An opioid prescription for patients undergoing minor urologic surgery is associated with long-term opioid use

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Western

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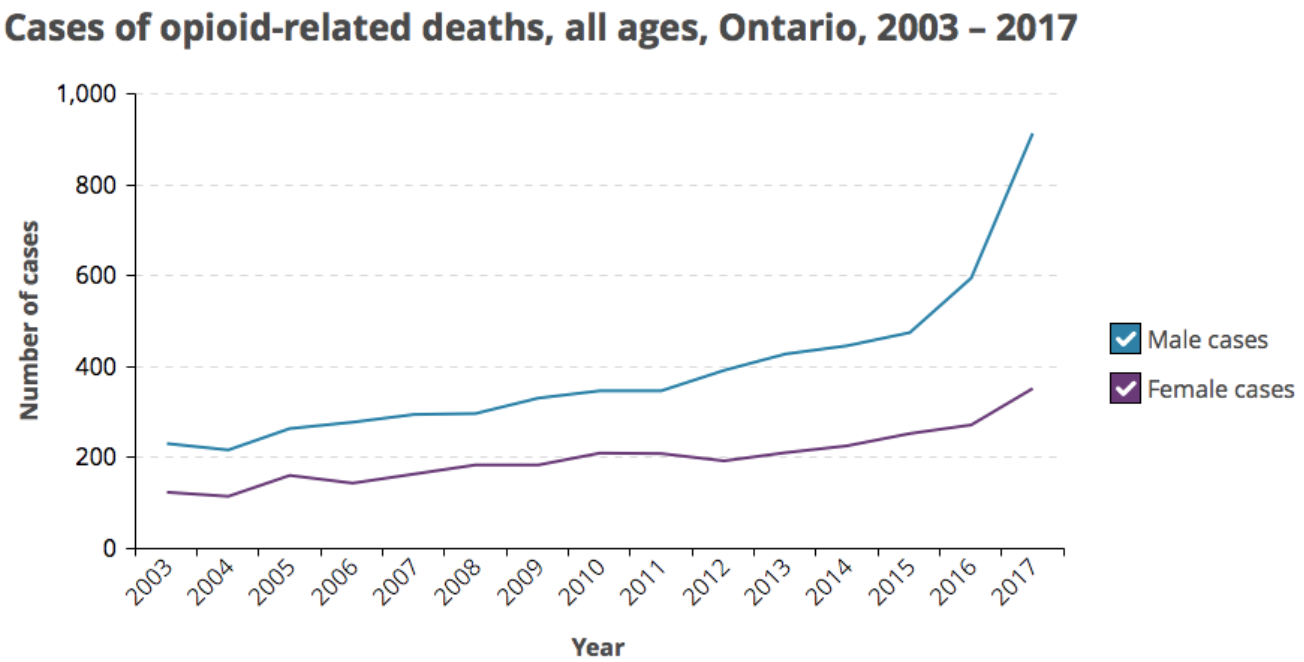
Introduction

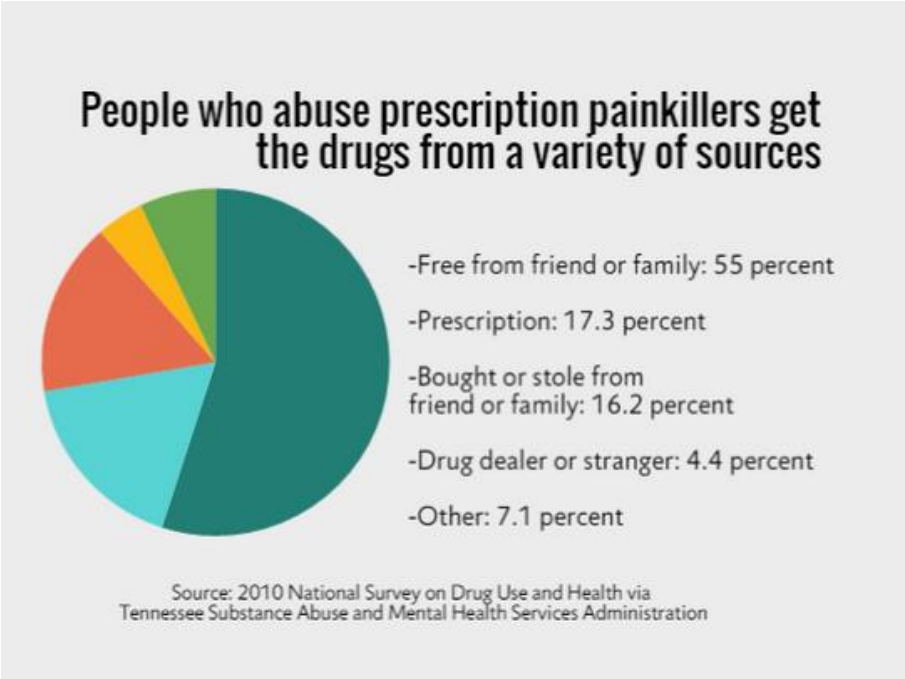
- **OPIOID CRISIS:** Rise in opioid prescriptions and subsequently opioid-related deaths[1]



[1]Opioid-related morbidity and mortality in Ontario https://www.publichealthontario.ca

Introduction

- 1 in 5 people are **prescribed** opioids for non-cancer pain[2]



- >50% of **abused** opioids are obtained as a **prescription**[2]
- Most patients keep, rather than dispose excess opioids

2Centers for Disease Control and Prevention. Prescription opioid overdose data.

Introduction

- 5% of patients become **addicted** to opioids after a **single dose**[3]
- Non-Hispanic, white males aged 25-44 are most at risk for **abuse**[4]
- No guidelines for postoperative pain management or for the quantity and strength of narcotics.

[3]Brummett CM et al. New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults. *JAMA Surg.* 2017
[4]Paone D, et al. Decrease in rate of opioid analgesic overdose deaths—Staten Island, New York City, 2011-2013. MMWR. 2015.

Introduction

Objective:

Determine if postoperative opioid prescriptions after low acuity urologic surgeries leads to long-term opioid use.

Methods

- Retrospective, cohort study using linked administrative data from Ontario, Canada
- **Inclusion**: In 2013-2016, all men who had
  - vasectomy
  - transurethral prostatectomy
  - urethrotomy
  - circumcision
  - spermatocelectomy
  - hydrocelectomy

Methods

- Retrospective, cohort study using linked administrative data from Ontario, Canada

- **Exclusion**:
  - prior opioid use
  - confounding concurrent procedures
  - a prolonged hospital stay (≥2 days)
  - Cancer
  - <18 years of age

Methods

Exposure:

- Whether the patient filled a prescription for an opioid within 5 days of their surgery

Primary outcome:

- Evidence of at least 2 narcotic prescriptions filled 9-15 months after their urologic surgery.

Secondary outcome:

- Admission/ER visit for opioid overdose.

Methods

Statistical analysis:

- 56 different covariates were measured to assure comparability between the exposed and unexposed groups.

- **Primary analysis:** Adjusted logistic regression model

- **Sensitivity model:**
  - Pseudo-randomisation based on providers: restricted to patients of physicians who almost always or almost never prescribe opioids.

Results:

Total:

N = 91,083

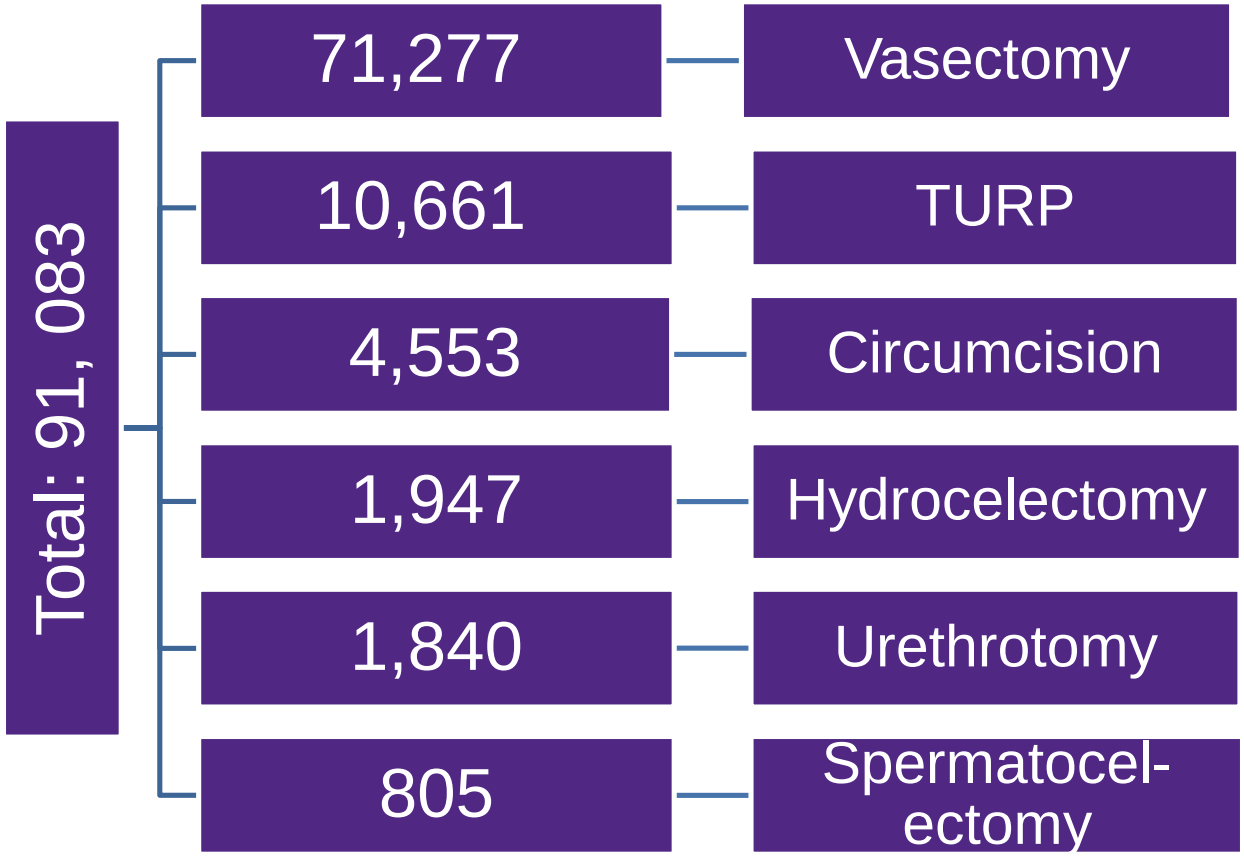
Opioid

N=32,174

No Opioids

N=58,909

Results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Vasectomy
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TURP
4,553
Circumcision
1,947
Hydrocelectomy
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Urethrotomy
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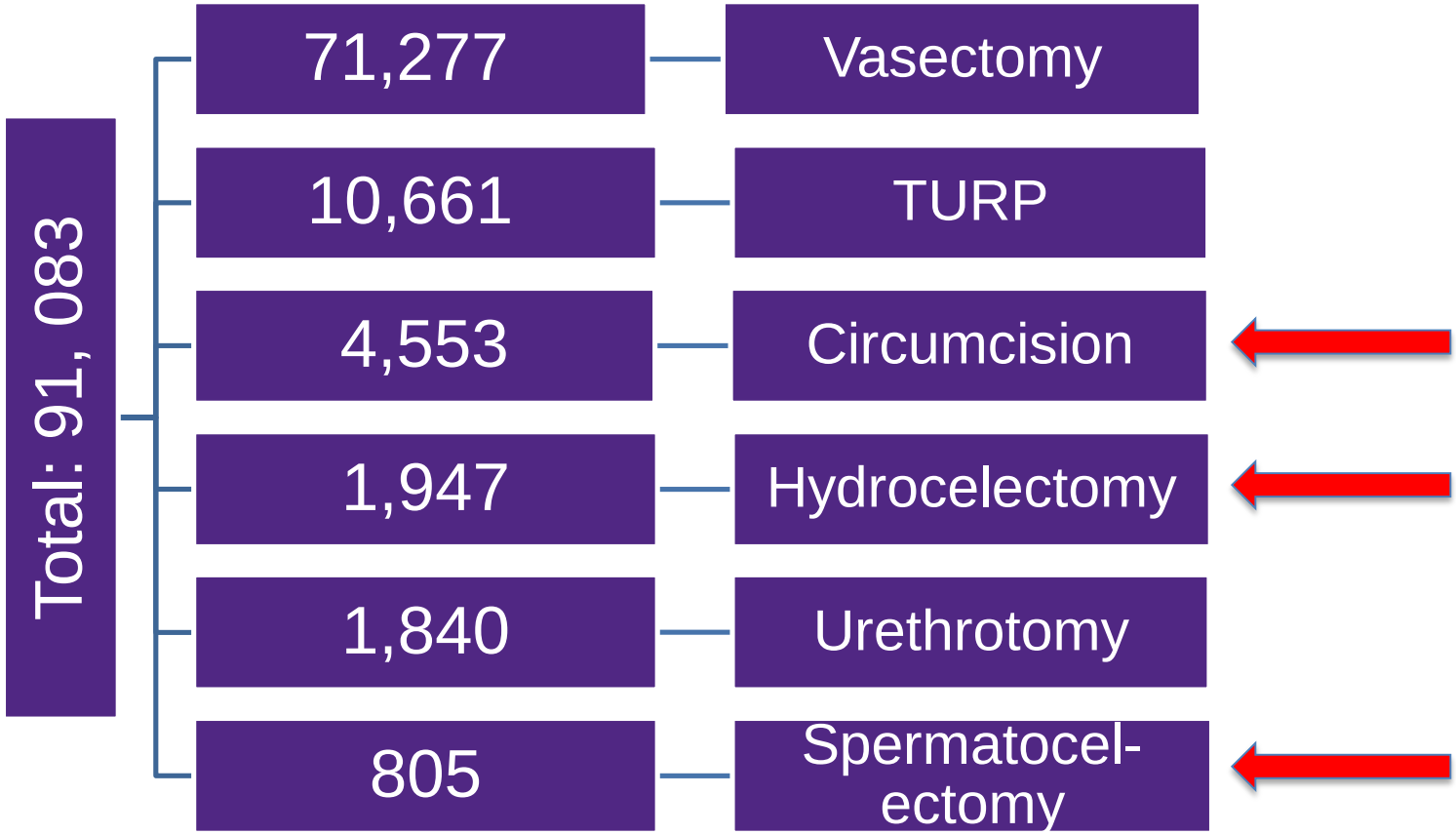
Spermatocel-ectomy

Results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Results – WHO?

- Urologist prescribed **80.5%** of opioids

- When patients have a vasectomy with a **Urologist** they are more likely to get opioids compared to if a family physician does the vasectomy

  (45% vs. 11%, $p<0.01$)

- Opioid prescriptions **decreased** over time (36.9% in 2013 to 34.1% in 2016, $p<0.01$).

Results – WHAT?

- Opioid prescriptions:
  - immediate release narcotic preparations
    - codeine (69.5%),
    - oxycodone (13.7%)
    - tramadol (12.9%)

- Median morphine equivalents:

113 (IQR 90-150) mg

Results

Table 2. Primary and secondary outcomes

	No post-procedure narcotic (Unexposed) n=58,909	Post-procedure narcotic (Exposed) n=32,174	Absolute risk difference	Odds Ratio
Primary outcome (repeated narcotic prescriptions between 9-15 months)	796 (1.35%)	651 (2.02%)	+0.67% (95% CI 0.49 – 0.85)	Unadjusted 1.53 (95% CI 1.38-1.71, p<0.001) Adjusted* 1.43 (95% CI 1.26-1.62, p<0.001)
Secondary outcome (Emergency room visit or hospital admission for opioid overdose)	14 (0.02%)	23 (0.07%)	+0.05% (95% CI 0.02 – 0.08)	Unadjusted† 3.01 (95% CI 1.55-5.85, p<0.001)

*Model was adjusted for age, surgeon experience, type of hospital, urology visits in the year prior, and type of procedure.

†Due to the small number of events, it was not possible to provide an adjusted model.

Similar results in our sensitivity analyses

Discussion:

- 43% odds of long-term opioid use
- 300% increase odds of opioid overdose
- Number needed to harm: 148
- Consistent with other studies[5]

[5] Alam A, et al . Long-term analgesic use after low-risk surgery: a retrospective cohort study. Arch Intern Med 2012;172:425–30.

Discussion

- **Median morphine equivalents in our cohort: 113mg**

VS

- **Expected morphine equivalents[6] for minor surgery: 30mg**

[6]Tan et al. Opioid Medication Use in the Surgical Patient: An Assessment of Prescribing Patterns and Use. J Am Coll Surg 2018

Discussion

- Strengths:
  - Opioid = mandatory reporting
  - Equal comparison groups
  - Multiple variables analyzed

- Limitations:
  - Limited details for indication long-term use
  - Cannot account for # of opioids taken

Discussion

<u>Future directives:</u>

- Patient education
- Prescriber education
- Understand prescribing patterns
- Academic detailing
- Reduction of number of opioids per patient per procedure

Summary

- Opioids are being over prescribed for minor urologic procedures
- Prescribers need to discuss long-term consequences of postoperative opioid use with patients
- Urologists should try to limit opioid prescriptions

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