



Ureteral Stent Placement Following Ureteroscopy Increases Emergency Department Visits in a Statewide Quality Improvement Initiative

Spencer C Hiller¹, Stephanie Daignault-Newton¹, Hector Pimentel², Sapan Ambani¹, John Ludlow³, John M. Hollingsworth¹, Khurshid R. Ghani¹, and Casey A. Dauw¹

University of Michigan, Ann Arbor MI¹; Spectrum Health, Grand Rapids, MI²; Western Michigan Urological Associates, Holland MI³;

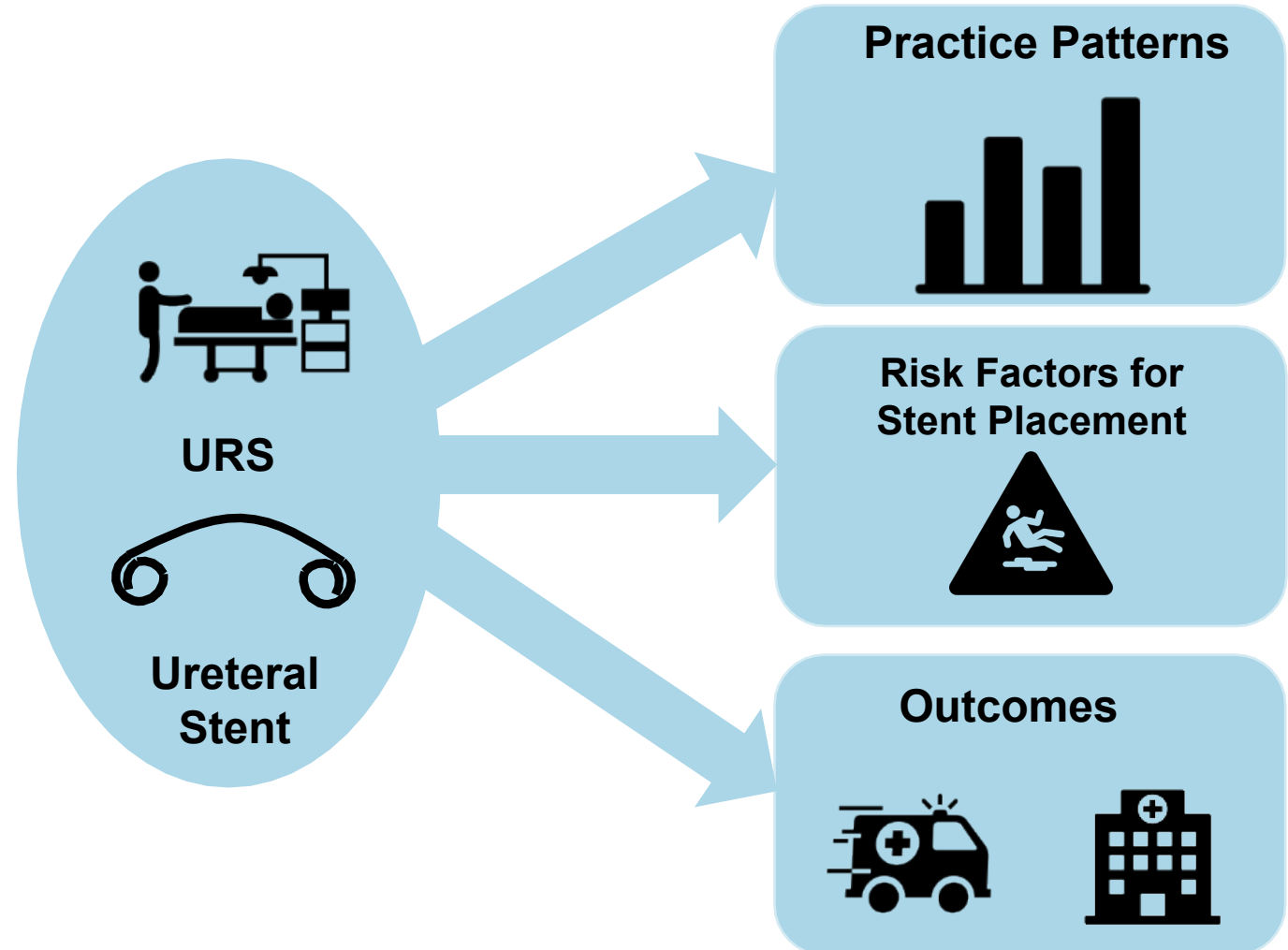
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Sources of Funding: Blue Cross and Blue Shield of Michigan

Introduction

- **Ureteral stents** are commonly placed after **ureteroscopy (URS)**.
- Studies indicate that stent placement is associated with patient discomfort.
- The impact of stents on downstream health services use, **emergency department (ED)** or **hospitalization**, is less clear.

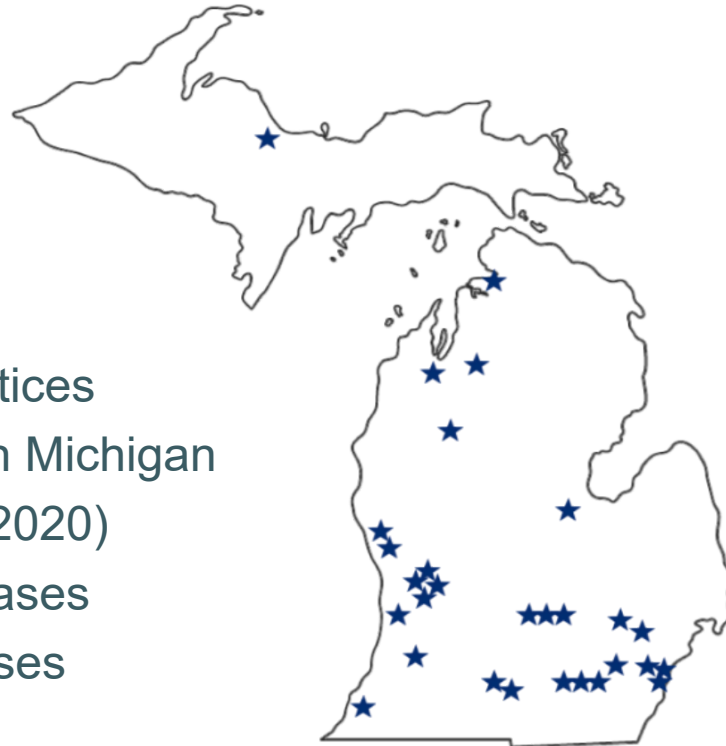
Objectives





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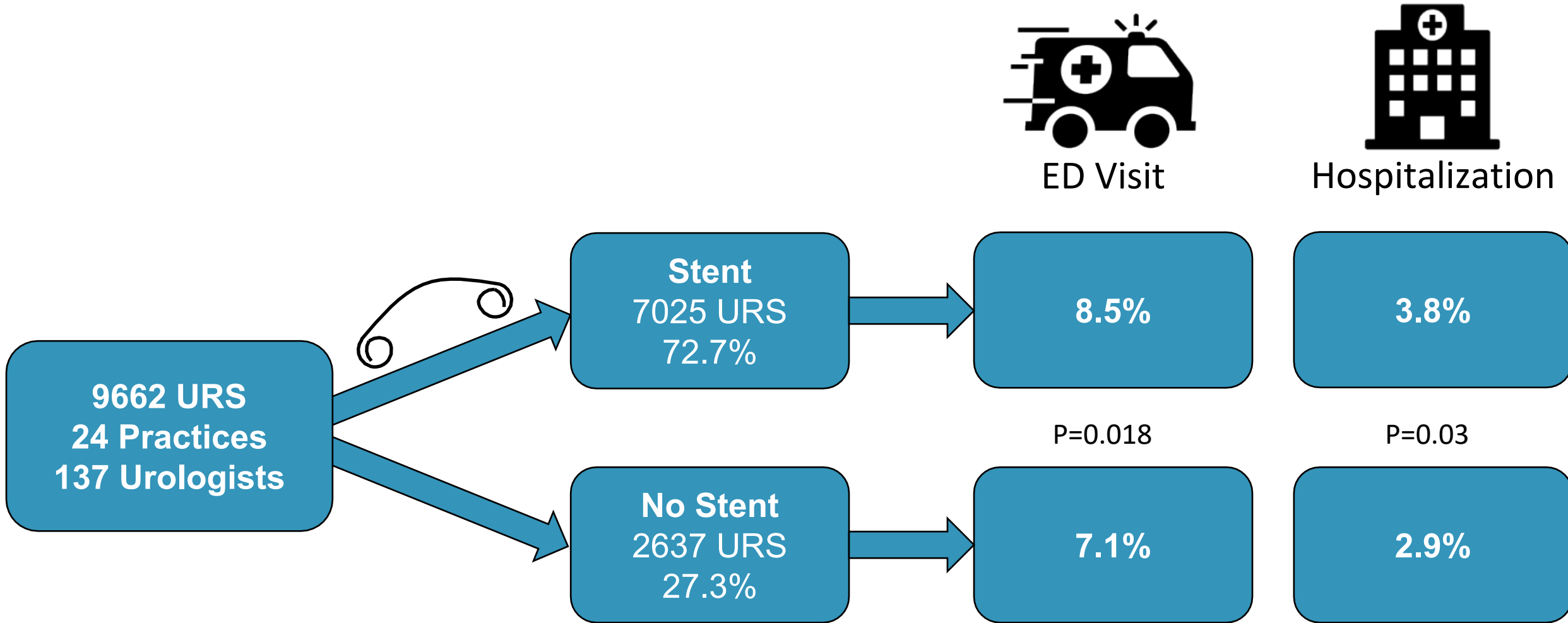


- 37 participating practices
- >90% of urologists in Michigan
- Case Volume (Jan. 2020)
 - URS: +13,300 cases
 - SWL: +7,400 cases

Methods

- All primary URS for urolithiasis from June 2016 to May 2019.
- We excluded second look URS, bilateral URS, stones >2cm, urologists and practices with <10 URS during study period.
- Bivariate statistics and multivariate statistics were used to determine our three primary outcomes.

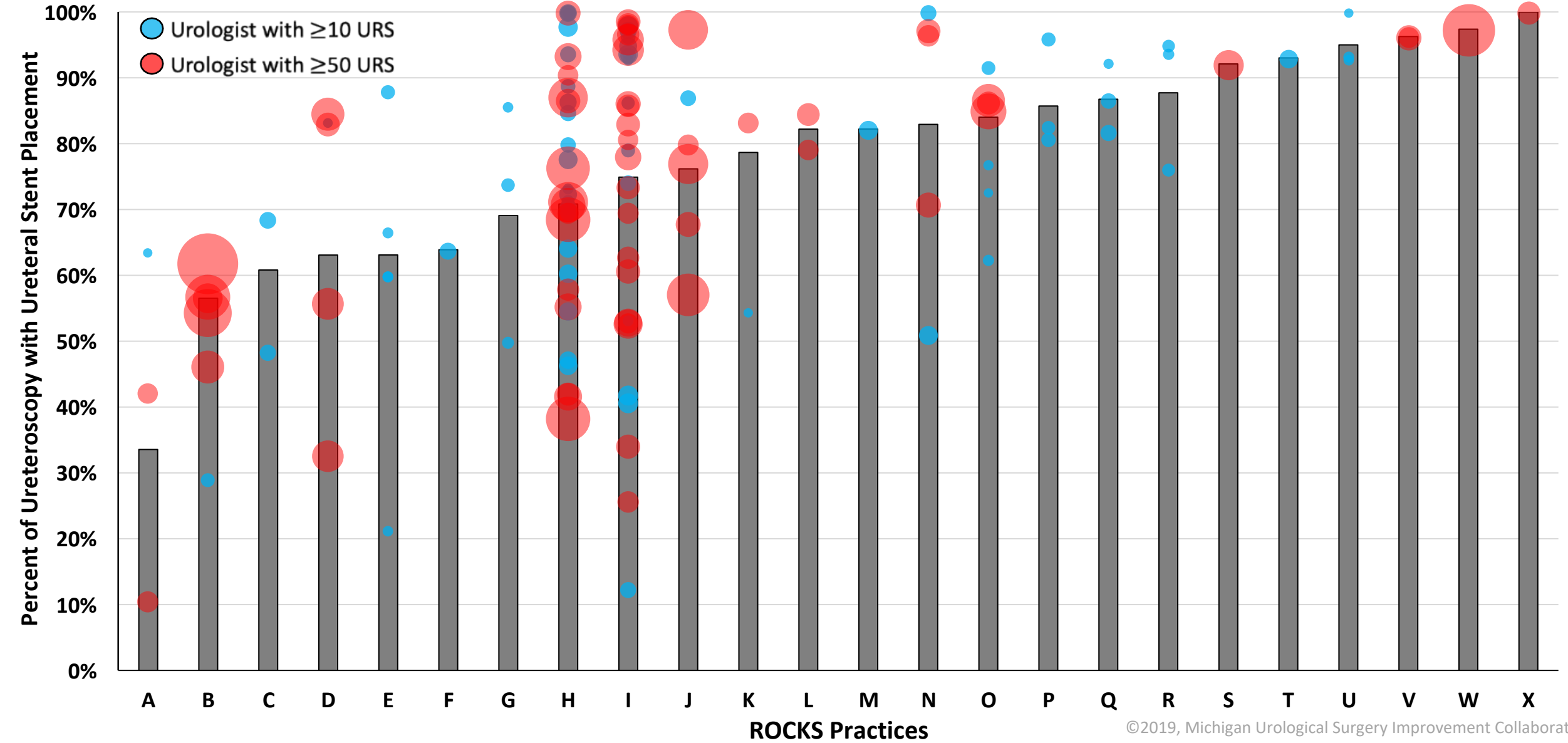
Results: Stent Placement Rate and Outcomes





Variation in Rates of Stent Placement by Practice (bars) and by Urologist (bubble) Within Each Practice

Size of bubble indicates total URS case volume for the urologist



Factors Associated with Ureteral Stent Utilization

Decreased Odds of Stent Placement



Pre-stenting

OR 0.25

95% CI 0.22-0.29



Renal Location

OR 0.69

95% CI 0.0.59-0.82

Increased Odds of Stent Placement



Age

OR 1.01

95% CI 1.00-1.01



Ureteral Access Sheath

OR 1.01

95% CI 1.00-1.01



Stone Size >5mm – ≤10mm

OR 1.89

95% CI 1.65-2.15

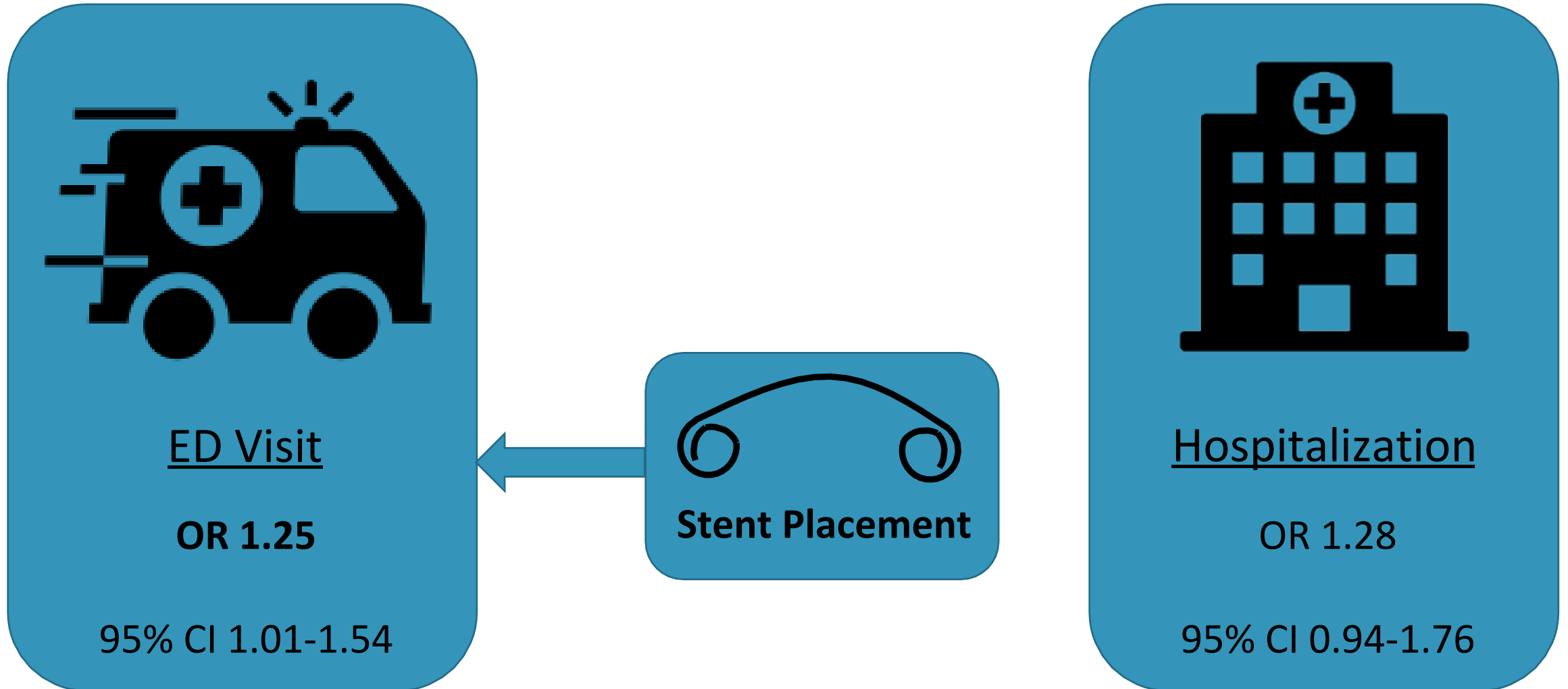


Stone Size >10mm

OR 4.68

95% CI 3.70-5.91

Impact of Stent Placement on Healthcare Utilization

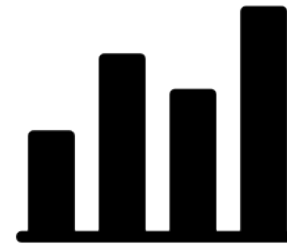


Conclusions

1. Stents are used **frequently**



2. Significant **variation** in patterns of use across urologists and practices



3. There are several factors that **increase and decrease the odds of stent placement**



4. Stent placement leads to increase in **ED visits**

