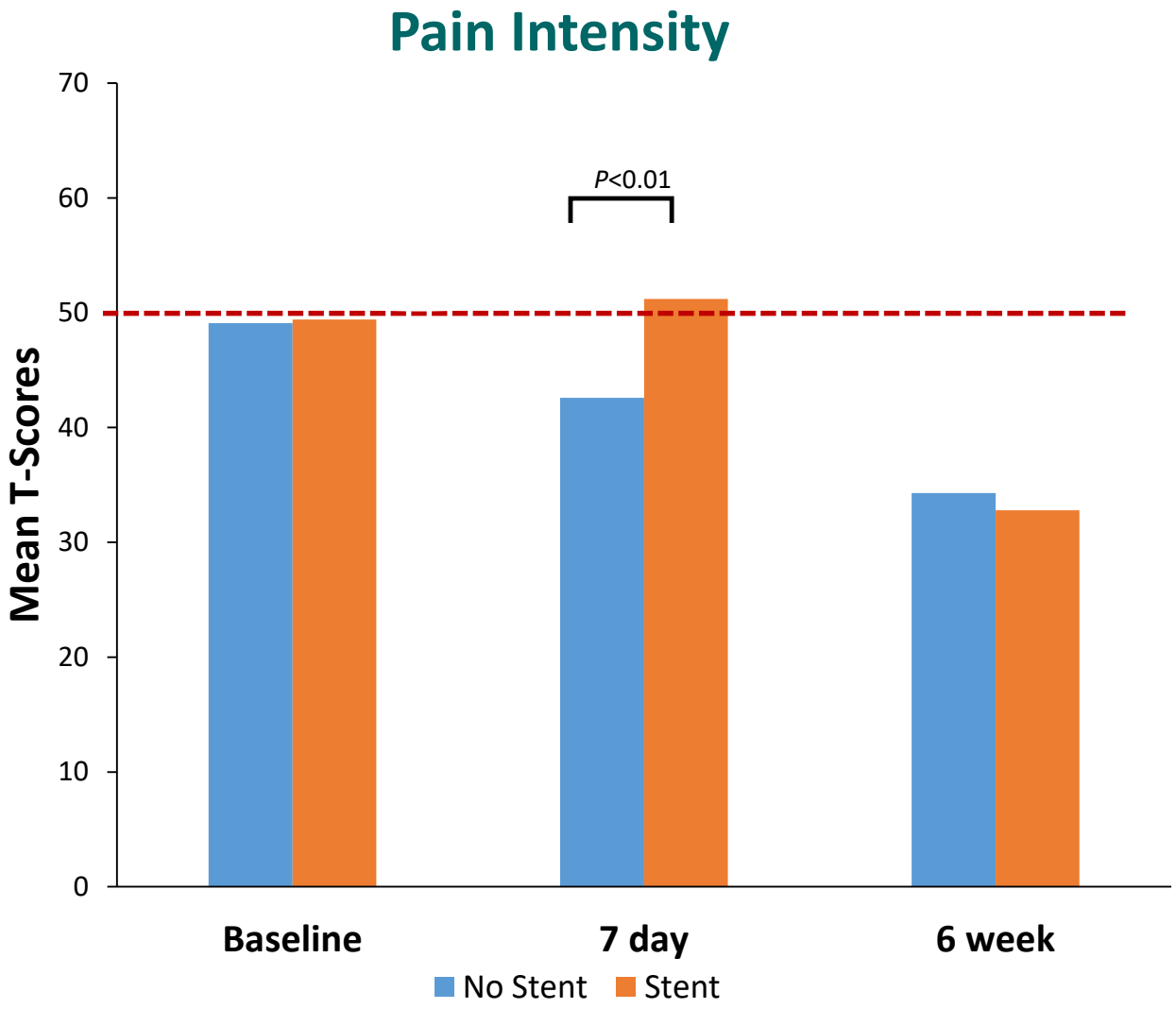


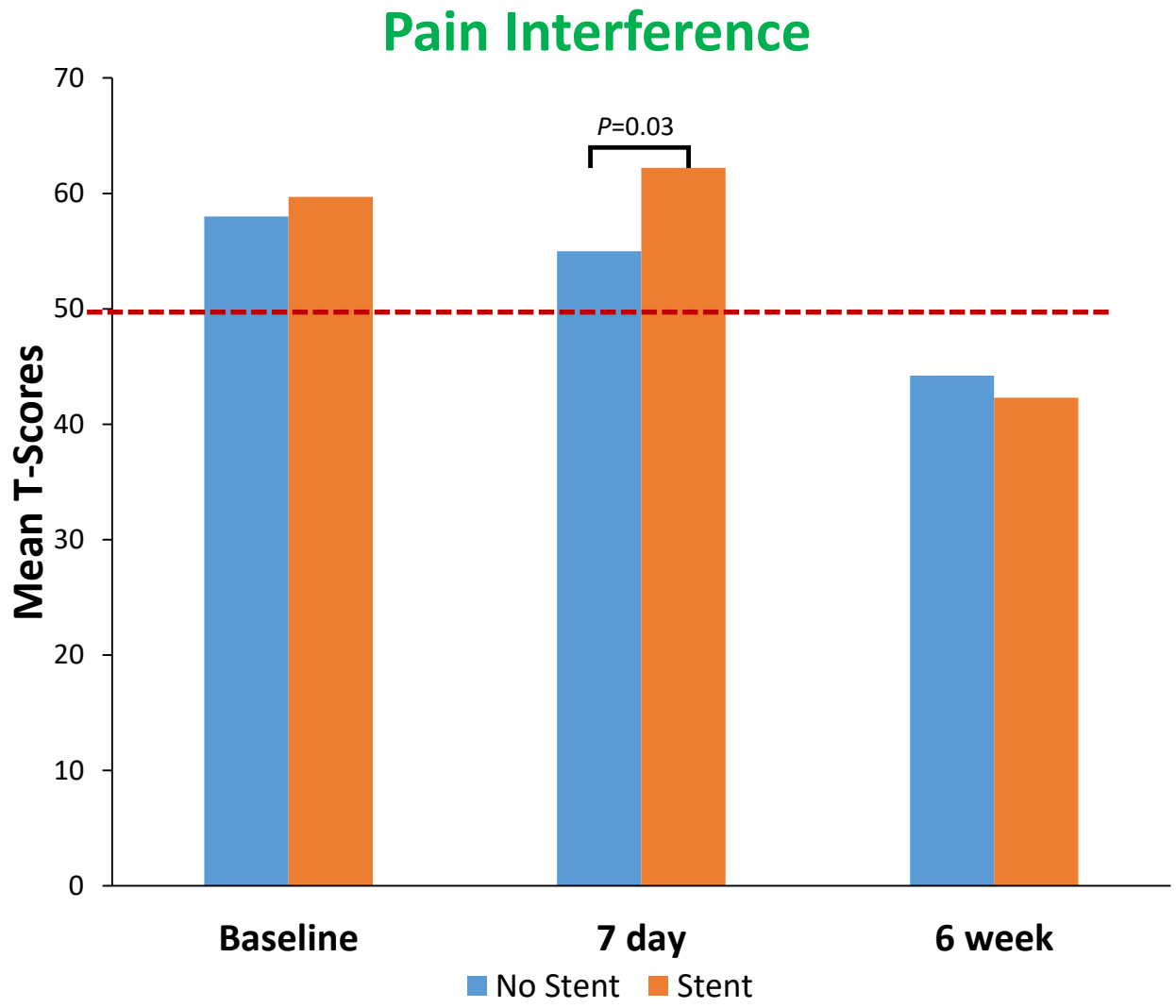
Pain Interference



--- PROMIS Standardized T-score Mean

PRO pilot: Non-stented vs Stented patients





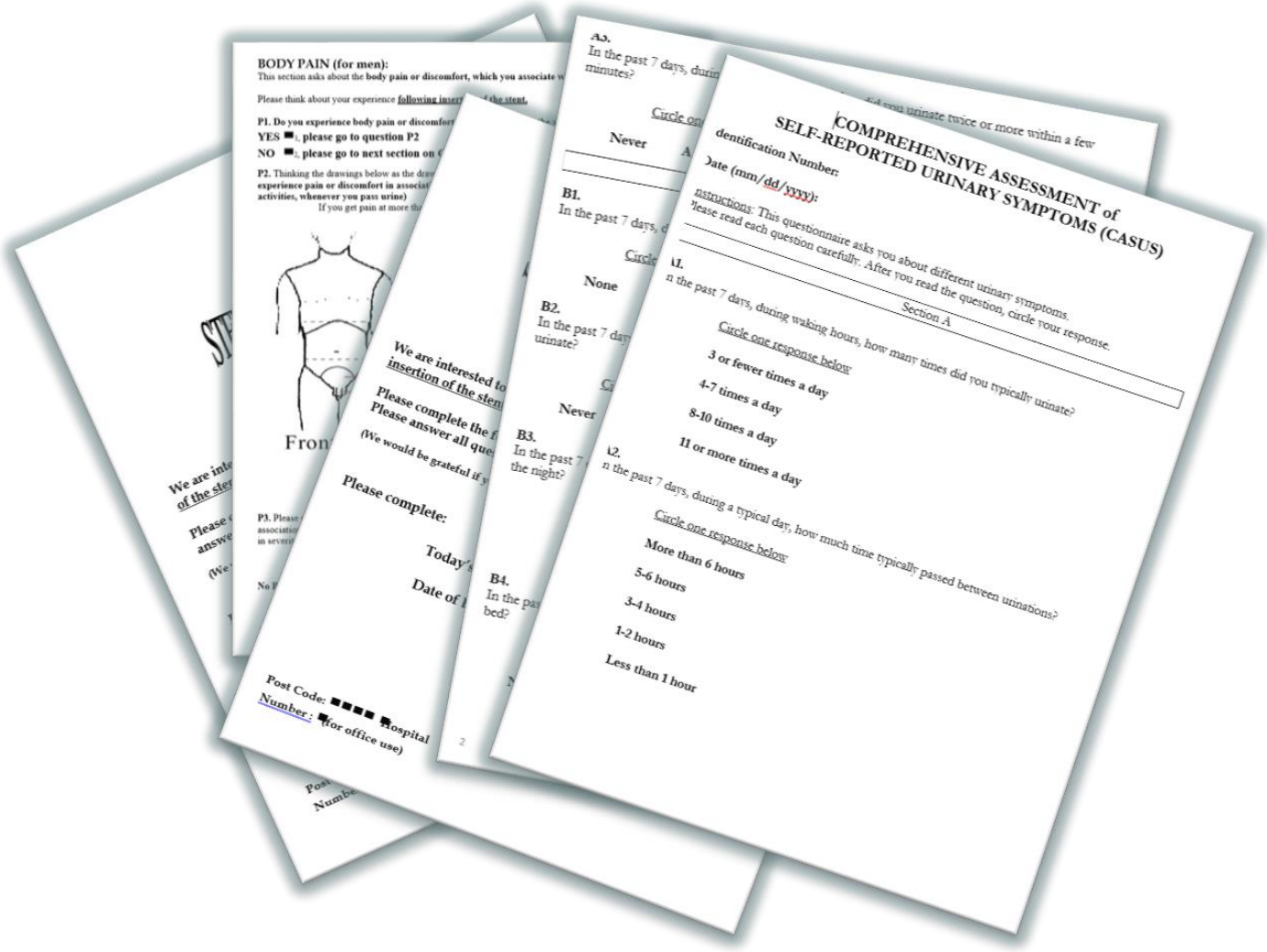
PROMIS Standardized T-score Mean

ROCKS PRO pilot: Lessons learned

- Omission of opioids does not impact pain intensity or interference

- Stented patients report higher scores for pain intensity and interference

What others are collecting



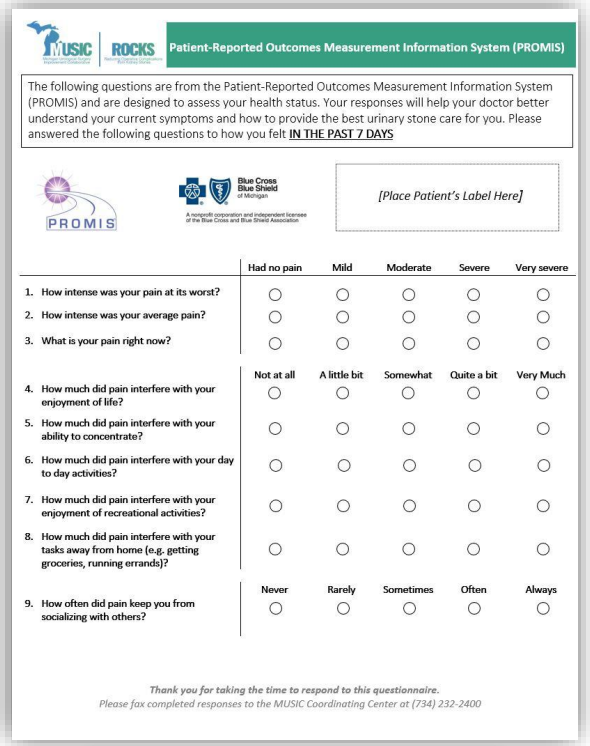
USDRN
Urinary Stone Disease Research Network

- **Post-stent symptoms questionnaire (37 questions)**
- **Stent in situ Symptoms Questionnaire (41 questions)**
- **Comprehensive Assessment of Self-Reported Urinary Symptoms (CASUS) (58 questions)**

136 total questions

Capturing PROs for URS and SWL in MUSIC

PROMIS



MUSIC | ROCKS

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[Place Patient's Label Here]

	Had no pain	Mild	Moderate	Severe	Very severe
1. How intense was your pain at its worst?	○	○	○	○	○
2. How intense was your average pain?	○	○	○	○	○
3. What is your pain right now?	○	○	○	○	○
	Not at all	**A little bit**	**Somewhat**	**Quite a bit**	**Very Much**
4. How much did pain interfere with your enjoyment of life?	○	○	○	○	○
5. How much did pain interfere with your ability to concentrate?	○	○	○	○	○
6. How much did pain interfere with your day to day activities?	○	○	○	○	○
7. How much did pain interfere with your enjoyment of recreational activities?	○	○	○	○	○
8. How much did pain interfere with your tasks away from home (e.g. getting groceries, running errands)?	○	○	○	○	○
	Never	**Rarely**	**Sometimes**	**Often**	**Always**
9. How often did pain keep you from socializing with others?	○	○	○	○	○

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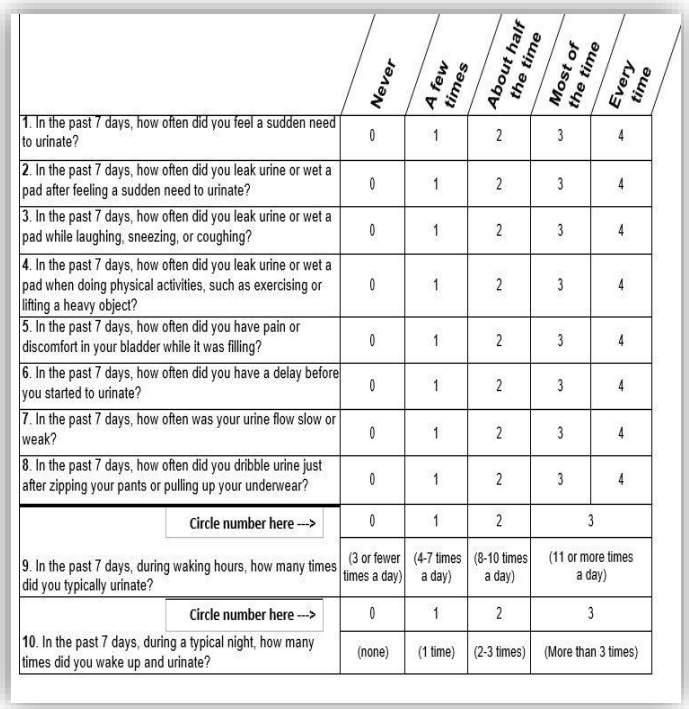
9 questions

LURN short form



	Never	A few times	About half the time	Most of the time	Every time
1. In the past 7 days, how often did you feel a sudden need to urinate?	0	1	2	3	4
2. In the past 7 days, how often did you leak urine or wet a pad after feeling a sudden need to urinate?	0	1	2	3	4
3. In the past 7 days, how often did you leak urine or wet a pad while laughing, sneezing, or coughing?	0	1	2	3	4
4. In the past 7 days, how often did you leak urine or wet a pad when doing physical activities, such as exercising or lifting a heavy object?	0	1	2	3	4
5. In the past 7 days, how often did you have pain or discomfort in your bladder while it was filling?	0	1	2	3	4
6. In the past 7 days, how often did you have a delay before you started to urinate?	0	1	2	3	4
7. In the past 7 days, how often was your urine flow slow or weak?	0	1	2	3	4
8. In the past 7 days, how often did you dribble urine just after zipping your pants or pulling up your underwear?	0	1	2	3	4
Circle number here --->	0	1	2	3	
9. In the past 7 days, during waking hours, how many times did you typically urinate?	(3 or fewer times a day)	(4-7 times a day)	(8-10 times a day)	(11 or more times a day)	
Circle number here --->	0	1	2	3	
10. In the past 7 days, during a typical night, how many times did you wake up and urinate?	(none)	(1 time)	(2-3 times)	(More than 3 times)	

10 questions

Decision regret

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I regret the choice that was made					
I would go for the same choice if I had to do it over again					

	Delighted	Pleased	Mostly Satisfied	Mixed Feelings	Mostly Dissatisfied	Unhappy	Terrible
In the future, if I were advised to have another stent inserted, how would I feel about it?							

3 questions

22 total questions

Capturing MUSIC ROCKS PROs long term

Participating Practice

- ✓ Schedule URS or SWL
- ✓ Enter patient contact information into registry
- ✓ Provide MUSIC tablet in clinic to patients without email

MUSIC Registry

- ✓ Baseline, 7 -14 day and 4 - 6 week post-op questionnaires sent via email
- ✓ Automated reminder emails

Patient

- ✓ Complete questionnaires electronically or in clinic

No phone calls + No mailings

Capturing MUSIC PROs for URS and SWL: Next steps

Capturing PROs for URS and SWL patients is critical to our ability to measure and improve patient care

MUSIC ROCKS PRO available within the registry in April

Practices interested in implementing MUSIC ROCKS PRO should contact the Coordinating Center

Overall key takeaways

- Reduce ED visits post-URS: 7.8% → 7.0%
- Increase post-URS imaging: 37% → 45%
- Future direction: Implementation of ROCKS PRO

Break

KIDNEY: Optimizing Chest Imaging Utilization and Avoiding Surgery for Benign Disease

Optimizing Chest Imaging Utilization

Jim Montie, MD

MUSIC Guidelines for Chest Imaging

Renal Mass Size	Chest Imaging Recommendation	
≤ 3 cm	Optional (None preferred)	
3.1 – 5 cm	Recommended (X-Ray preferred)	→ 50%
> 5 cm	Required (CT preferred)	→ 54%

Value-Based Reimbursement (VBR) for KIDNEY

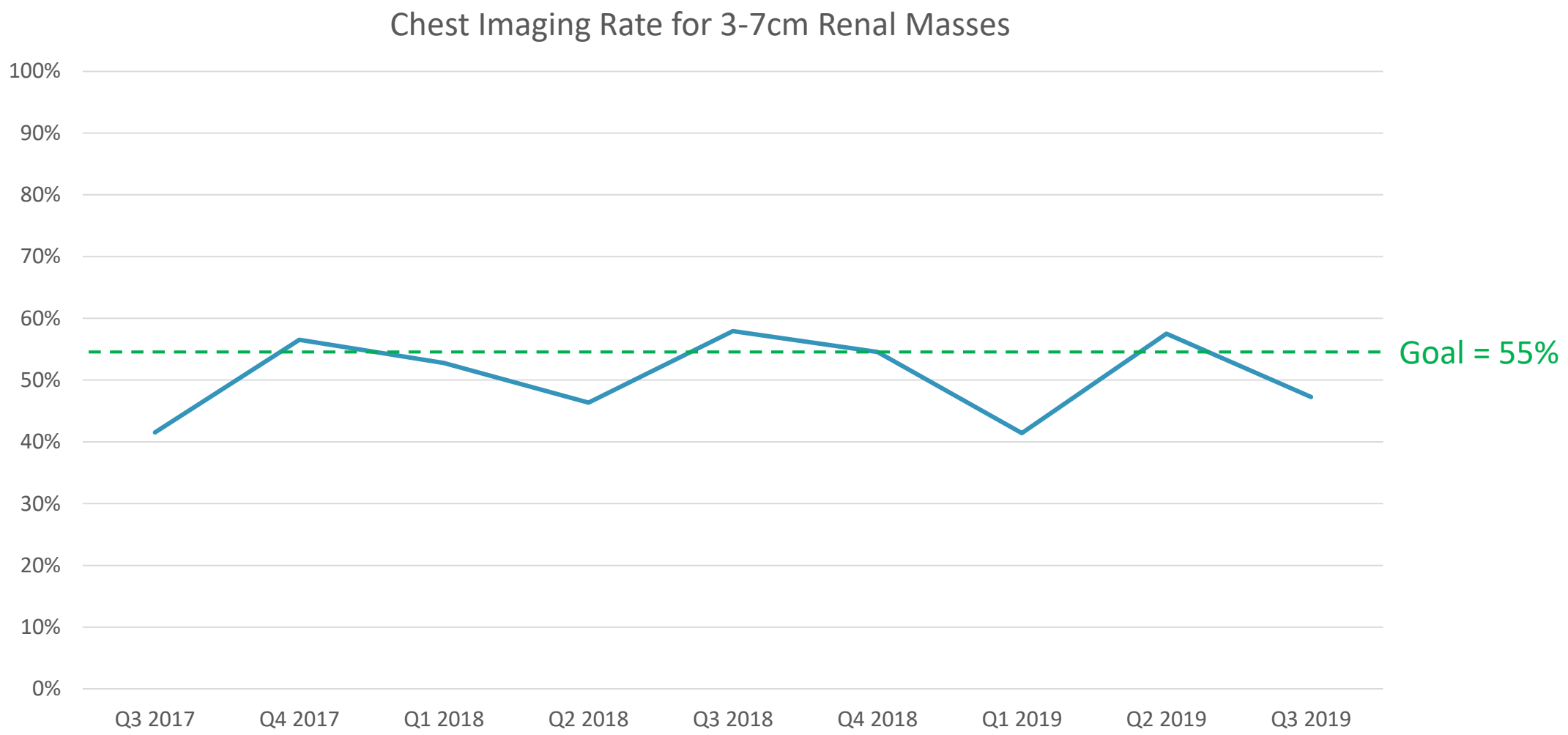
Improve Chest Imaging Rates for 3-7 cm Renal Masses

Goal = 55%

$$\text{Value} = \frac{\boxed{\text{Quality}}}{\text{Cost}} * \text{Appropriateness}$$

All MUSIC urologists may be eligible to be reimbursed up to 105% of standard fee schedules for eligible services from BCBSM if all VBR metric goals are achieved

KIDNEY Chest Imaging Rates



Avoiding Surgery (Especially Radical Nephrectomy) for Benign Renal Masses

Alice Semerjian, MD

Why try to decrease surgery for benign disease?

Morbidity associated with major surgery

- Up to 15% observed complication rate[1]
- Up to 5% Clavien 3 or higher

Loss of kidney function/need for dialysis

Cost to the U.S. health care system

- Roughly 5,000 cases a year[2]

Cost to the patient

[1] Winoker et al. *J Urol,* 2017.
[2] Johnson et al. *J Urol,* 2015.

Objectives

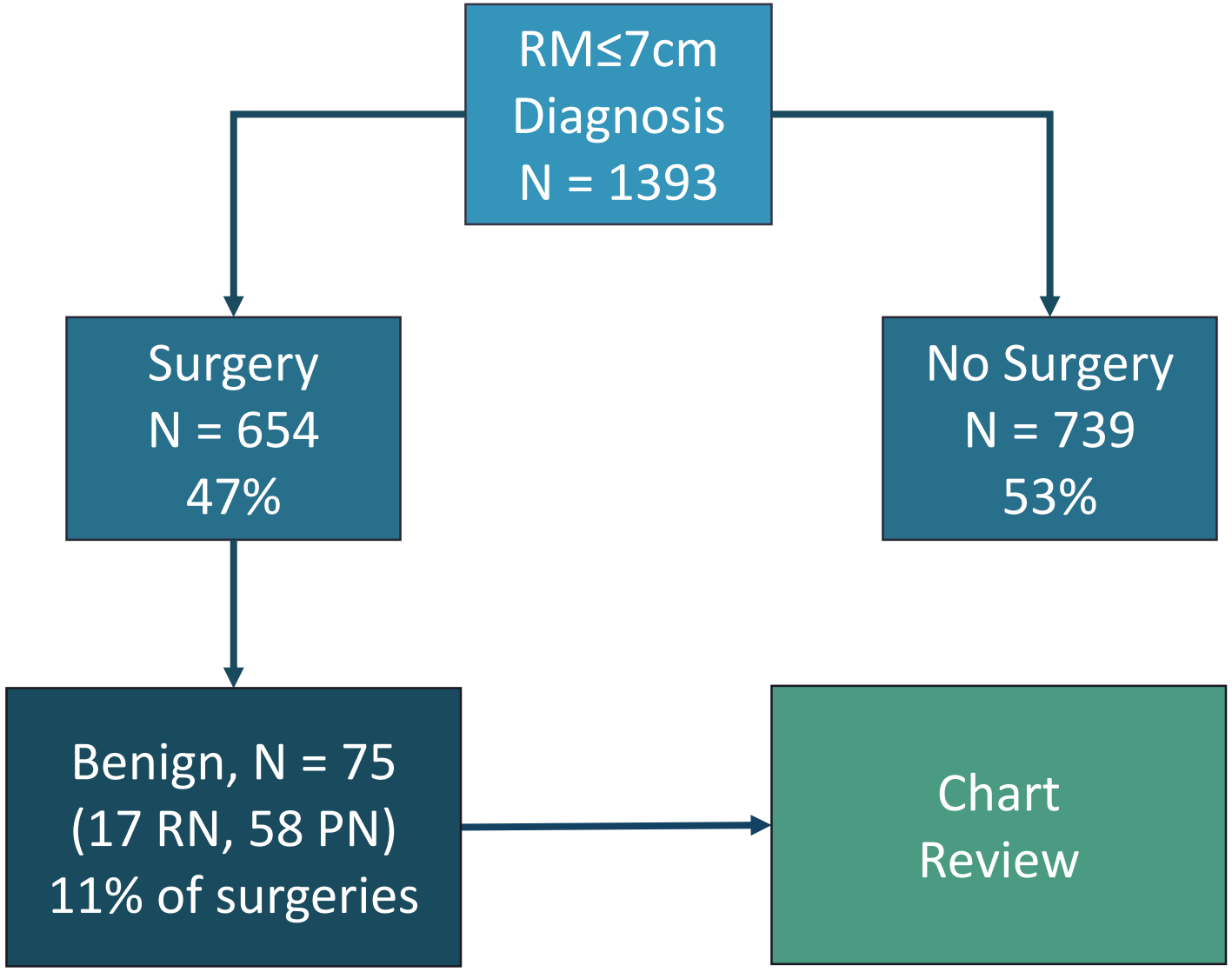
1) To define a classification system for grading appropriate surgical intervention

2) To identify specific opportunities for quality improvement (QI)

3) To learn factors leading to the less-than-ideal care, especially for the higher-level QI opportunities (radical nephrectomy)

4) To quantify an acceptable percentage of benign renal mass pathology at surgery for suspicious renal masses

Treatment for benign disease in KIDNEY



Avoiding treatment for benign renal masses

Methods

- 75 surgeries with benign pathology identified
- 5 MUSIC urologists independent reviewed MUSIC data and deidentified patient charts, including initial office visit and operative note
- Individual cases scored on degree of QI opportunity
  - None
  - Minor
  - Moderate
  - Major

Avoiding treatment for benign renal masses

None

- Bosniak III or IV lesions
- Angiomyolipoma >4 cm
- Biopsy showed 'oncocytic tumor, suspicious for RCC'

Minor

- Biopsy or better imaging may have clarified as cyst
- Clinical note states solid or indeterminate lesion (not cystic)
- Had concomitant surgery

Moderate

- Surgery avoidable with:
  - Consideration of surveillance
  - Additional counseling
  - Prior biopsy (several notes did not indicate whether biopsy was discussed at all)

Major

- Radical Nx when no surgery was indicated
- Radical Nx when Partial Nx was likely feasible
- Partial Nx when no surgery indicated

Routinely available information

- Note from initial office visit:
  - H&P, including patient age, comorbidities, Urologist's plan
  - Some charts contained RENL score, (some tumors were retrospectively evaluated to collect RENL score)
- Imaging Report:
  - Character of mass on imaging, Tumor size
- Operative Note:
  - Treatment received (PN vs. RN), Intraoperative events
- Pathology Reports:
  - From biopsy (if performed) and from surgery

Limitation

- Limited data on mass complexity
- Please continue documenting RENL score!

	1 Point	2 Point	3 Point	Total
R	Small (T1a)	In between (T1b)	Big (T2)	_____(R Point)
E	Mostly **exo**phytic	In between	Mostly all **endo**phytic	_____(E Point)
N	Cortical	Collecting system **may** be entered during PN	Collecting system **will** be entered during PN	_____(N Point)
L	Polar	In between	At hilum	_____(L Point)

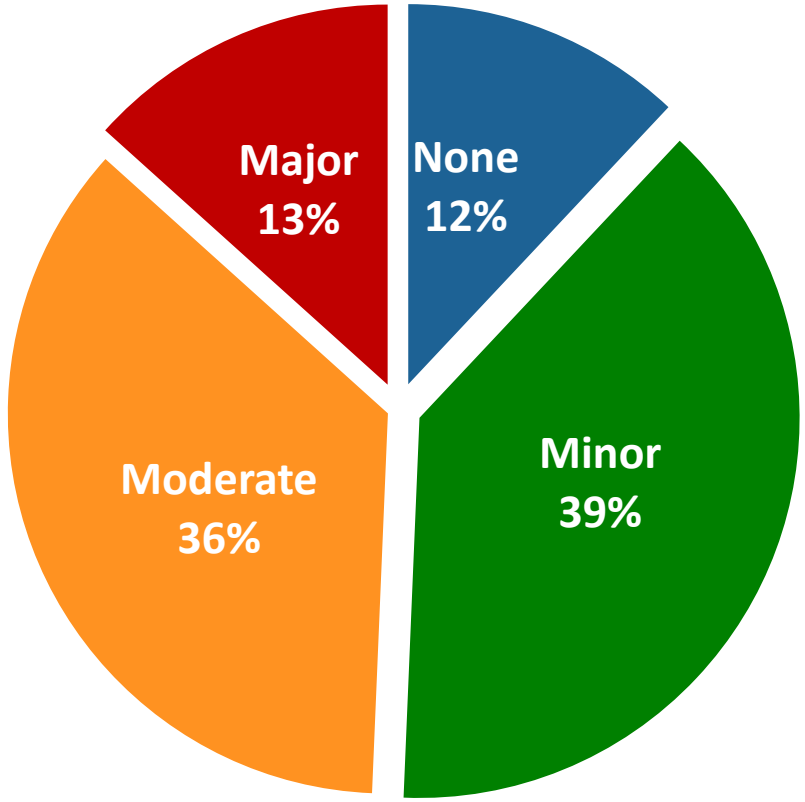
Complexity Total = Sum of all Points (R+E+N+L)

Low: 4-6	Intermediate: 7-9	High: 10-12

Avoiding treatment for benign renal masses

11% Benign Rate
(lower than most published series)

50% of benign cases had Major or Moderate QI opportunity

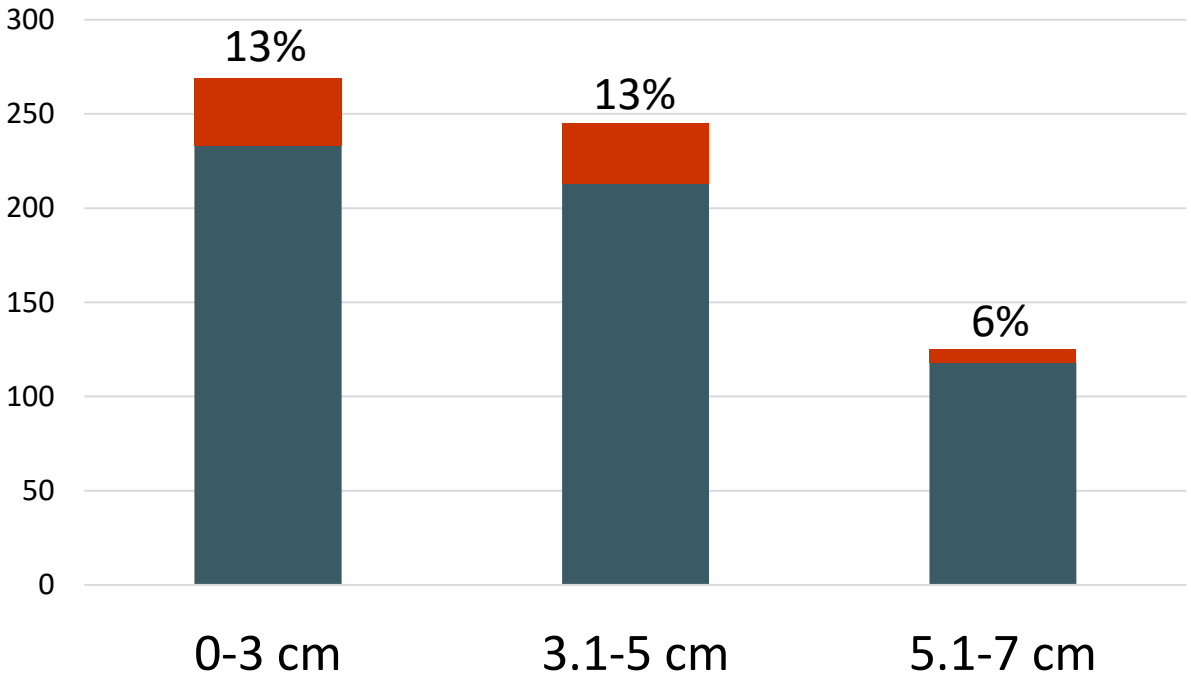


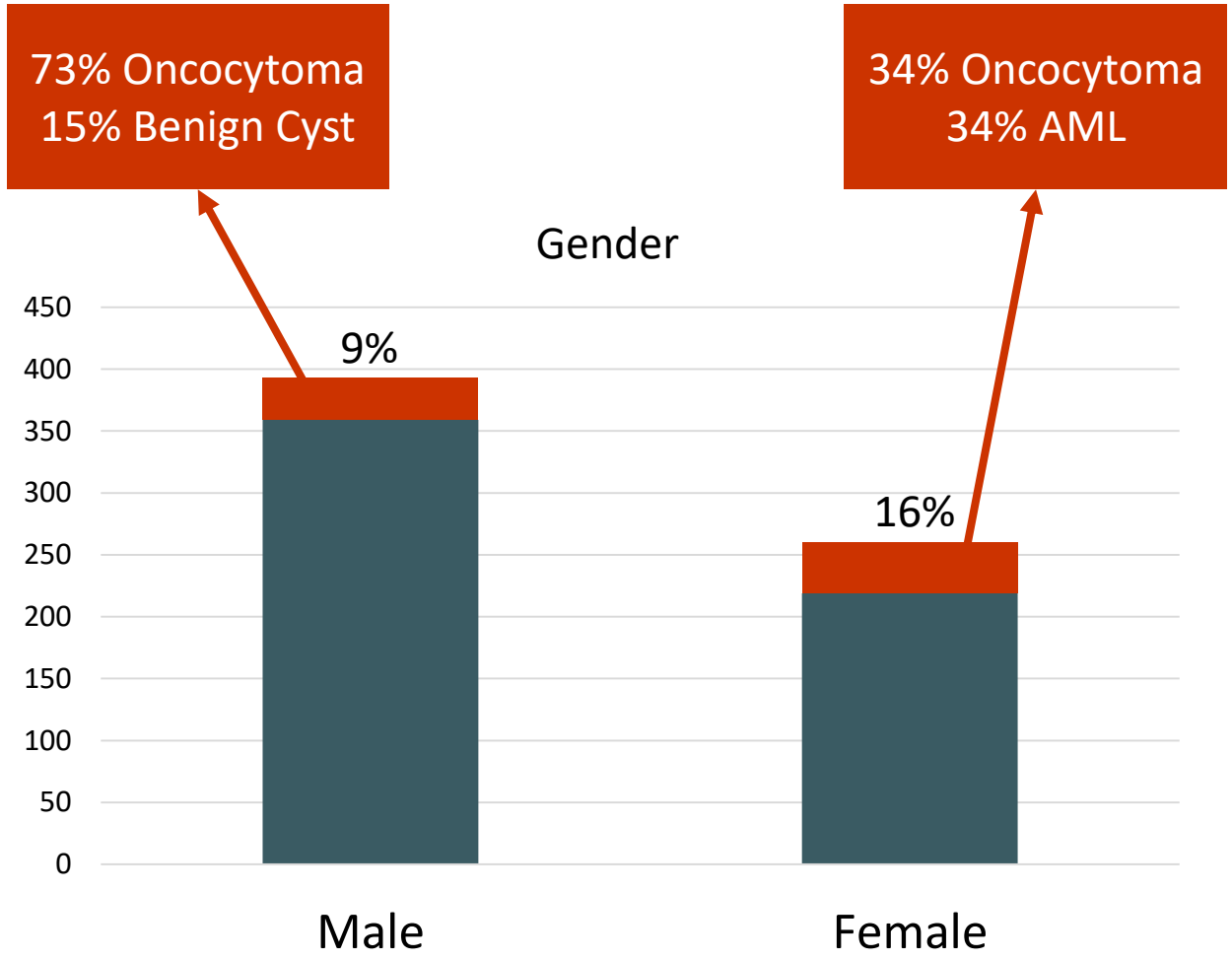
Lowest achievable rate = ~1.5%

Eliminating Major / Moderate = ~6% Benign Rate

GOAL?

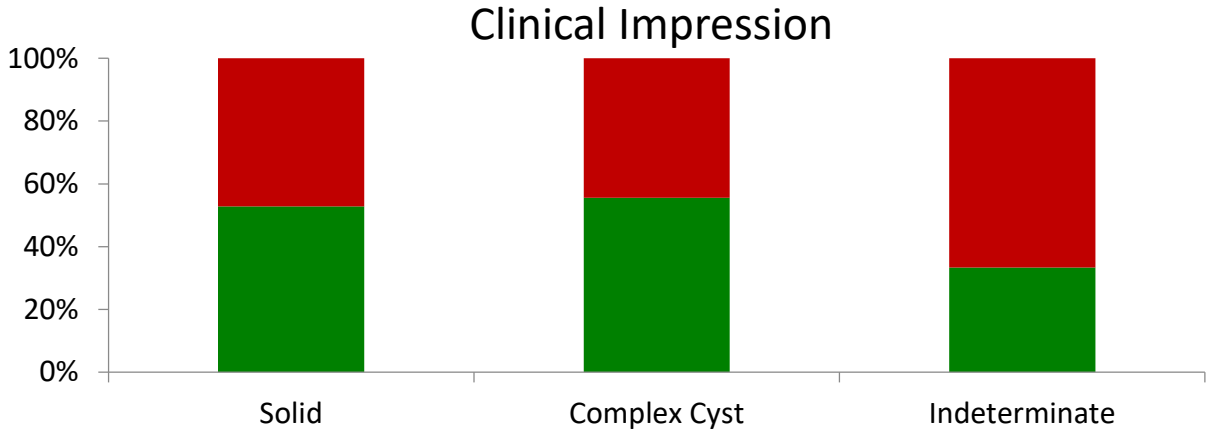
Trends amongst patients with benign pathology

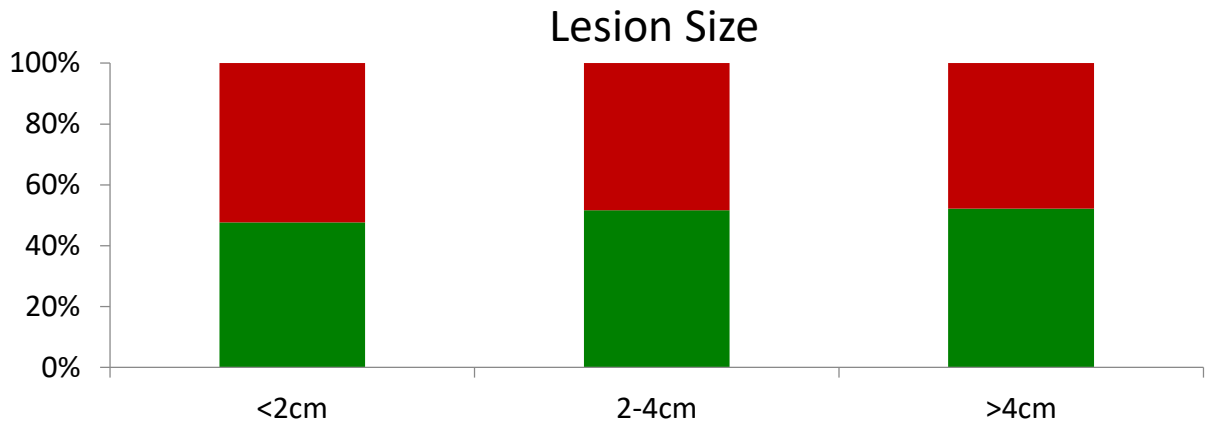


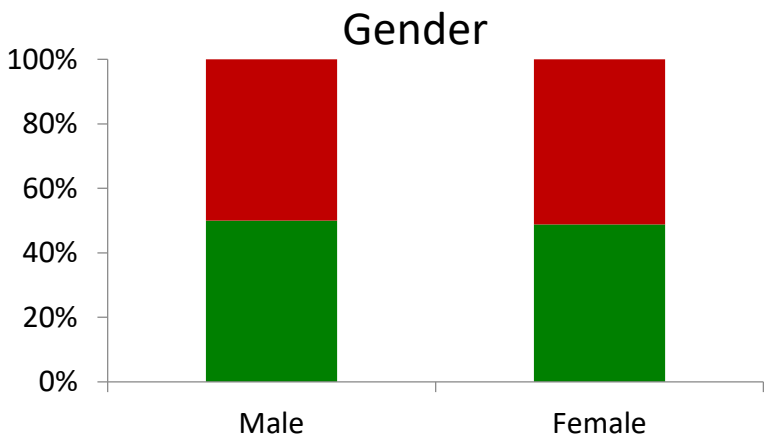


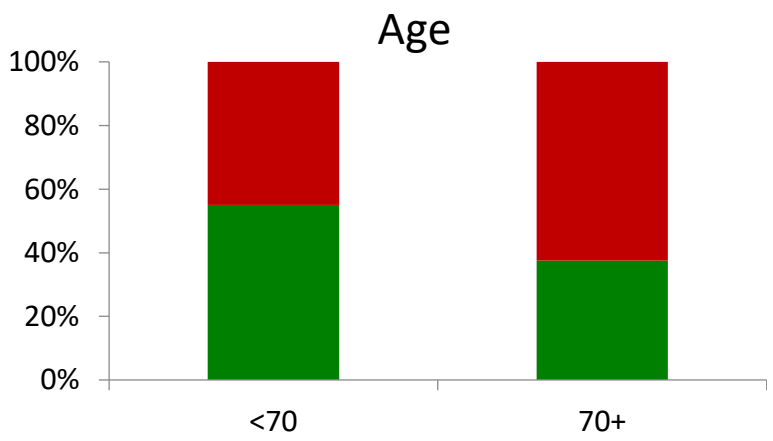
= Malignant = Benign

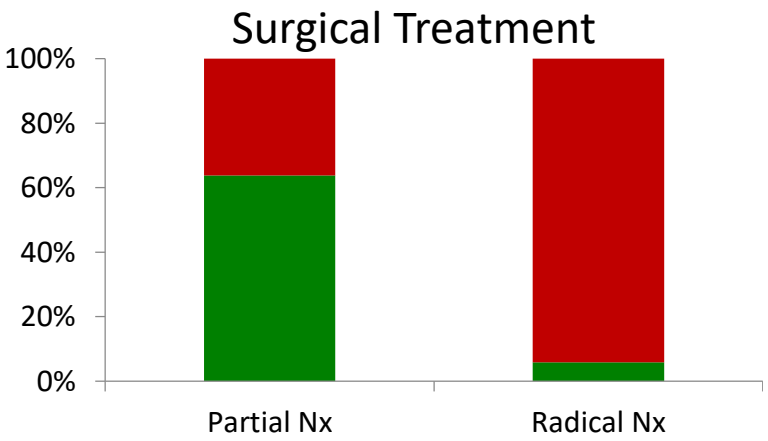
Opportunities for QI in surgical treatment of cT1RM







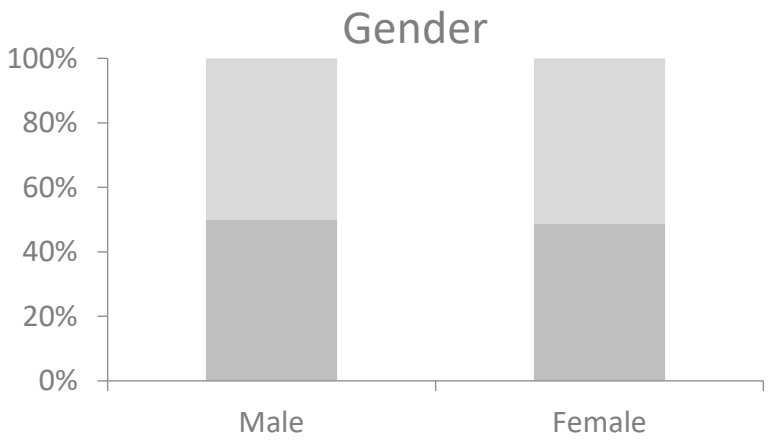


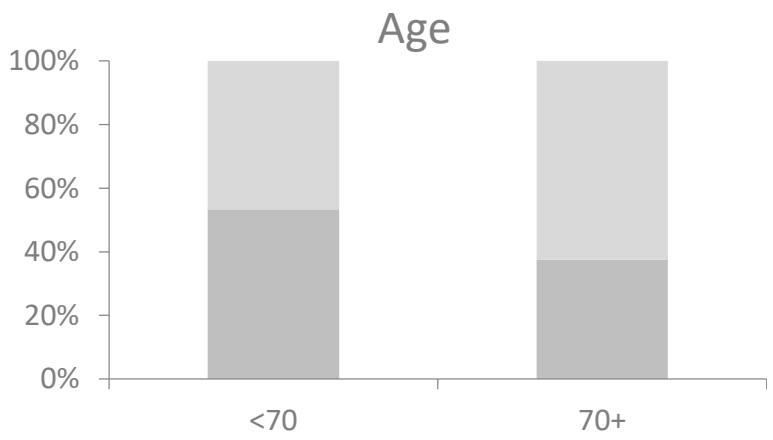


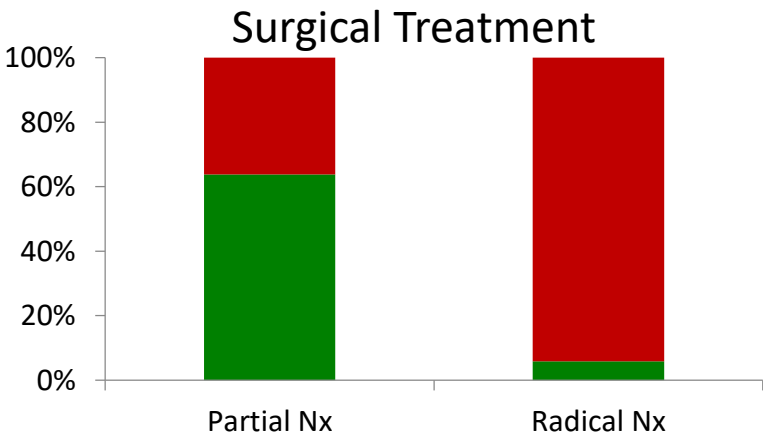
= Major/Moderate QI Opportunity

= None/Minor QI Opportunity

Opportunities for QI in surgical treatment of cT1RM







= Major/Moderate QI Opportunity

= None/Minor QI Opportunity

Opportunities for Improvement - Surveillance

- Use of surveillance
- Additional imaging
- Renal mass biopsy
- Appropriate radical nx

- Cancer specific mortality is low

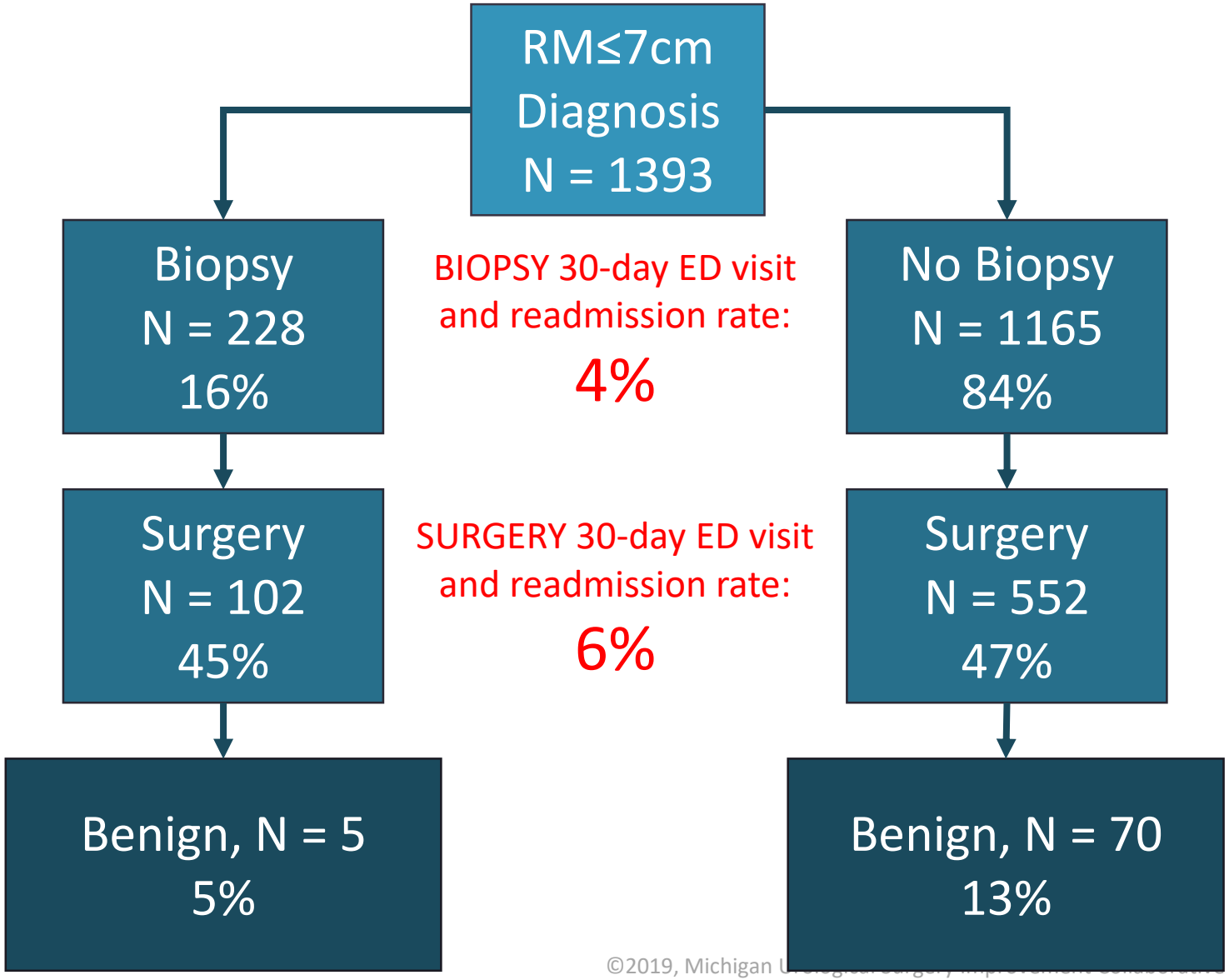
Opportunities for Improvement - Imaging

- Use of surveillance
- Additional imaging
- Renal mass biopsy
- Appropriate radical nx

- Indeterminate lesions on 1st study should have a 2nd study
- Contrast and non-contrast images
- Sestamibi (to ID onco)

Opportunities for Improvement - Biopsy

- Use of surveillance
- Additional imaging
- Renal mass biopsy
- Appropriate radical nx

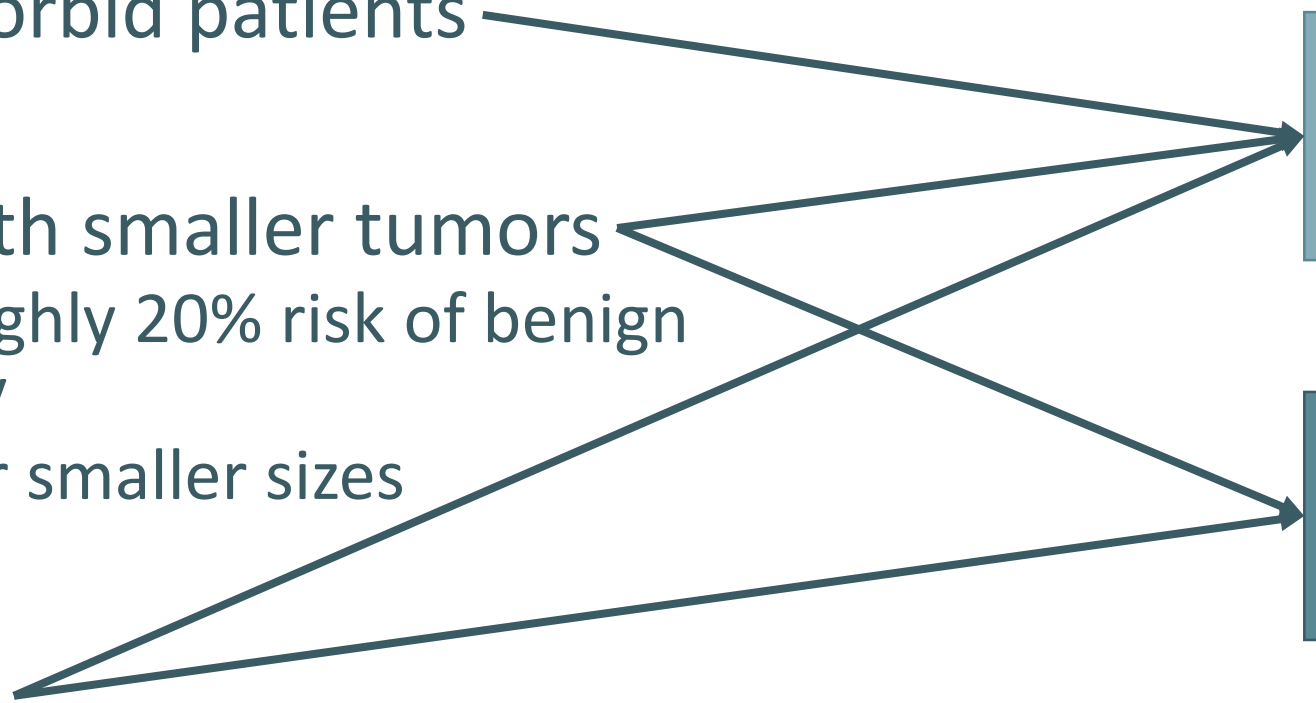


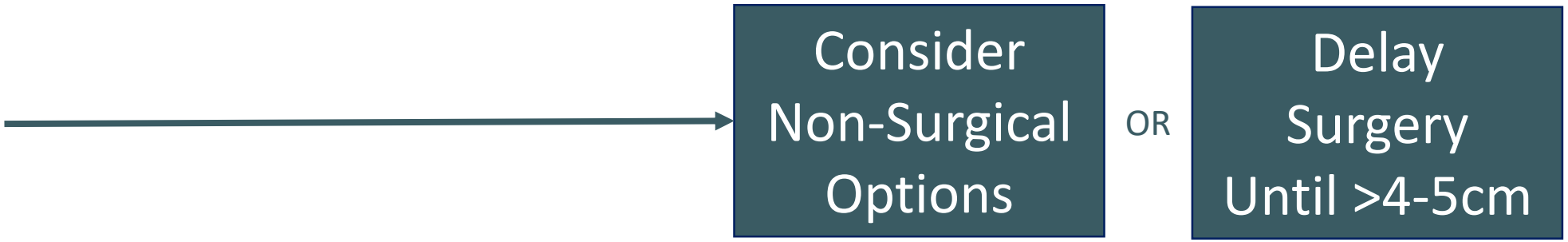
Opportunities for Improvement – Surgical Appropriateness

- Use of surveillance
- Additional imaging
- Renal mass biopsy
- Appropriate radical nx

Populations with the most room for improvement

- Older/comorbid patients
- Patients with smaller tumors
  - <3cm roughly 20% risk of benign pathology
  - Higher for smaller sizes
- Female pts
- TSC/AML pts





Best practices: Avoiding treatment for benign renal masses

- Rates across MUSIC are lower than most published series (11%)
- But…almost half of reviewed cases were identified to have moderate or major QI opportunities
- Ideal state <6% benign pathology after intervention in MUSIC
- Target of <7% (?)

Future directions

- AS consensus panel with aims to decrease variability and establish safe and acceptable surveillance strategy
  - Which patients to consider
  - How often to image and what imaging modality
  - Triggers for intervention

- Further investigation of RMB utility
  - Feasibility
  - Identifying patients who would benefit most from this

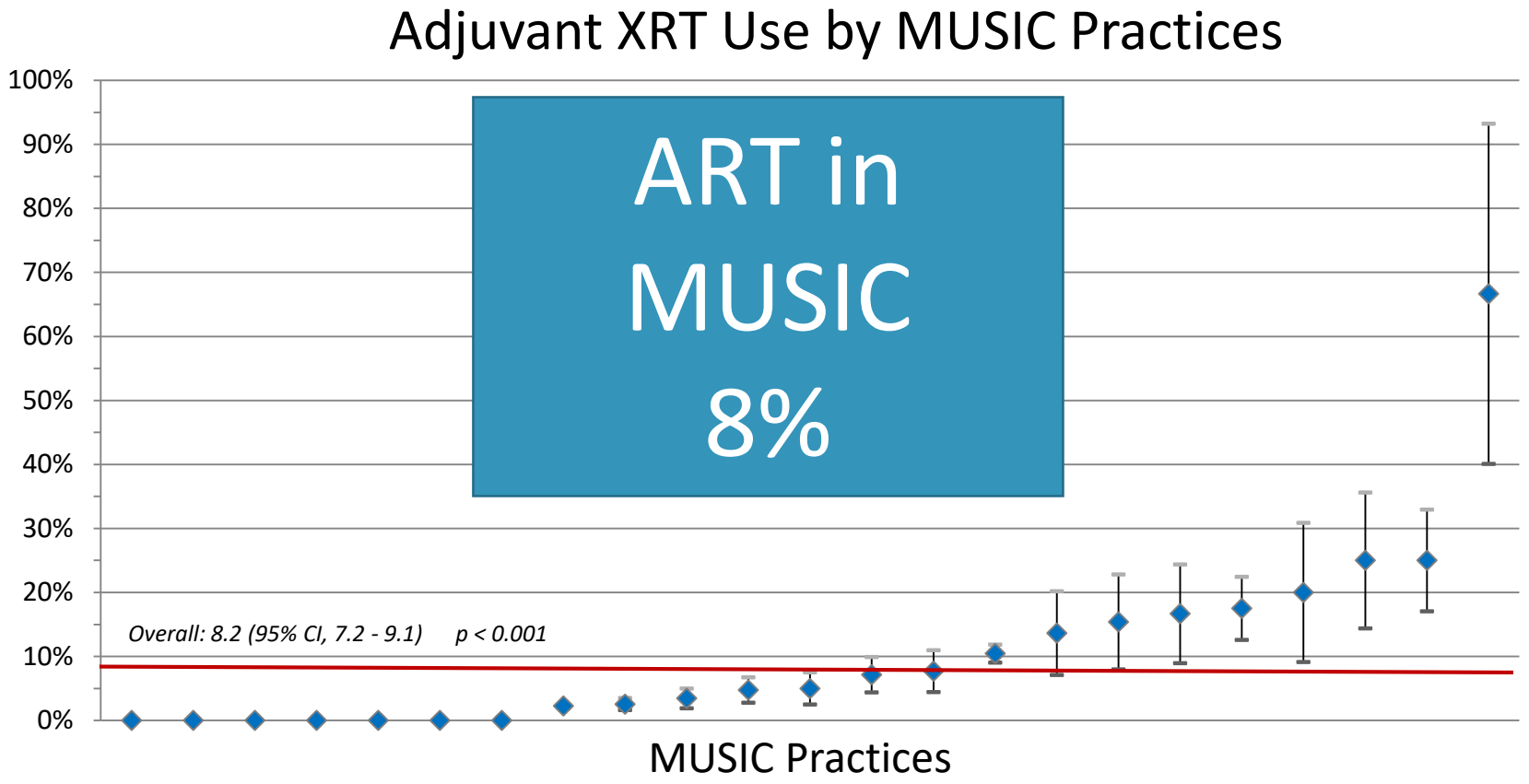
Clinical Trials: Early Results and New Happenings

Michael Cher, MD
Todd Morgan, MD

G-MINOR: Early Results

Michael Cher, MD

Variation in adjuvant XRT use in MUSIC



Patients receiving ART were younger (p=0.027), more likely to have a greater surgical Gleason sum (p=0.009), higher pathologic stage (p<0.001), and received treatment at the smallest and largest size practices (p=0.011)

No Adjuvant vs. Adjuvant vs. Salvage

- Several prior RCTs showed that adjuvant radiation therapy is better than no adjuvant radiation therapy. Nonetheless, urologists have been reluctant to use adjuvant radiation.

- Recent trials demonstrate that salvage radiation is not inferior to adjuvant. Many patients avoid radiation using this approach.

- However, there remains a need to choose appropriate patients who may benefit from adjuvant radiation

All about quality improvement

How do we improve selection of patients for aXRT and reduce variability?

- “Gestalt” based on age, stage, grade, margins
- Use of clinical nomogram to quantify risk (e.g. CAPRA-S)
- Use of molecular biomarker (e.g. Decipher)

Clinical utility study

- Do results of the assay affect the clinical decision?

Primary Endpoint

Potential benefits if clinically valid assay:

- Improved survival and/or quality of life
- Avoidance of unnecessary therapy or toxicity
- Cost savings
- Improved clinical management and decision making

Secondary Endpoints

- **Decipher** is the assay under investigation
- MUSIC does not make any treatment recommendations

G-MINOR overview

- **Primary Objective**
  - Assess the impact of Decipher results on adjuvant treatment decisions of high-risk post-RP patients compared to clinical factors alone (CAPRA-S)
- **Endpoints**
  - Whether the patient receives any adjuvant therapy (radiation and/or ADT)
  - Receipt of salvage therapy
  - Oncologic endpoints: biochemical recurrence, metastasis, death from prostate cancer

Inclusion

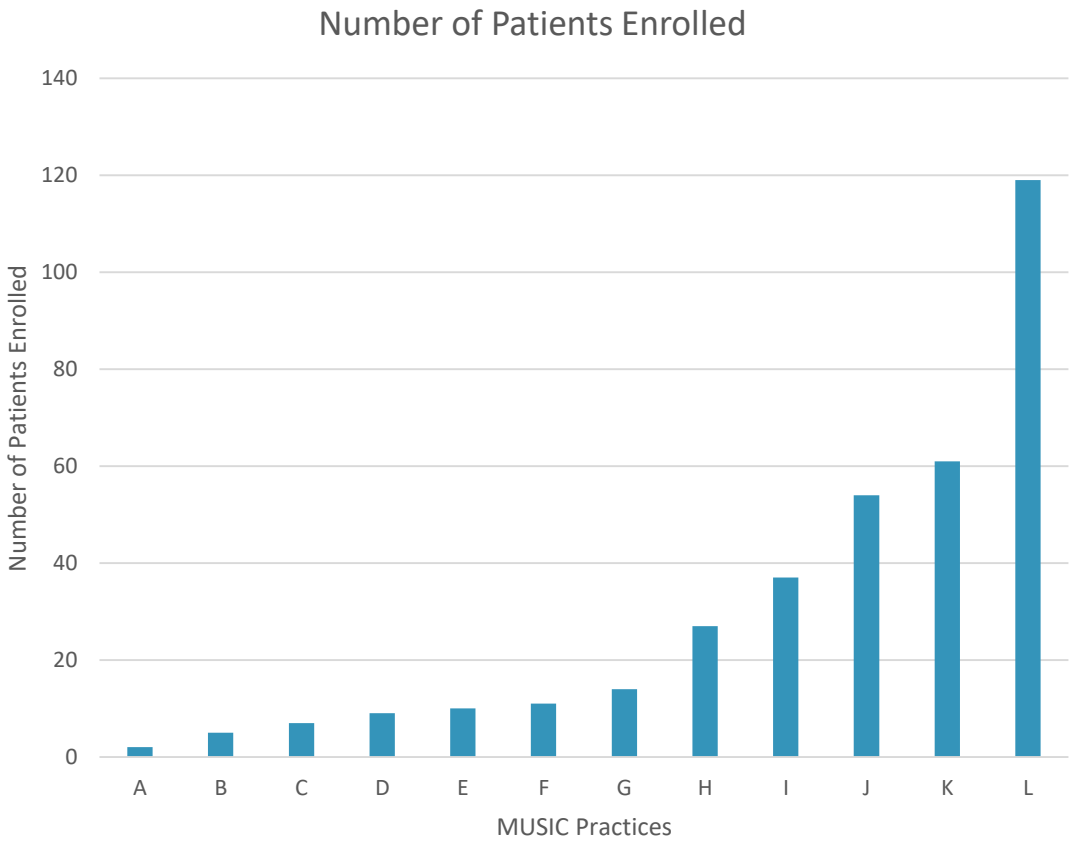
- PCa patients who have undergone RP within 1 year of enrollment
- PSA <0.1 mg/mL at enrollment
- Positive surgical margins (SM+) and/*or* pT3 (SVI or EPE)

Exclusion

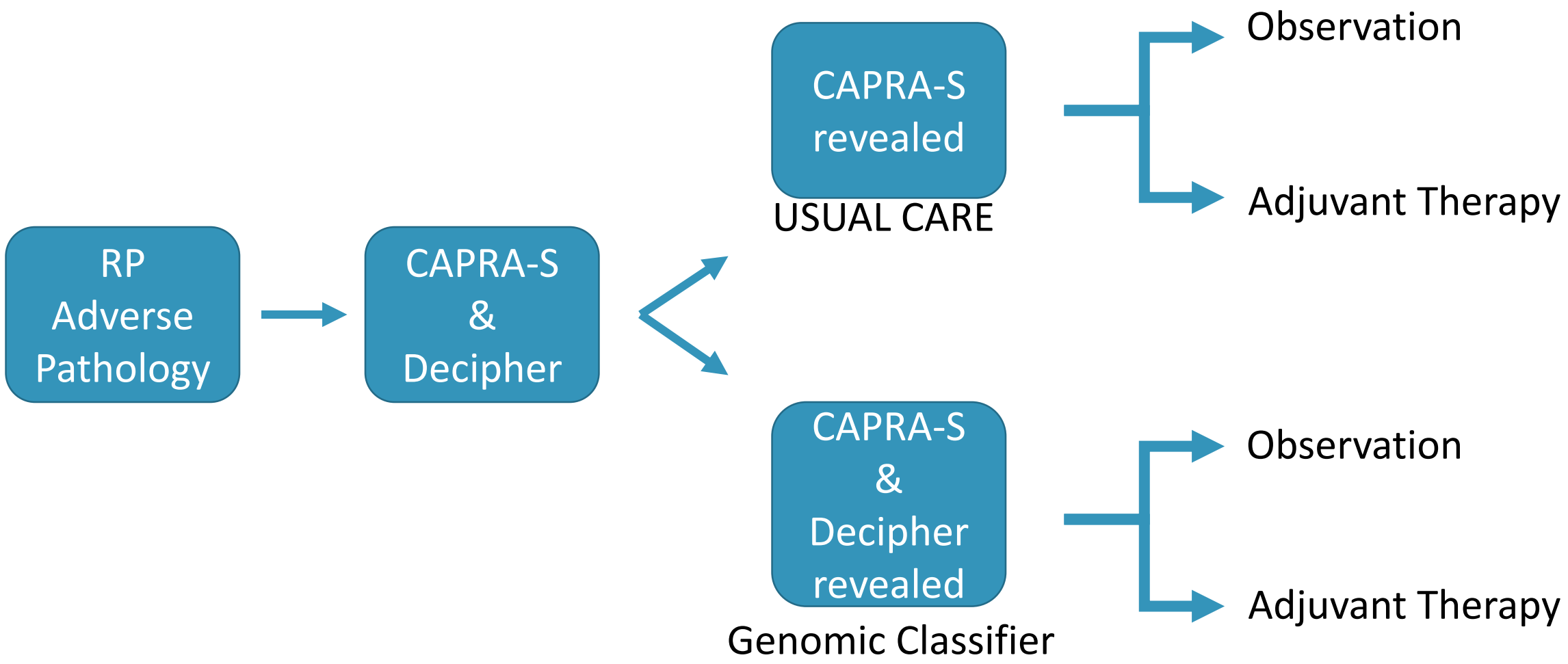
- Regional or metastatic disease
- Patients who received any prior radiation or hormone therapy (neo-adjuvant, adjuvant, or salvage)
- Patients who do not have FFPE specimens available

G-MINOR enrollment

- 356 patient enrolled over 18 months
  - 182 GC Arm
  - 174 Control Arm
- 12 MUSIC practices participated
- All patients completed ≥18 months of follow-up



G-Minor study design



New Happenings: Genomics in Michigan to AdJust Outcomes in prostate cancer (G-MAJOR)

Todd Morgan, MD

Prostate cancer continuum of care

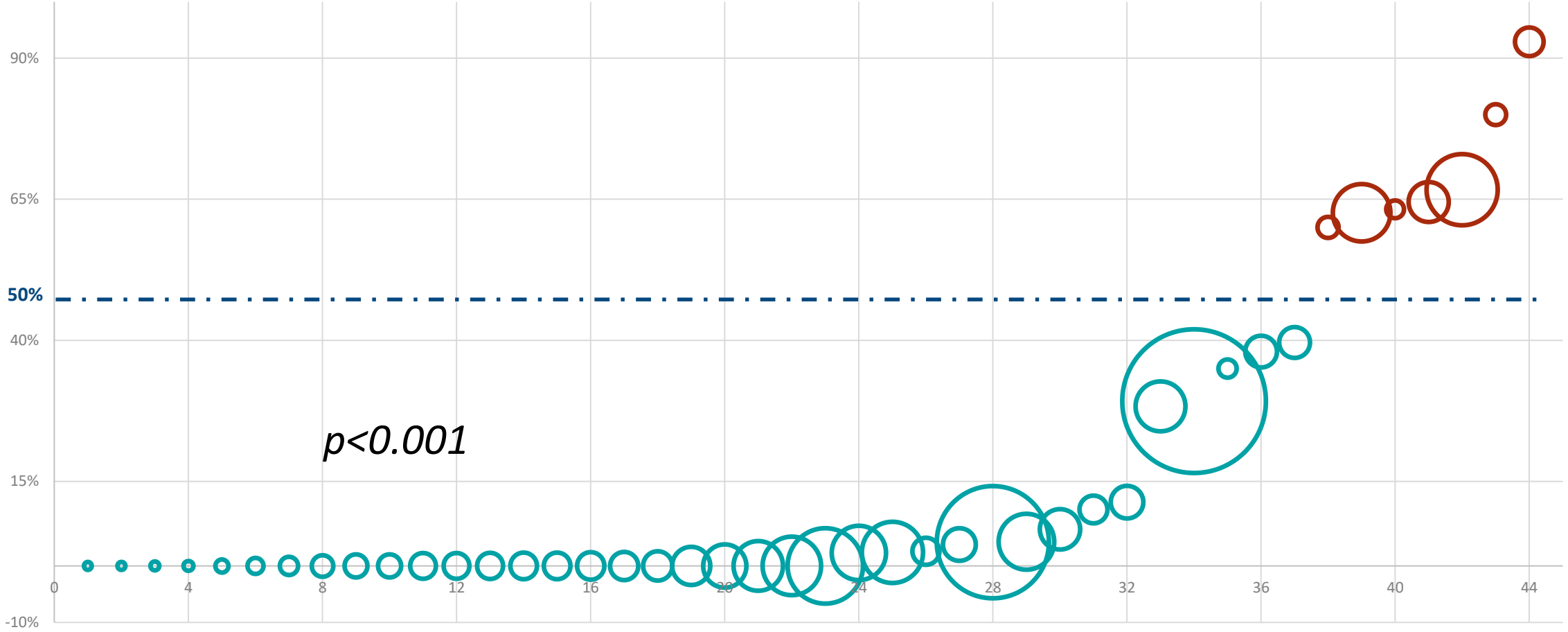
Genomic testing guidelines

National Comprehensive Cancer Network®

NCCN Guidelines Version 4.2019
Prostate Cancer

Risk Group	Genomic testing
Very low	Not indicated
Low	Consider if life expectancy ≥10 years
Favorable intermediate	
Unfavorable intermediate	Not routinely recommended
High	

Genomic testing in MUSIC



7 practices ordering a GEC test on >50% of newly diagnosed PCa patients

Genomic testing for Active Surveillance

1,487 Favorable Risk PCa

320 (22%) received GEC

Above Threshold	Below Threshold	No testing
46.2%	75.9%	57.9%

Proportion of favorable risk patients that continued on Active Surveillance

G-MAJOR overview

- **Primary Objective**
  - Determine the clinical utility of genomic testing in newly diagnosed, favorable risk prostate cancer
- **Endpoints**
  - Patients being managed by surveillance at two years following diagnosis
  - Quality of life
  - Grade reclassification
  - Freedom from secondary treatment
  - Rates of indolent and adverse pathology at the time of prostatectomy
  - Use of adjuvant ADT in patients undergoing radiotherapy

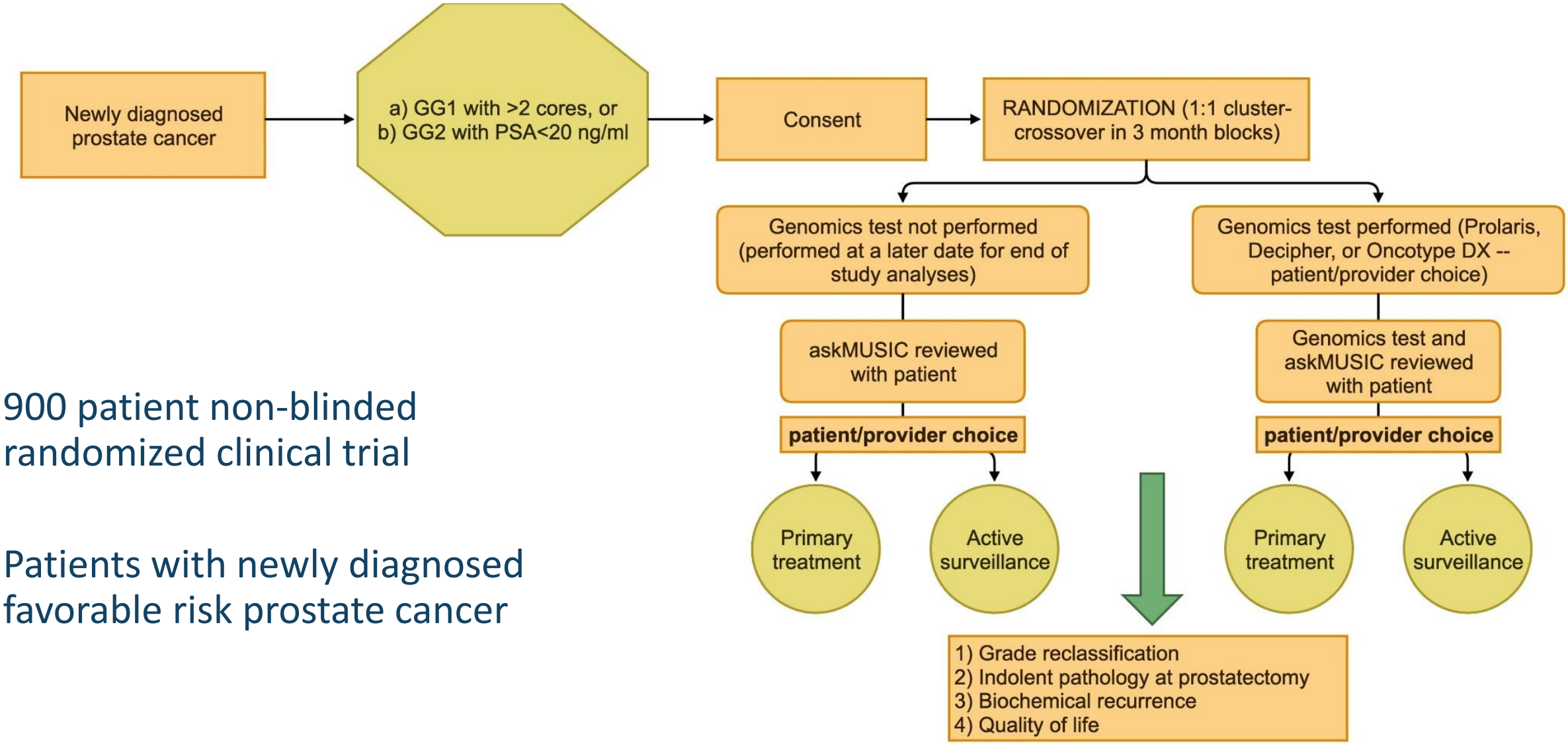
Inclusion

- PCa patients who have undergone RP within 1 year of enrollment
- PSA <0.1 mg/mL at enrollment
- Positive surgical margins (SM+) and/*or* pT3 (SVI or EPE)

Exclusion

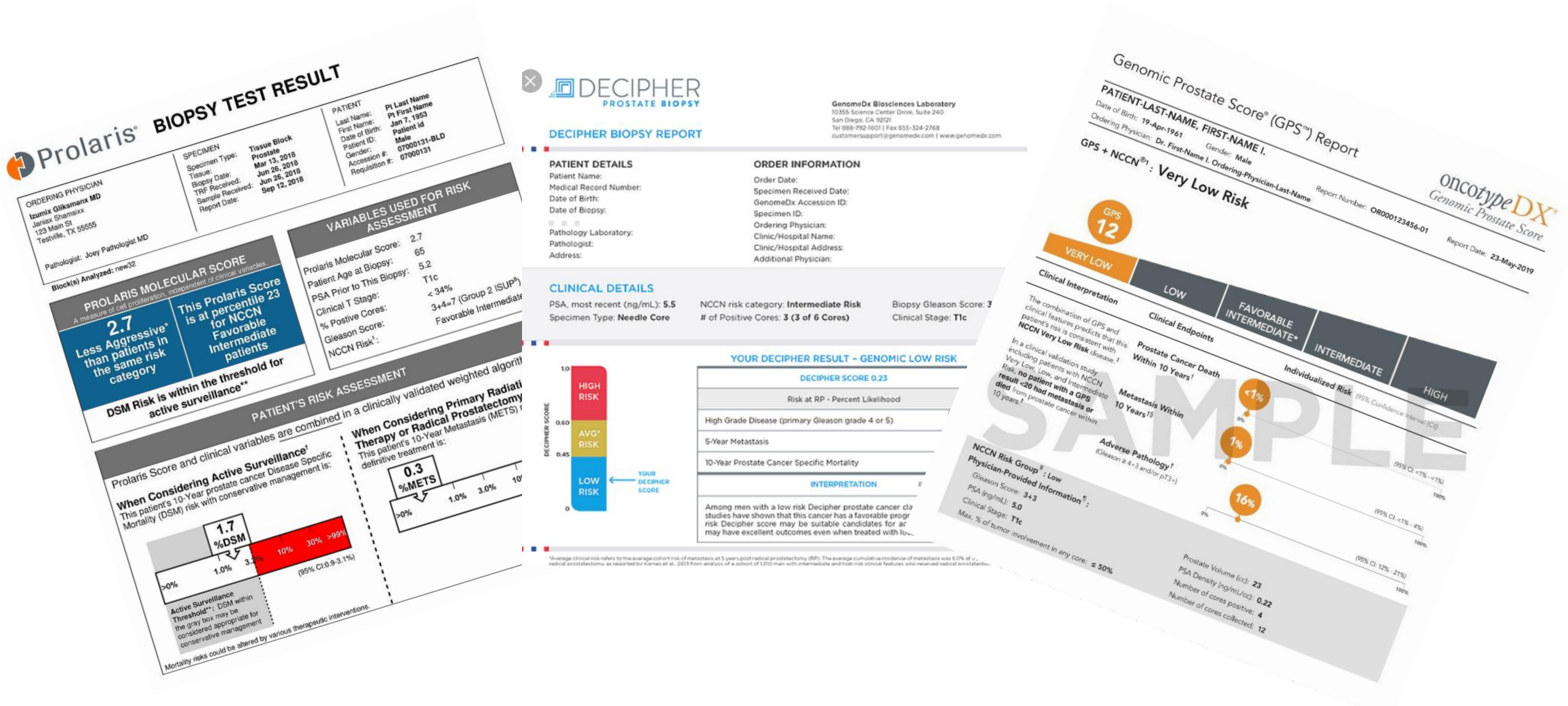
- Regional or metastatic disease
- Patients who received any prior radiation or hormone therapy (neo-adjuvant, adjuvant, or salvage)
- Patients who do not have FFPE specimens available

G-Major overview

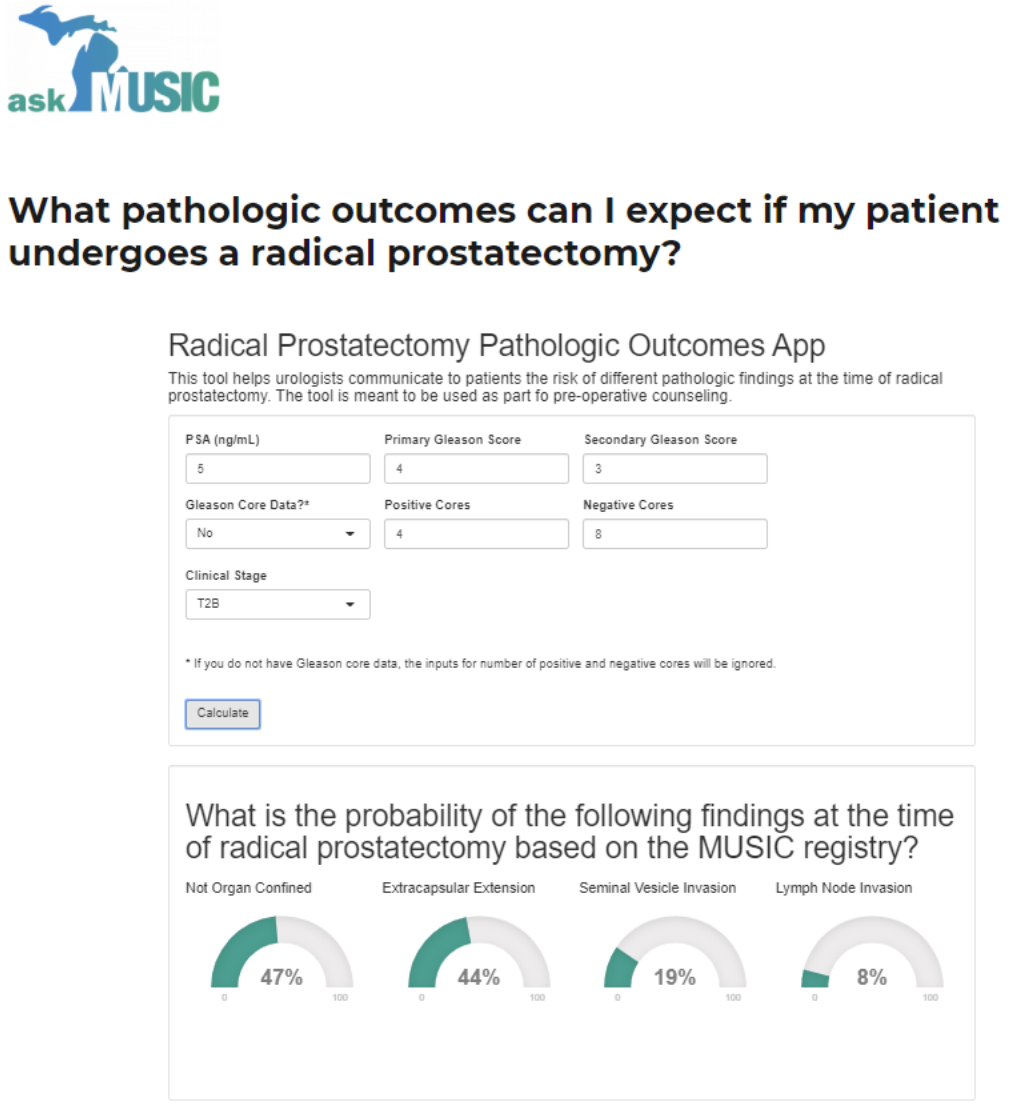


- 900 patient non-blinded randomized clinical trial
- Patients with newly diagnosed favorable risk prostate cancer

G-Major overview - Genomics



G-Major overview: AskMUSIC



G-Major overview: Additional logistics

- Genomic testing will be performed at no cost to patient/insurer
- Tissue will also be sent on patients in control group (results not available)
- Choice of test (Decipher/Prolaris/Oncotype) up to provider/patient
- Physician must stick with a single platform throughout study
- Funding to sites will be on a per patient basis to help offset study costs ($350/patient)
- Single central IRB required by NIH

G-MAJOR status

- Central IRB in progress

- Interested sites so far
  - Bay Area Urology Associates
  - Capital Urological Associates
  - Comprehensive Urology
  - HFHS – Vattikuti Urology Institute
  - IHA Urology
  - Michigan Institute of Urology
  - Michigan Medicine - Urology
  - Michigan Urological Clinic
  - Sparrow Medical Group - Urology
  - Spectrum Health Medical Group - Urology
  - Wayne State University Physicians Group - Urology

If you're interested, let us know now!

Key takeaways

MUSIC

Coordinating Center

- Prostate:
  - Organize and support multi-disciplinary reviews for prostate MRI
  - Evaluate adherence to Active Surveillance Roadmap
- ROCKS:
  - Support MUSIC practices in grassroots effort to reduce post-URS ED visits
  - Establish electronic infrastructure for ROCKS PRO
- KIDNEY:
  - Disseminate chest imaging placard
  - Form AS consensus panel to establish safe and acceptable surveillance strategy
- Clinical Trials:
  - Further evaluation of G-MINOR results
  - Establish infrastructure for G-MAJOR
- Case entry support

- Prostate:
  - Multi-disciplinary reviews to enhance quality of prostate MRI
  - Confirmatory testing for favorable-risk Pca patients and react to test results
  - Appropriately classify and follow pts on expectant mgmt
- ROCKS:
  - Consider local opportunities and strategies for reducing post-URS ED visit
  - Utilize post-URS imaging
- KIDNEY:
  - Utilize chest imaging for renal masses 3.1–7 cm
  - Avoid treatment for benign renal masses
- Clinical Trials
  - Notify Coordinating Center of interest in GMAJOR
- Timely and quality case entry

Participating Practices/Urologists

Thank you

- **MUSIC**
  - Urologists
  - Data abstractors
  - Patient Advocates
  - Administrators
  - Coordinating Center faculty and staff
- **Blue Cross Blue Shield of Michigan** – Value Partnerships Program

@MUSICUrology