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## Large Scale Implementation of Opioid Prescription Reduction After Robotic Prostatectomy – 2 Year Evaluation from the Pennsylvania Urologic Collaborative (PURC)

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# Large Scale Implementation of Opioid Prescription Reduction After Robotic Prostatectomy – 2 Year Evaluation from the Pennsylvania Urologic Collaborative (PURC)



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Pennsylvania Urologic Regional Collaborative

## Introduction

- The opioid epidemic of addiction and overdose is a growing problem in the United States.
- Diversion of post-operative medication is a major contributor to opioid misuse.
- Necessary for urologists to help combat the opioid epidemic while still providing effective pain management.

## Objectives

- To evaluate the impact of institutional opioid reduction protocols for robotic assisted laparoscopic prostatectomy (RALP)
- Guide future quality improvement to patient's post-surgical outcomes.

## Methods

- Opioid reduction protocol implemented for patients undergoing RALP at 4 institutions within the Pennsylvania Urologic Regional Collaborative (PURC) (Table 1) →>>>>
- Comparison of prescribing practices 12 months before and after the intervention, with a 1-month washout period
- Retrospective review conducted of opioid inpatient orders, opioids prescribed at discharge, and patient-reported pain scores at first post-op visit (visual analog score of 0-10)
- Calculated prescribed opioids as 5 mg oxycodone (oxy-5mg) equivalents

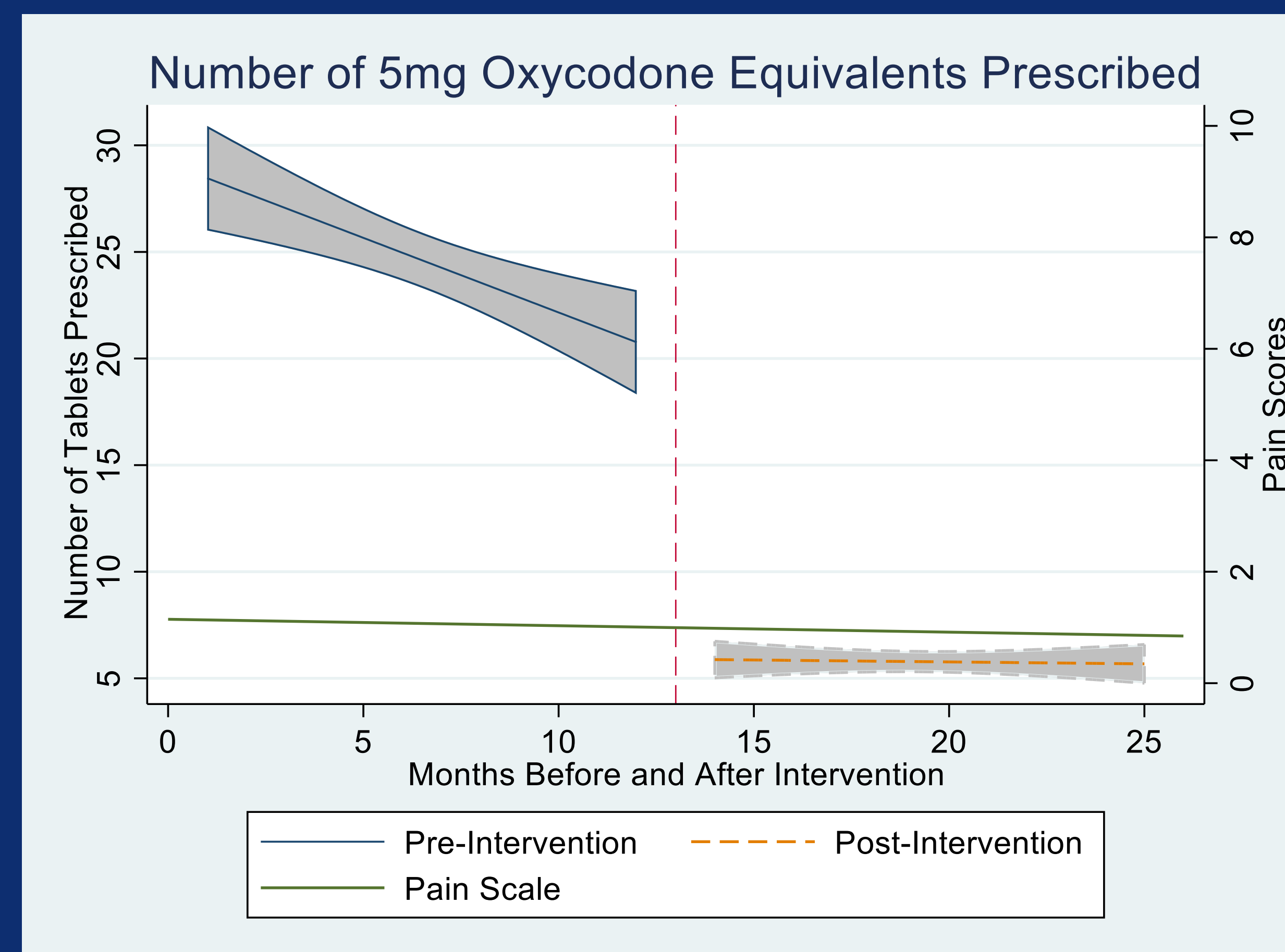
## Patient Demographics

- 2061 patients were identified as having undergone RALP by 23 different surgeons.
- Median age 63.6 (IQR 58.4-68.0).

## Results

- Inpatient Opioid use decreased from median 2.7 (IQR 1.3-4.5) oxy-5mg tabs to median 2.2 (IQR 0.2-4.1) oxy- 5mg tabs
- Discharge Opiates Prescribed decreased from median 20 (IQR 14-30) tabs to median 0 (IQR 0-14) tabs ( $p<0.001$ )
- Percentage of patients who had no opioid use as inpatients but were still given opioids on discharge decreased from 98% before implementation to 25% after implementation ( $p<0.001$ )

Figure 1. Pre- and post-intervention opioid pain scores



## Results (continued)

- Despite the decrease in opioid prescriptions, there were no significant changes in pain scores (median value 0/10,  $p=0.78$ , Figure 1).
- Overall, 14 less opioid tablets were prescribed per RALP, leading to a total of 14,582 less opioid tablets in Pennsylvania over a 1-year period

## Conclusions

- Common Features of Opiate Reduction Protocols
  - Targeted inpatient utilization through addition of scheduled ketorolac and acetaminophen
  - Prescribe discharge opioids if they were required as an inpatient
  - Environmental changes to influence prescribing behavior were found to be essential, including provider “nudges” in the form of order set modifications, especially to remove default prescription settings
  - Need to engage key stakeholders (APPS, housestaff) to improve compliance with OSP
- Adequate pain control is feasible without opiates for the majority of patients undergoing RALP
- There were significant reductions in the number of opioids entering the community
- Urologist play an important role in reducing opioid oversupply and can help combat the opioid epidemic while still providing effective pain management.
- Policies to encourage opioid stewardship should be designed to encourage adoptions of such programmatic change

Table 1. Summary of Institutional Protocols

Program (year of intervention)	Base state			Intervention			Non-medical interventions	Primary outcome (% change)
	Pain Scale	Escalation	Discharge	Standing meds	Escalation	Discharge	Order-set changes Attending, Housestaff and Nursing education	
<b>FCCC (2020)</b>	1 tab percocet 2 tab percocet Dilaudid 0.2 mg	Toradol Lidocaine patch Dilaudid PCA	10 tabs all patients	Ketorolac Acetaminophen	Tramadol Oxycodone Dilaudid	10 tabs only if opioids required as inpatient	Order-set changes Attending, Housestaff and Nursing education	Adherence to OSP 359% increase
<b>PENN (2018)</b>	1 tab percocet 2 tab percocet Morphine 2mg Dilaudid 0.2mg	Toradol Lidocaine patch Dilaudid PCA	28-45 tabs all patients	Ketorolac Acetaminophen Gabapentin Bupivacaine	Tramadol Oxycodone Morphine	Acetaminophen Neurontin Tramadol or Oxycodone 10 tablets only if required as inpatient	Order set changes Erasing default settings Educational sessions with PA / NP and Residents	Percent discharged with opioids decreased from 99% to 53.6%.
<b>Jefferson (2019)</b>	1 tab percocet 2 tab percocet Morphine 2mg Dilaudid 0.2mg	Toradol Lidocaine patch Dilaudid PCA	20-30 tabs all patients	Ketorolac Acetaminophen Pregabalin Bupivacaine	Oxycodone	Acetaminophen Motrin Oxycodone 10 tablets only if required as inpatient	Order-set changes Attending, Housestaff and Nursing education	Percent discharged with opioid who had ZERO use as inpatient decreased from 97% to 30.4%
<b>Penn State (2019)</b>	1 tab percocet 2 tab percocet Morphine 2mg Dilaudid 0.2mg	Toradol Lidocaine patch Dilaudid PCA	20-30 tabs all patients	Ketorolac Acetaminophen Gabapentin	Tramadol Oxycodone	Acetaminophen Neurontin Tramadol or Oxycodone 10 tablets only if required as inpatient	Order-set changes Attending, Housestaff and Nursing education	Percent discharged with opioid who had ZERO use as inpatient decreased from 100% to 4.6%

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