



Looking beyond the tumor: Managing disruptions and anxiety from bladder cancer

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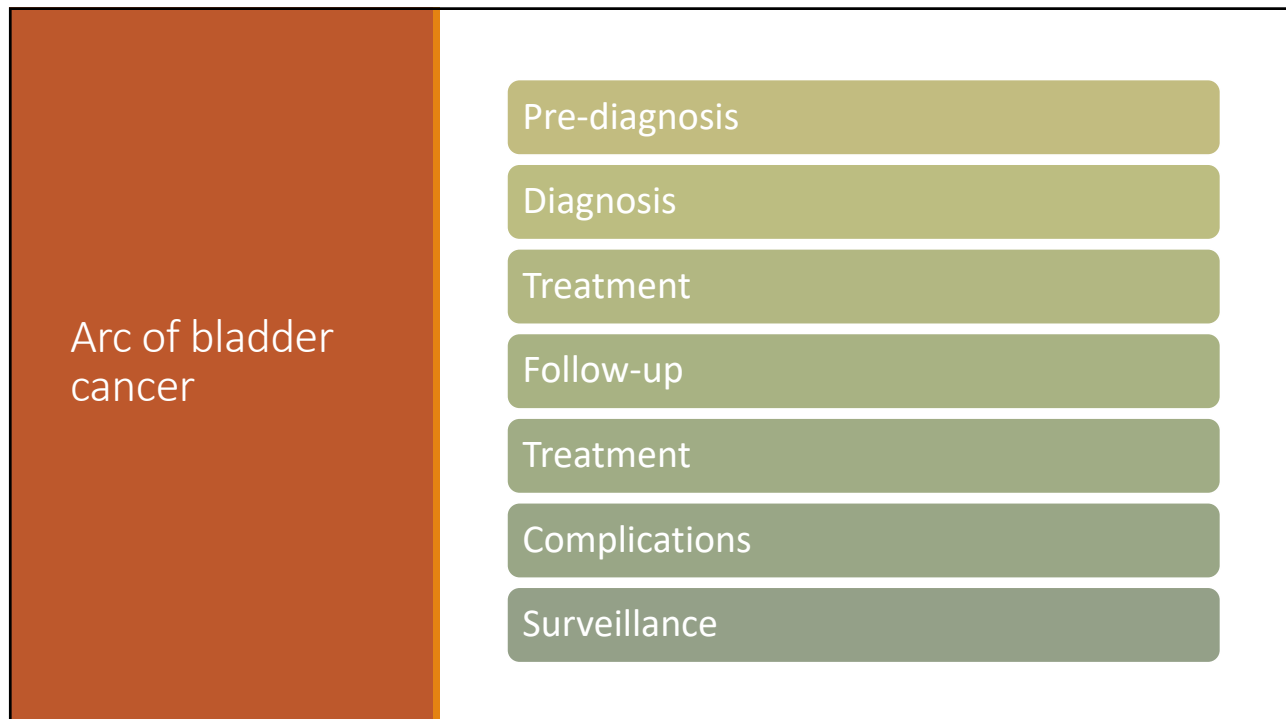
Bill Robertson

Bladder Cancer Survivor



Bladder Cancer Advocacy Network

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Quality of life (QoL) issues for bladder cancer patients

Spans multiple domains

- Physical and mental QoL
- Can be related to urinary function, sexual function
- Financial and psychological burden

Survivorship issues

- In treatment
- After treatment



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Contextualizing QoL/Survivorship

As physicians, we have a unique window into helping our patients navigate these issues.

Our framework for studying and influencing survivorship variables:

1. Things we do that affect patients' QoL
2. Things that happen to patients that we can influence
3. Things that happen to patients that we cannot influence



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Bill's Story – Diagnosis



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1. Things we do that affect patients' QOL
 - Treatments offered and delivered to patients
 - Minimizing potential harms of treatments (Example: Opioid use)
 - Improving sleep hygiene
 - Clinical trials of new agents for bladder preservation in NMIBC and MIBC
2. Things that happen to patient that we can influence
 - Psychological health
 - Costs of care/Financial toxicity
3. Things that happen to patients that we cannot (often) influence
 - Recurrences?
 - Interpersonal relationships affecting home life?
 - ...?

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Sleep disturbances are among the most burdensome symptoms reported by patients undergoing surgery to remove the bladder.

Based on MD Anderson Symptom Inventory (MDASI) assessments of 207 patients undergoing RC, conducted between Nov 2013 and Dec 2016



Kukreja...Wang et al, *Surg Innov.* 2018

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Top 5 Most Burdensome Symptoms

1. Dry mouth
2. Disturbed sleep
3. Drowsiness
4. Fatigue
5. Pain

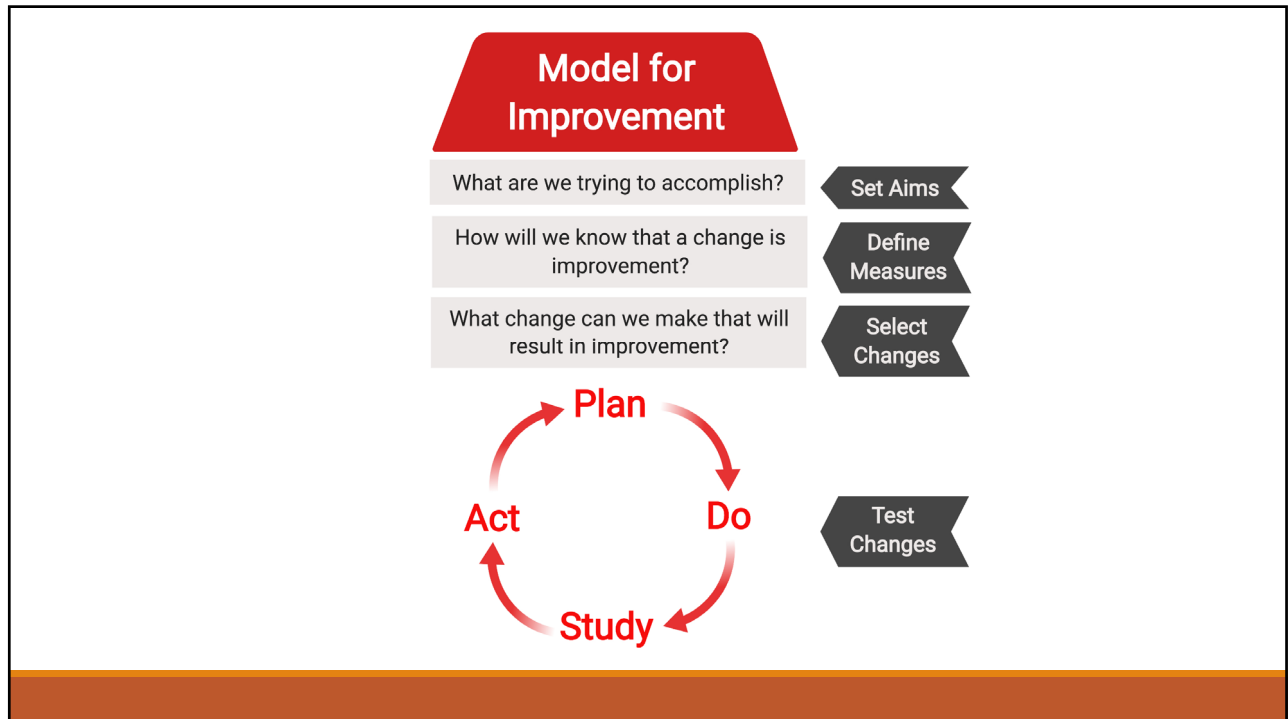
Kukreja...Wang et al, *Surg Innov.* 2018

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Sleep deprivation in hospitals: not just a problem after RC




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How will we know that a change is improvement?



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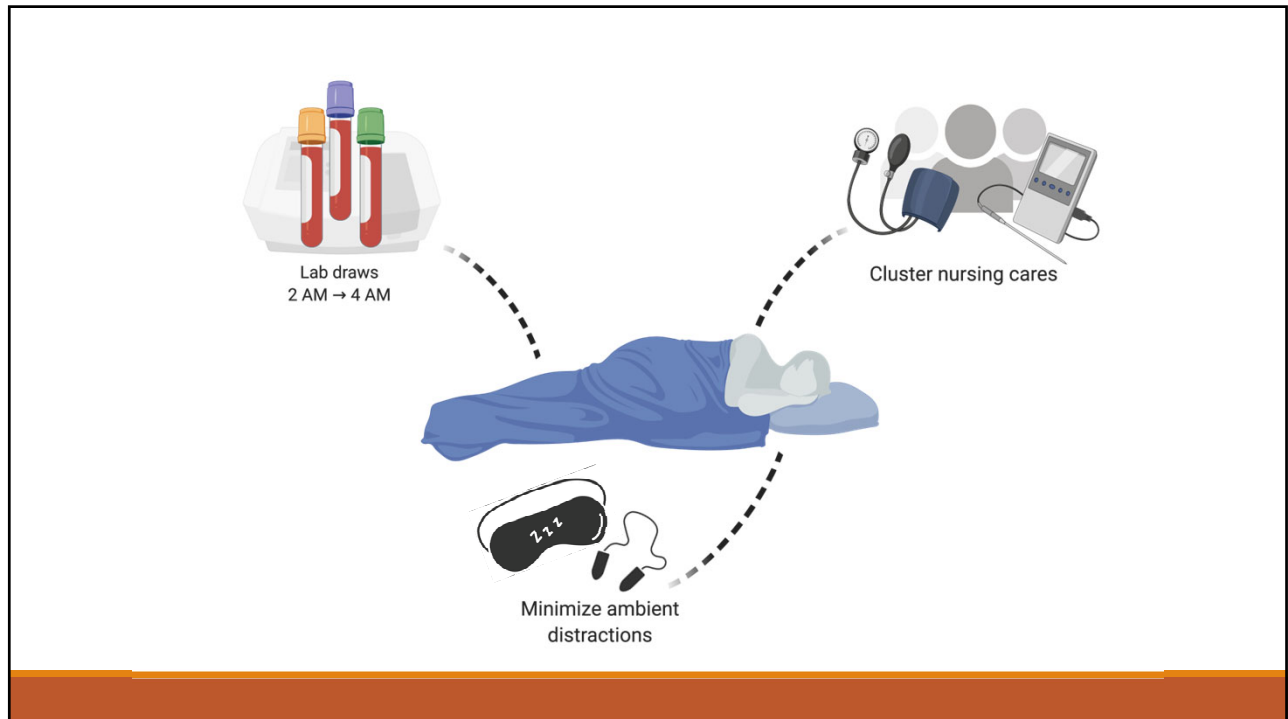
<p>Appendix. Richards–Campbell Sleep Questionnaire</p> <p>The following questions are to describe how you slept last night:</p> <p>1. My sleep last night was: Light sleep <u>1 2 3 4 5 6 7 8 9 10</u> Deep sleep</p> <p>2. Last night, when I first fell asleep, I: Just never <u>1 2 3 4 5 6 7 8 9 10</u> Fell asleep could fall asleep right away</p> <p>3. Last night, I was: Awake all night <u>1 2 3 4 5 6 7 8 9 10</u> Never woke up long</p> <p>4. Last night, when I woke up or if someone woke me up, I: Could not <u>1 2 3 4 5 6 7 8 9 10</u> Got back go back to sleep right away sleep</p> <p>5. I would describe my sleep last night as: A bad <u>1 2 3 4 5 6 7 8 9 10</u> A good night's sleep night's sleep</p> <p>6. Was there anything in particular that bothered me during the night?</p>	<div style="background-color: #e0e0e0; padding: 5px; border: 1px solid #ccc; margin-bottom: 10px;"> How will we know that a change is improvement? </div> <p style="color: red; font-weight: bold; font-size: 18px;">Sleep depth</p> <hr style="width: 20%; margin: 5px auto;"/> <p style="color: red; font-weight: bold; font-size: 18px;">Sleep latency</p> <p style="color: red; font-weight: bold; font-size: 18px;">Awakenings</p> <p style="color: red; font-weight: bold; font-size: 18px;">Returning to sleep</p> <p style="color: red; font-weight: bold; font-size: 18px;">Sleep quality</p>
<p>Validated instrument with reliability reported to be similar to sleep studies (Richards et al. <i>J Nurs Meas.</i> 2000) ¹²</p>	

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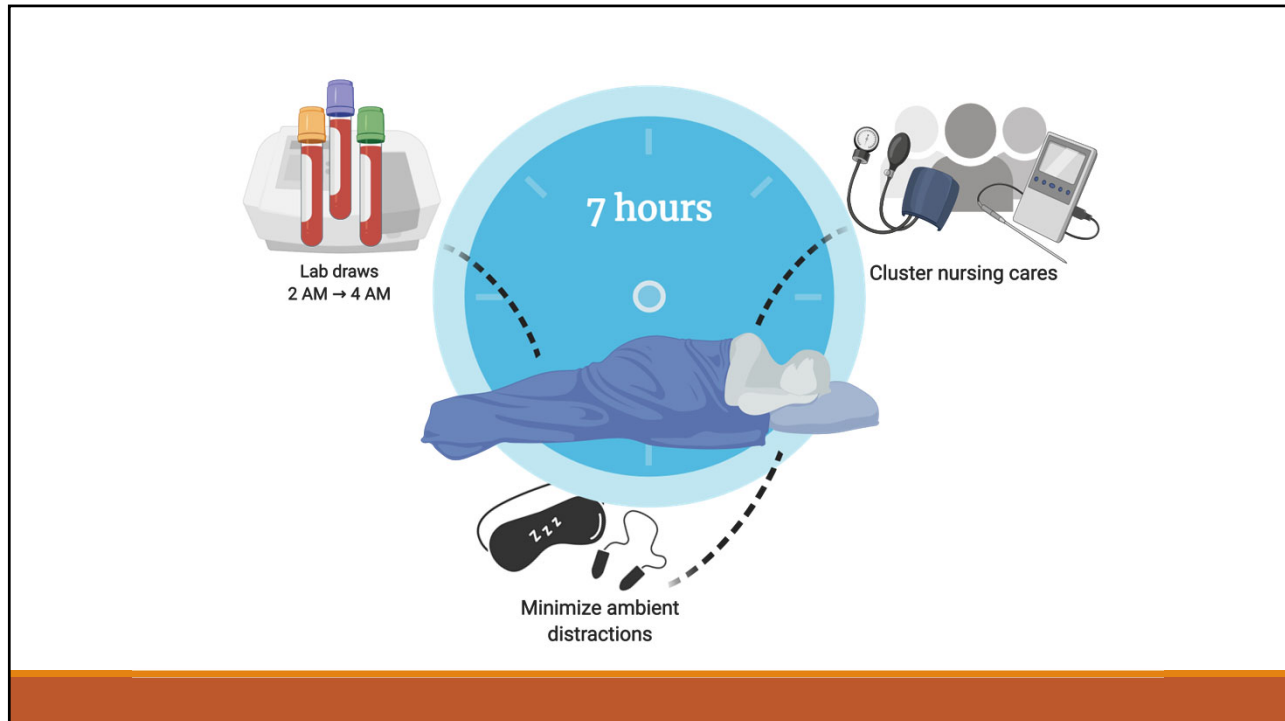
What changes can we make that will result in improvement?



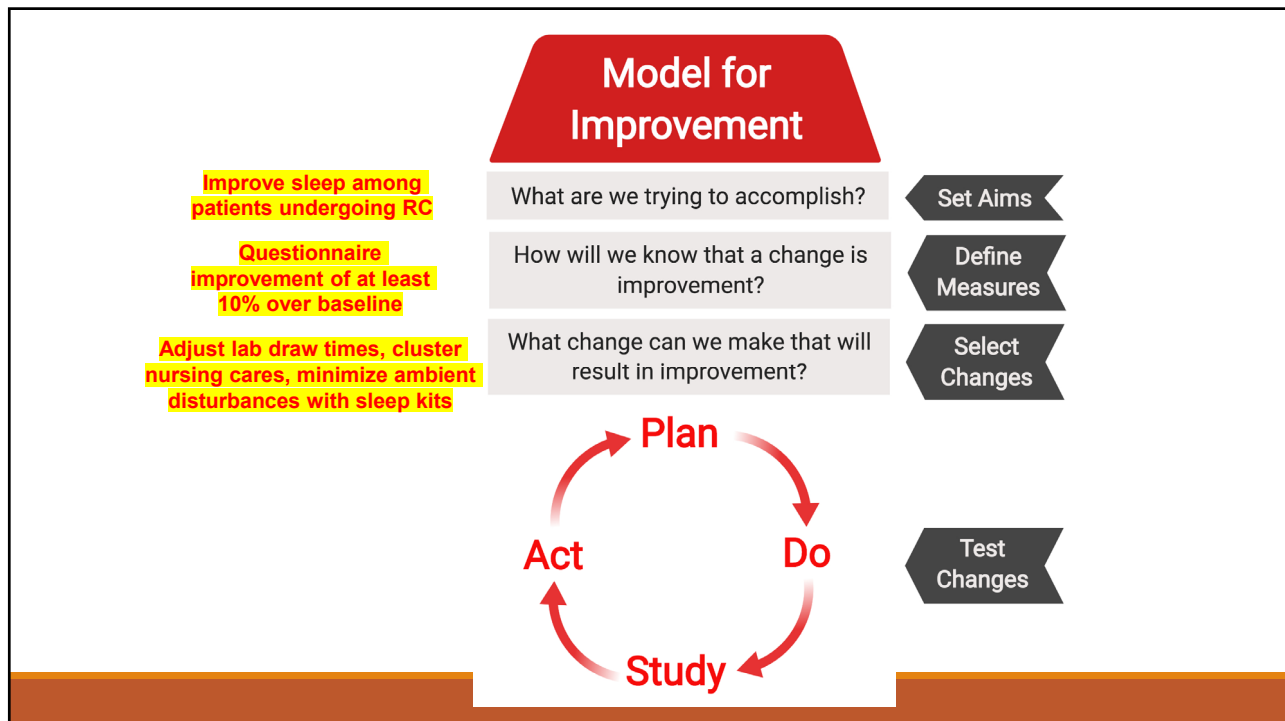
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Project timeline

- **Baseline surveys administered in February 2019**
 - Patients who underwent cystectomy and who agreed to participate completed a questionnaire
 - Established a baseline of sleep hygiene prior to any care changes
 - Open-ended question on the form also allowed patients to self-report sleep concerns
- **March-May 2019: project initiation**
 - Coordination with phlebotomists to change lab draw times for cystectomy patients
 - Nursing supervisors organized care clustering efforts
 - Patients provided with sleep masks and ear plugs on evening rounds

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Key objectives

- **To allow for 7 continuous hours of sleep** with minimal to no interruptions
- **To aim for a 10% mean score improvement** from baseline the baseline questionnaire
- **To understand the drivers of poor sleep hygiene** in hospitalized patients after RC
 - Medical comorbidities (such as OSA)
 - Gender differences
 - Impact on sleep by post-operative complication
 - Use of narcotics post-operatively
 - Type of surgery (robotic versus open)
 - Time under anesthesia

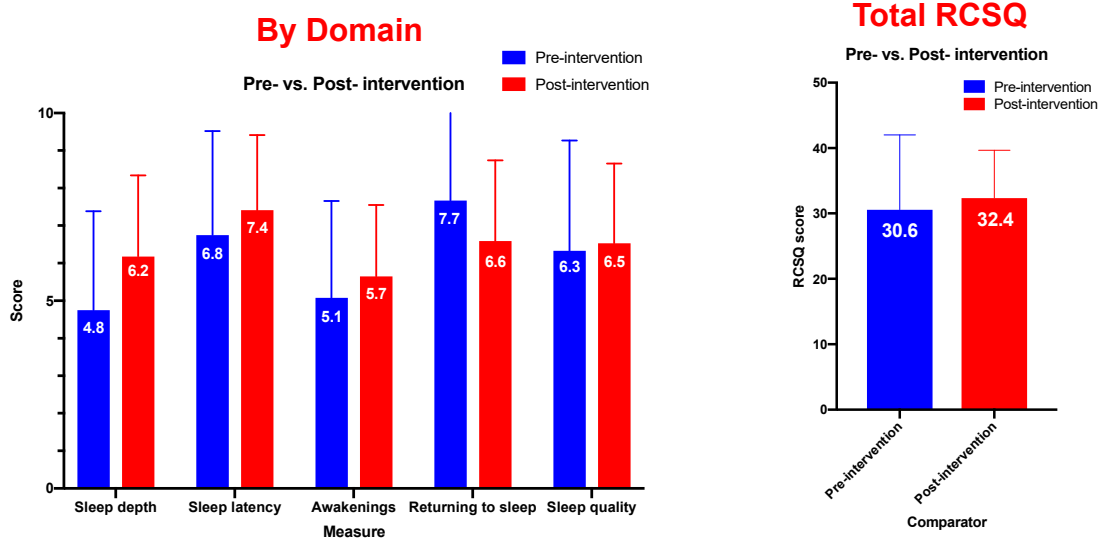
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Project summary

- **33 total patients** were assessed during the study period from February to May 2019
 - 13 patients were part of the baseline survey period (February 2019)
 - 19 patients were part of the QI intervention/initiative period (March-May 2019)
 - All patients underwent either open or robot-assisted radical cystectomy with urinary diversion
- Review and approval of the project protocol was obtained from the MD Anderson Quality Improvement Assessment Board

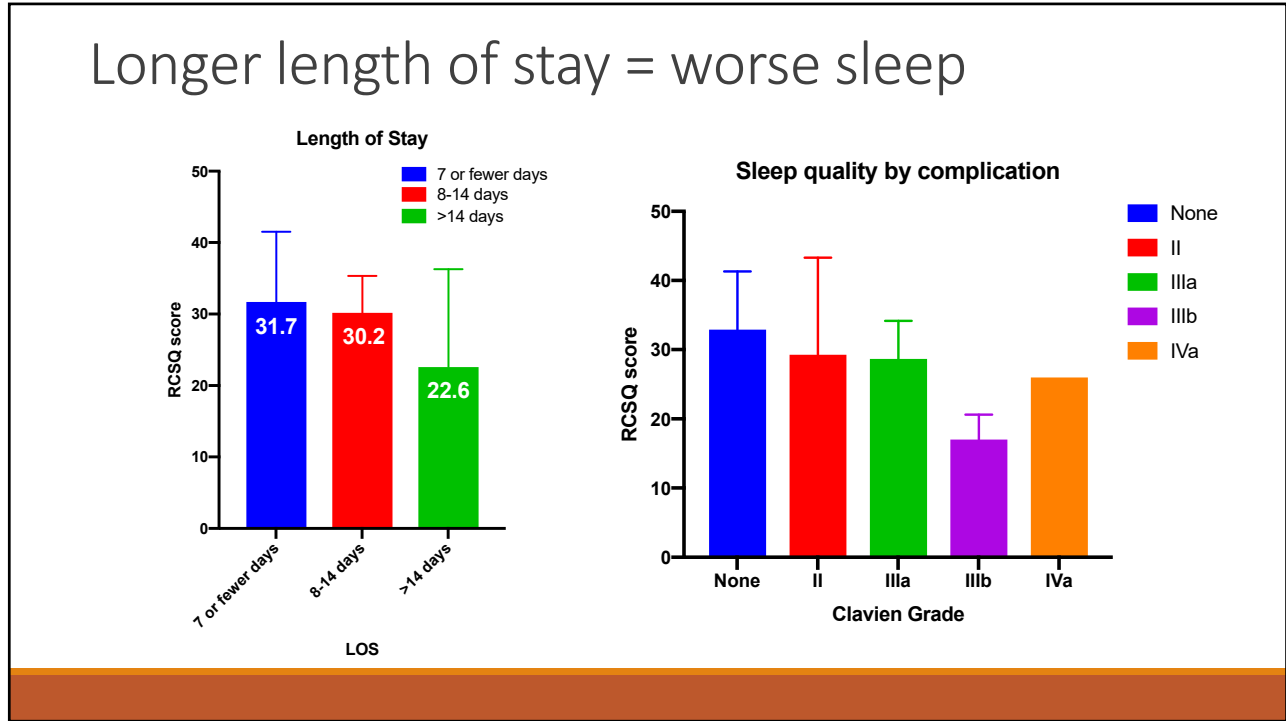
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Overall sleep quality before and after changes



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Longer length of stay = worse sleep



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Free response: Why did you have trouble sleeping?

“nausea interfered with sleep”

“constant interruptions”

“pain/discomfort from surgical incision”

“when staff came into room for vitals, labs, etc”

“Had to wake up multiple times to go to the bathroom (diarrhea)”

“Able to get good night’s sleep”

“just people coming in all the time”

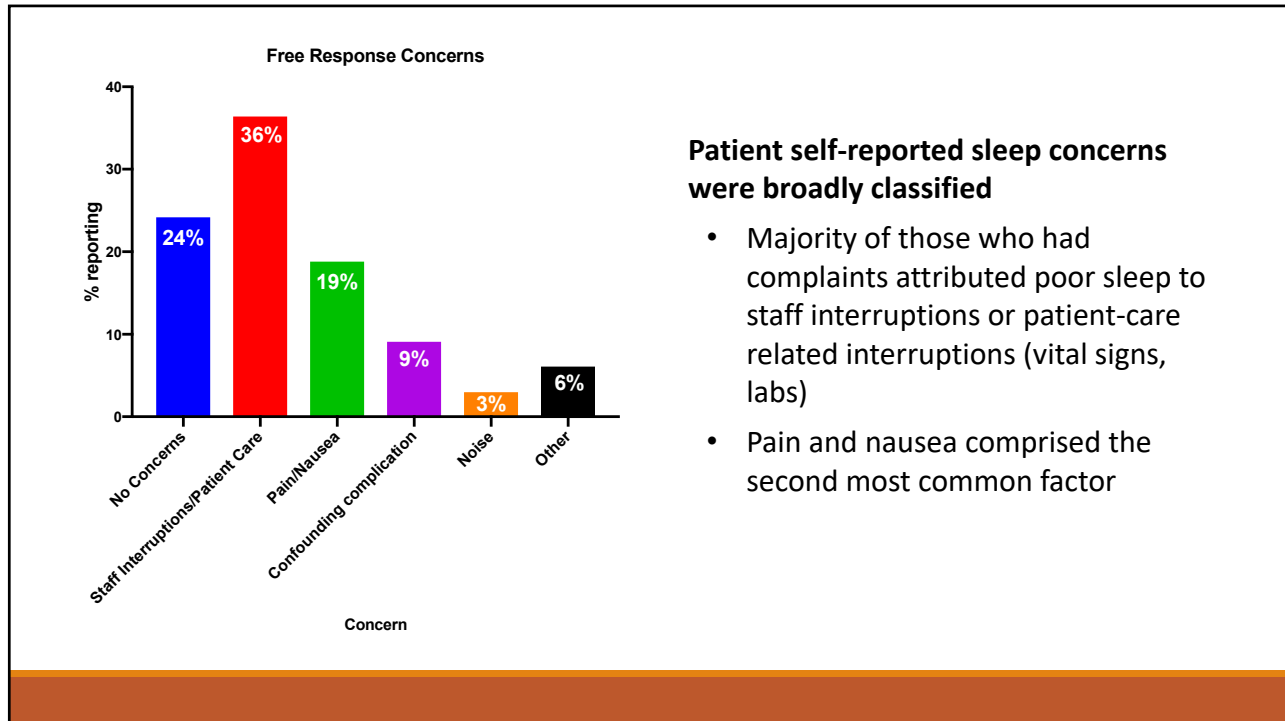
“this bed is very uncomfortable”

“Nothing in particular. Just couldn’t sleep.”

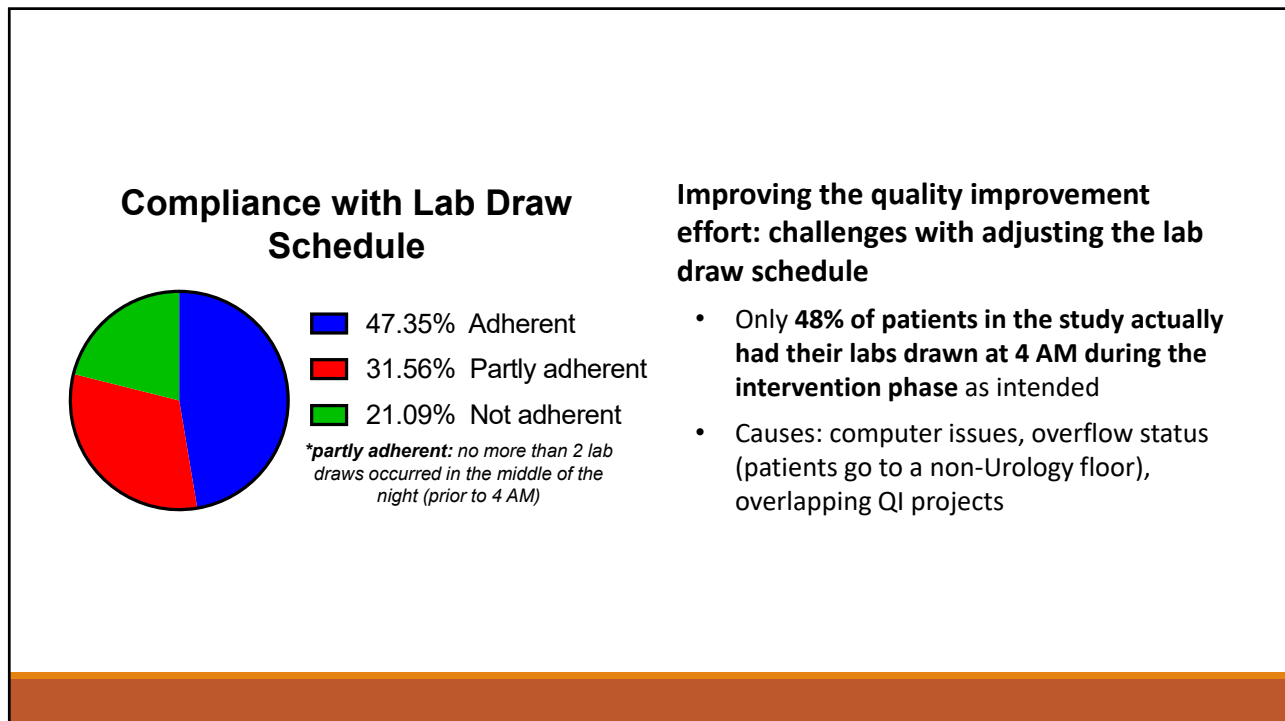
“deepest sleep since I’ve been here”

“Staff minimized interruptions”

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Take aways

- Poor sleep quality is **commonly encountered** following radical cystectomy
- Patients report **staff interruptions at night** as among the most common cause for poor sleep (this includes care-related interruptions, such as lab draws and vital sign checks)
- Clustering care, adjusting lab draw times (even with only half the patients actually had this adjustment), and providing sleep masks/ear plugs to minimize ambient noise led to some improvement

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Long-term sleep impact?

SCANDINAVIAN JOURNAL OF UROLOGY
2020, VOL. 54, NO. 3, 181-187
<https://doi.org/10.1080/21681805.2020.1754906>



Taylor & Francis
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ARTICLE

Health-related quality-of-life after radical cystectomy among Norwegian men and women compared to the general population

Cathrine O. Normann^a, Randi Opheim^b, Bettina K. Andreassen^c, Tomm Bernkleiv^{d,e} and Erik S. Haug^a

^aDepartment of Urology, Vestfold Hospital Trust, Oslo, Norway; ^bFaculty of Health and Society, University of Oslo, Oslo, Norway; ^cDepartment of Research, Cancer Registry of Norway, Oslo, Norway; ^dDepartment of Research and Innovation, Vestfold Hospital Trust, Oslo, Norway; ^eInstitute of Clinical Medicine, University of Oslo, Oslo, Norway

- EORTC QLQ-C30.v3 - Comparison between radical cystectomy (RC) patients and general Norwegian population

Item mean	General Norwegian men			General Norwegian women		
	Population (n = 583)	RC patients (n = 141)	p-value	Population (n = 605)	RC patients (n = 32)	p-value
Sleep disturbance	17.7	25.0	0.01 ^a	33.2	33.3	0.98

(higher numbers are better)

- 78% had ileal conduits (urinary bag); 22% had neobladder
- Among men, sleep was actually *improved* after surgery
- Among women, no statistically significant difference

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Bill's Story – In Hospital Care and Shortly After Surgery

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Studying mental health and bladder cancer

Harness tools that can answer difficult-to-measure questions

Truven MarketScan database

- Largest commercial claims insurance database, largely from employer-based insurance plans
- Includes commercial claims and Medicare-eligible (Medicare Advantage plans)
- National population
- Can find matched cohorts otherwise impossible to identify

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Mental Health & Bladder Cancer

Patients captured at time of diagnosis

- 66k patients with newly diagnosed bladder cancer

Excluded patients with diagnosis of Major Depression Disorder, Generalized Anxiety Disorder, or any psychiatric medication use within 12 months of diagnosis

DOI: 10.1002/cam4.4346

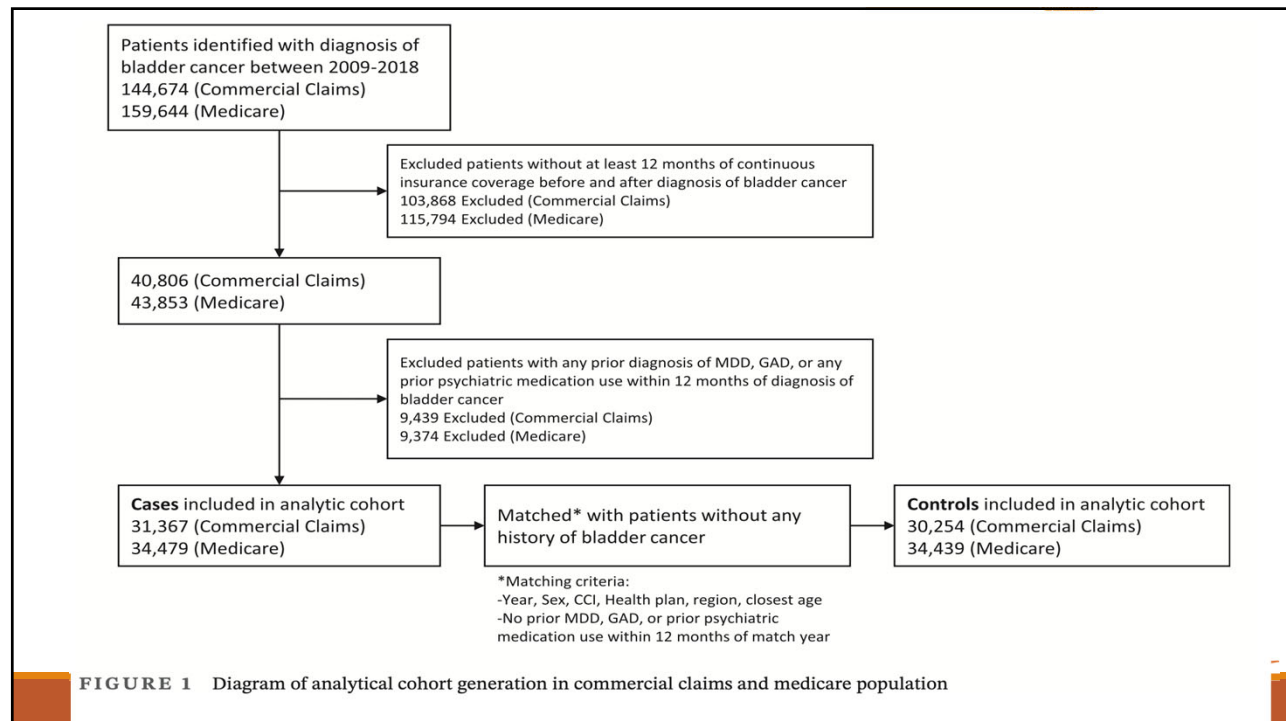
RESEARCH ARTICLE

Cancer Medicine WILEY

Longitudinal impact of bladder cancer diagnosis on common psychiatric disorders

Ian J. Cooke¹ | Dattatraya Patil¹ | Katherine Bobrek¹ | Vikram Narayan^{1,2} |
Viraj Master^{1,2} | Mark Rapaport³ | Christopher P. Filson^{1,2} | Shreyas S. Joshi^{1,2}

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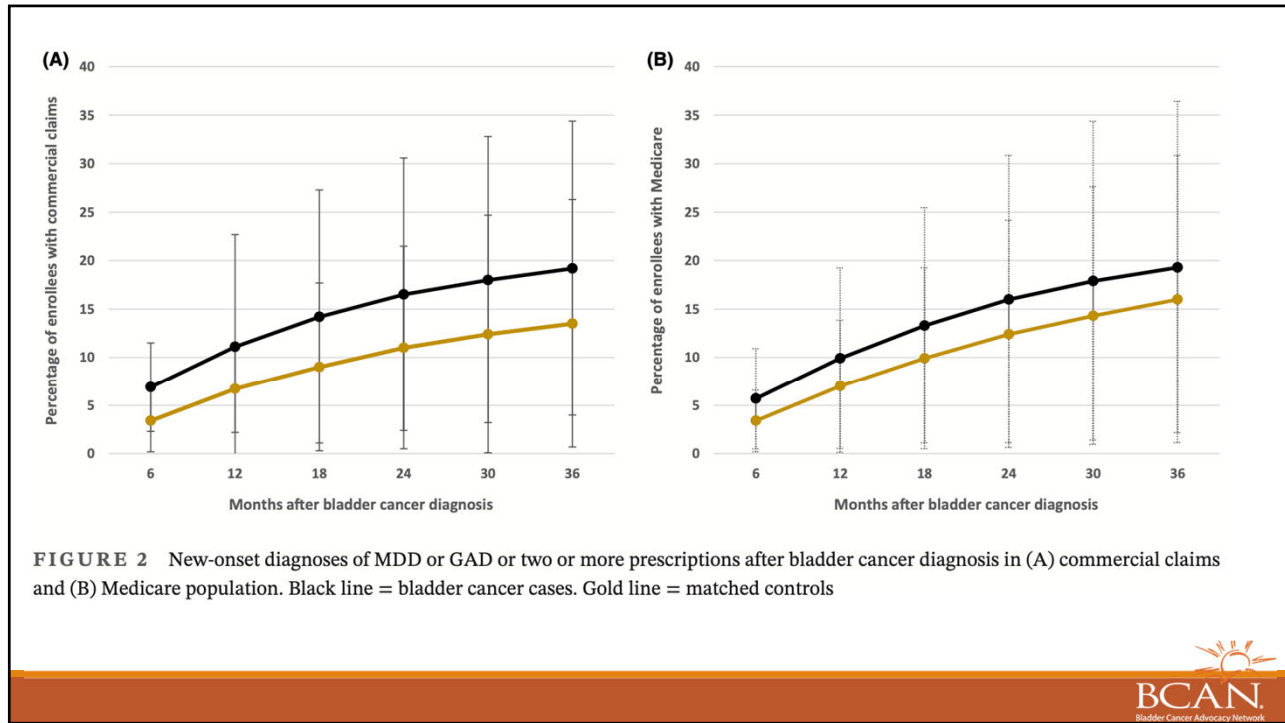


FIGURE 2 New-onset diagnoses of MDD or GAD or two or more prescriptions after bladder cancer diagnosis in (A) commercial claims and (B) Medicare population. Black line = bladder cancer cases. Gold line = matched controls



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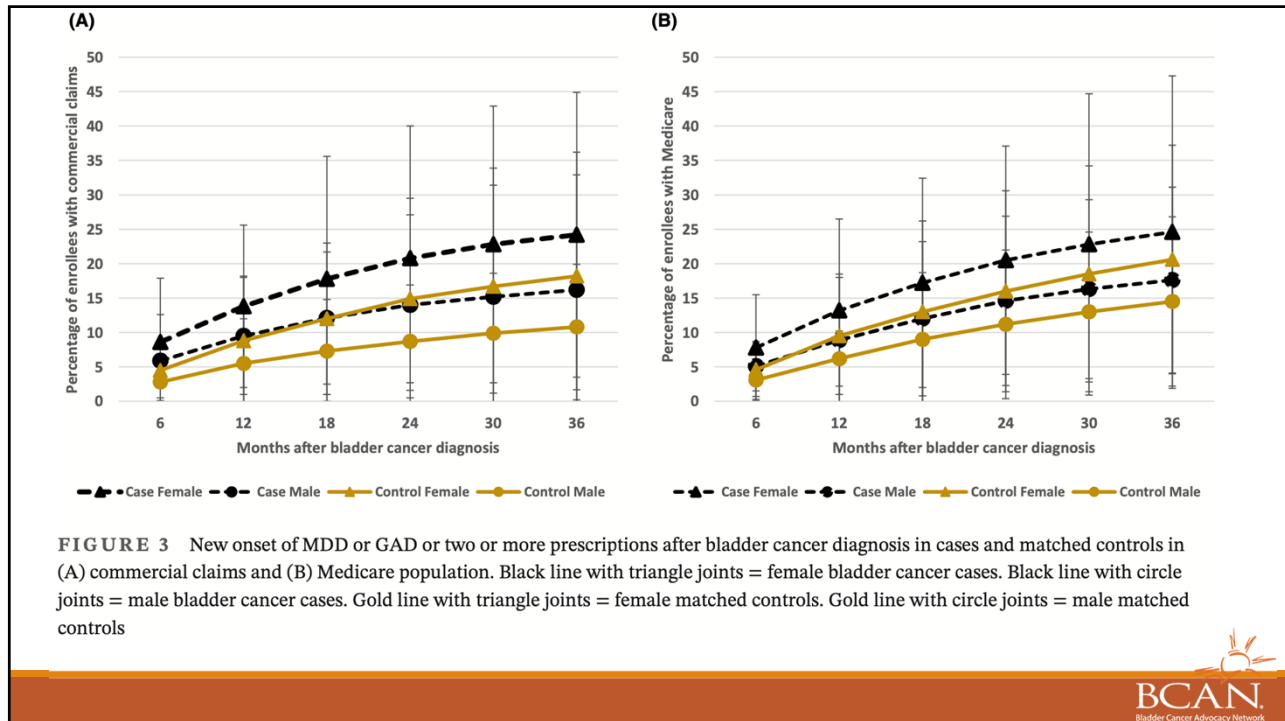
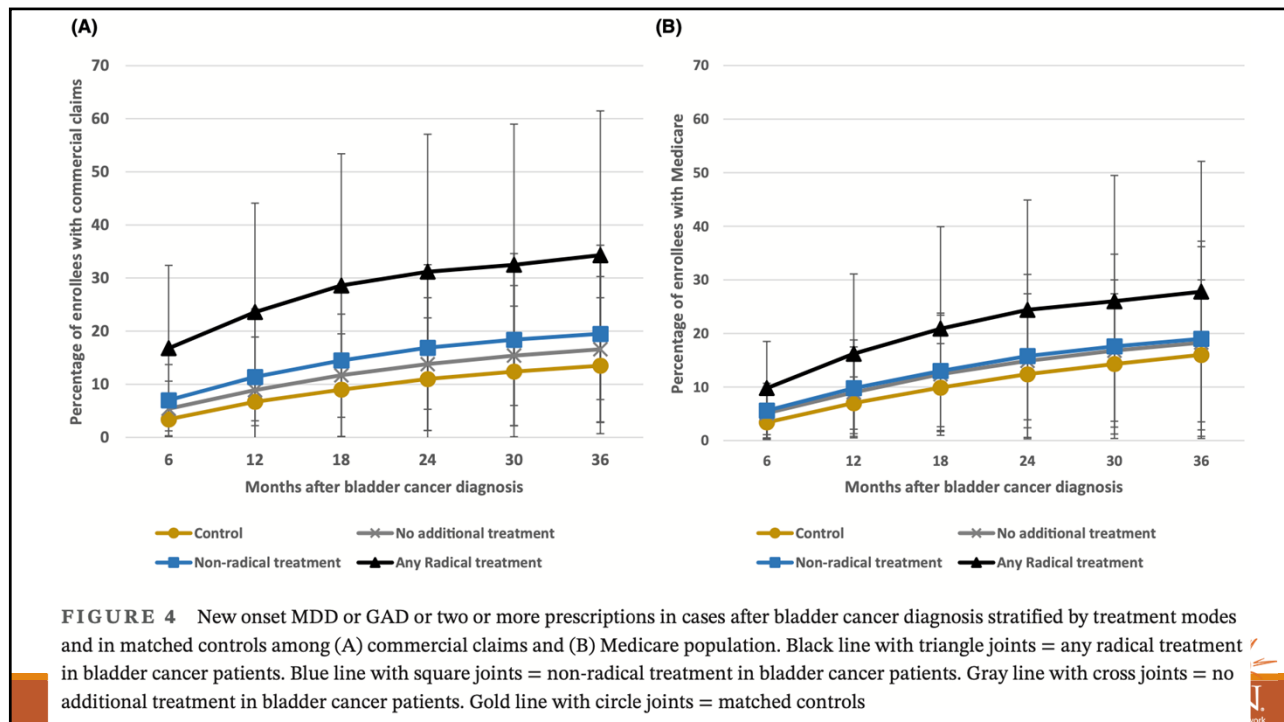


FIGURE 3 New onset of MDD or GAD or two or more prescriptions after bladder cancer diagnosis in cases and matched controls in (A) commercial claims and (B) Medicare population. Black line with triangle joints = female bladder cancer cases. Black line with circle joints = male bladder cancer cases. Gold line with triangle joints = female matched controls. Gold line with circle joints = male matched controls



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What did we learn?

Compared to controls, **bladder cancer patients were more likely to develop new-onset depression/anxiety**

- at 6 months (privately insured: 6.9% vs. 3.4%, $p < 0.001$; Medicare-eligible: 5.7% vs. 3.4%, $p < 0.001$)
- At 36 months (privately insured: 19.2% vs. 13.5%, $p < 0.001$; Medicare-eligible: 19.3% vs. 16.0%, $p < 0.001$)

Women (vs. men, privately insured: OR 1.65, 95%CI 1.53–1.78; Medicare-eligible: OR 1.63, 95%CI 1.50–1.76) **and those receiving cystectomy and chemotherapy** (vs. no treatment, privately insured: OR 4.94, 95%CI 4.13–5.90; Medicare-eligible: OR 2.35, 95%CI 1.88–2.94) **were more likely to develop significant depression/anxiety.**



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Mental illness has treatment consequences

Disparities in Bladder Cancer Treatment and Survival Amongst Elderly Patients with a Pre-existing Mental Illness

Niranjan J. Sathianathan   • Yunhua Fan • Stephanie L. Jarosek • ... Christopher J. Weight • Sophia Vinogradov • Badrinath R. Konety • [Show all authors](#)

Published: February 20, 2019 • DOI: <https://doi.org/10.1016/j.euf.2019.02.007>

“Elderly patients with muscle-invasive bladder cancer and a pre-existing mental disorder were less likely to receive guideline-concordant management, which led to poor overall and disease-specific survival.”

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Things we do that affect patients' QOL

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Opioids & Bladder Cancer

Bladder cancer is considered one of the most onerous solid organ malignancies: cost, length of treatment, surveillance, morbidity, etc...

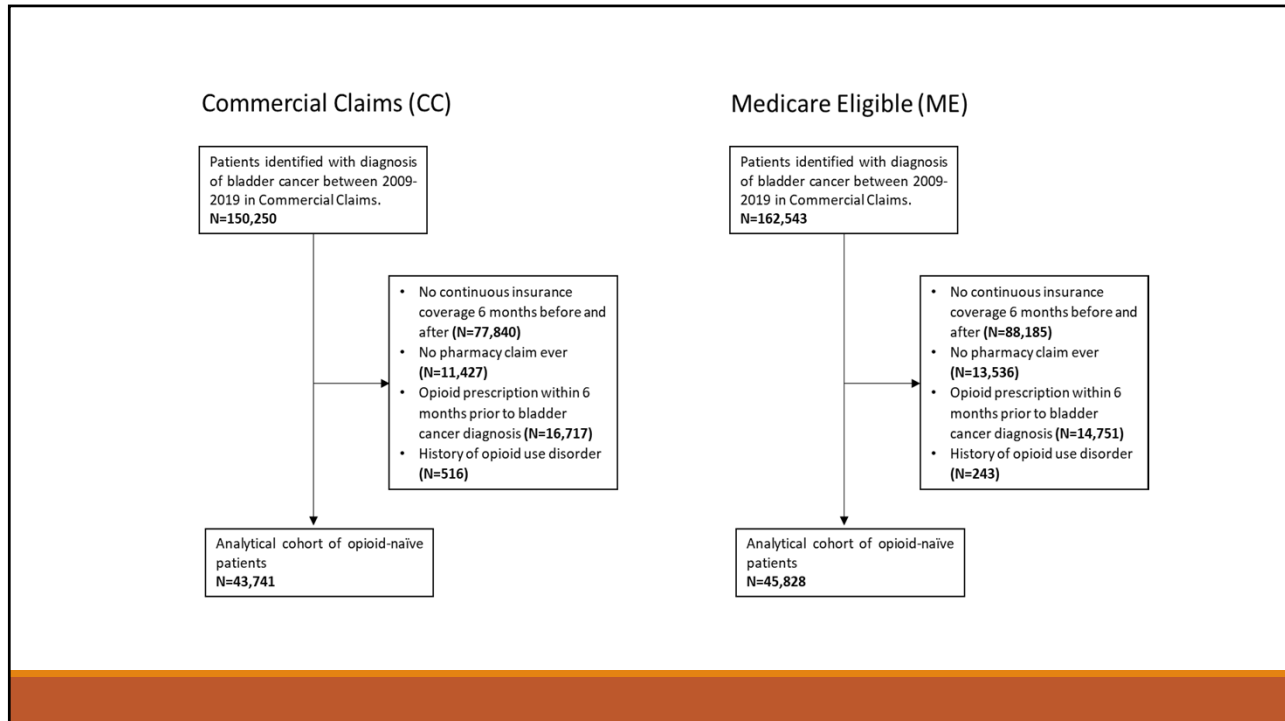
Many potential opioid exposures: Bladder cancer symptoms, exposure to painful treatments, etc...

We asked: "What association does an initial opioid prescription (at time of diagnostic TURBT) have in the development of prolonged opioid use for these patients?"

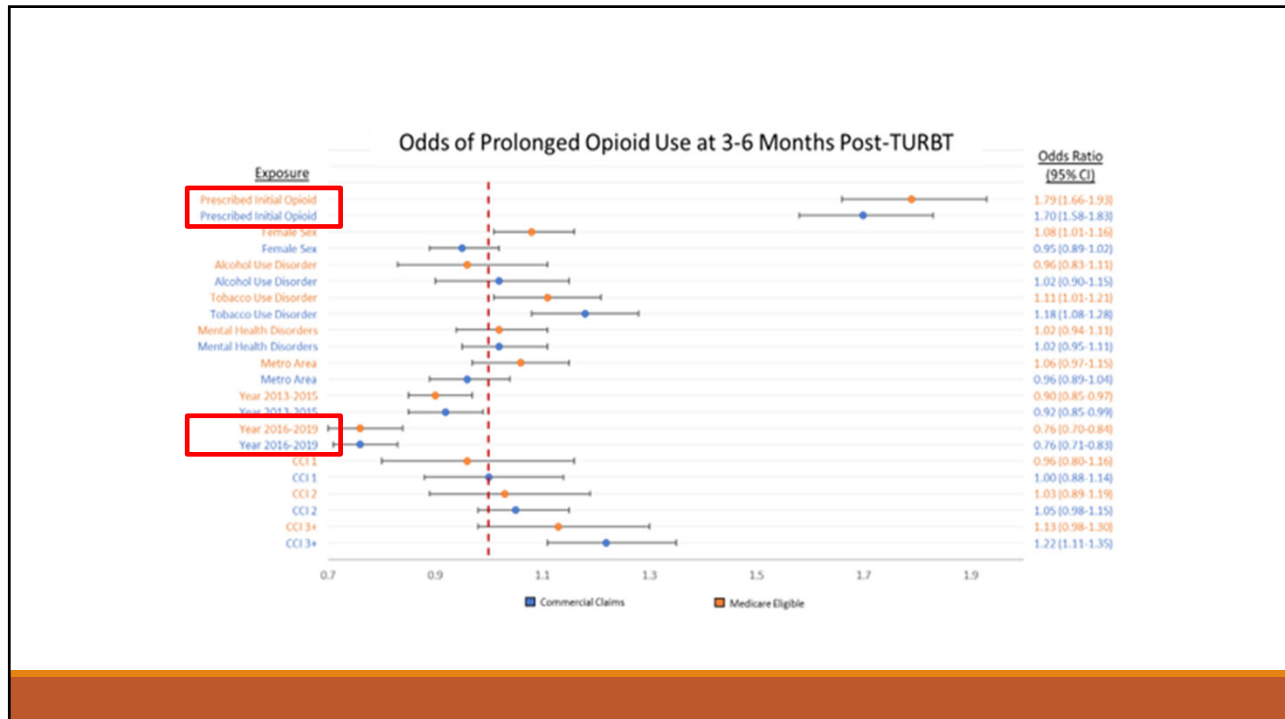
PROLONGED OPIOID USE FOLLOWING BLADDER TUMOR RESECTION FOR OPIOID-NAÏVE PATIENTS

Benjamin Croll M.D., Dattatraya Patil M.B.B.S., Misaki Mason B.A., Vikram M. Narayan M.D., Viraj Master M.D., Christopher P. Filson M.D., M.S., Shreyas S. Joshi M.D.

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Initial dose matters

Initial OME	N		Odds Ratio (95% CI)		Type3 P-value	
	CC	ME	CC	ME	CC	ME
No Opioids	36,170	40,253	Ref	Ref		
Quartile 1	2,259	1,052	1.43 (1.26-1.62)	1.69 (1.43-1.99)		
Quartile 2	2,321	1,306	1.55 (1.37-1.74)	1.78 (1.54-2.05)	<.001	<.001
Quartile 3	1,542	1,776	1.95 (1.70-2.23)	1.73 (1.53-1.96)		
Quartile 4	1,449	1,441	2.14 (1.87-2.45)	1.95 (1.70-2.22)		

Odds Ratio of prolonged opioid use at 3-6 months post-TURBT based on dose of opioids following initial TURBT, derived from multivariable regression analysis. Dose measured in oral morphine equivalents (OME).

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Treatment type matters

	No further Treatment (CC n=18,997) (ME n=17,001)	Non-radical Treatment (CC n=22,380) (ME n=26,207)	Any Radical Treatment (CC n=2,364) (ME n=2,620)	P-value
Initial Opioid Rx				
CC	1,120 (5.9%)	5,722 (26%)	732 (31%)	<.001
ME	584 (3.4%)	4,395 (17%)	598 (23%)	<.001
Initial Rx Above Median OME				
CC	536 (2.8%)	2,102 (9.4%)	353 (15%)	<.001
ME	394 (2.3%)	2,439 (9.3%)	384 (15%)	<.001

Percentage of patients in each future treatment group who fill an opioid prescription after initial TURBT (above) and percentage of patients who fill a prescription greater than the median OME value of 150.0 (below).

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What did we learn?

- Those who filled an opioid prescription following initial TURBT had greater odds of persistent opioid use (CC: 27% vs. 12%, OR 2.14, 95% CI (1.84-2.45), ME: 24% vs. 12%, OR 1.95, 95% CI (1.70-2.22).
- Increasing dosage quartile of opioids was associated with increased odds of prolonged opioid use.
- Those going on to radical therapy had the highest rates of an initial opioid prescription (31% (CC) and 23% (ME))
- Men and women had similar rates of initial prescriptions, but female sex was associated with higher odds of persistent opioid use at 3-6 months in the ME group: OR 1.08, 95% CI (1.01-1.16).

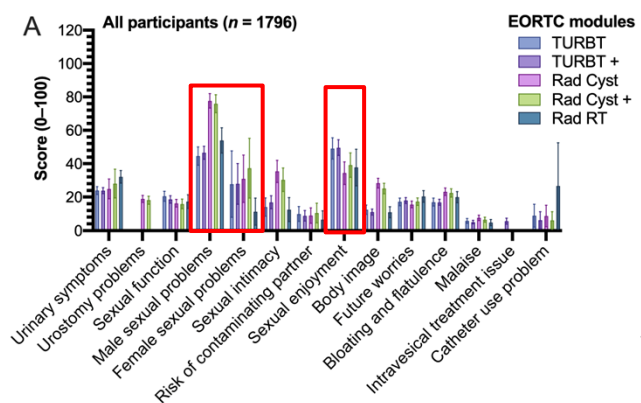
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Sexual health and bladder cancer

- **1796 surveys** – 48% from non-muscle invasive disease; 50% had radiation or radical cystectomy
 - 23% women, 77% men
- Treatment intensity and multiple treatments did not seem to impact scores
- Sexual problems are felt by all – bring these issues up with your doctor

Quality of Life After Bladder Cancer: A Cross-sectional Survey of Patient-reported Outcomes

James W.F. Catto^{a,b,*}, Amy Downing^c, Samantha Mason^c, Penny Wright^c, Kate Absolom^c, Sarah Bottomley^a, Luke Hounsome^d, Syed Hussain^e, Mohini Varughese^f, Caroline Raw^g, Phil Kelly^g, Adam W. Glaser^{a,b,h,*}



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What we are working on

- Cost of care
- Utilization of adjunct services (cystoscopies)
 - Does the growing use of ASCs increase costs?
- CISTO bladder cancer study
- Phase 1-3 clinical trials for NMIBC & MIBC

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Bill's Story – Living, after bladder cancer treatment

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