

Real-World Comparative Outcomes of Robotic Versus Non-Robotic Mitral Valve Repair

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BACKGROUND AND OBJECTIVE

Robotic mitral valve repair (MVR) adoption is growing and offers fast recovery times and improved outcomes.

Limited nationally-representative studies have been published.

Objective: Compare clinical outcomes between robotic and non-robotic MVR using a nationally-representative healthcare database.

METHODS

All MVR Procedures
2016-2023
N = 28,920

MVR without
Concomitant
Procedures
N = 9,815

MVR Without Missing
Data
N = 8,600

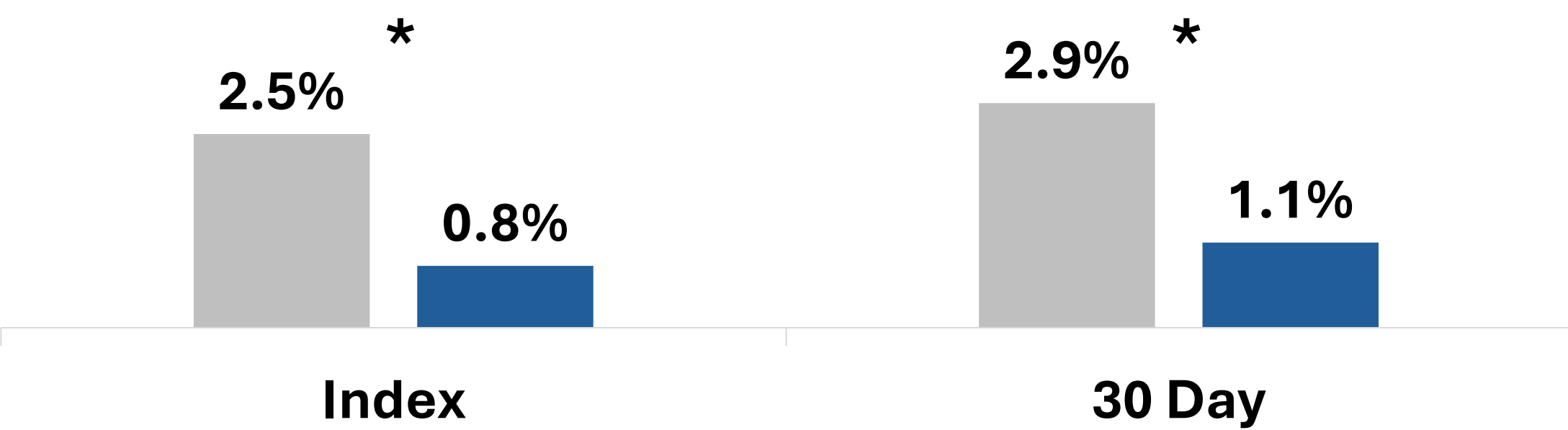
Unmatched: 8,600
Robotic = 867
Non-Robotic = 7,733

- Retrospective cohort study
- Premier Healthcare Database, 2016-2023
- Cases identified using billing codes
- Propensity score matching
- Outcomes assessed at index and 30 days post-discharge

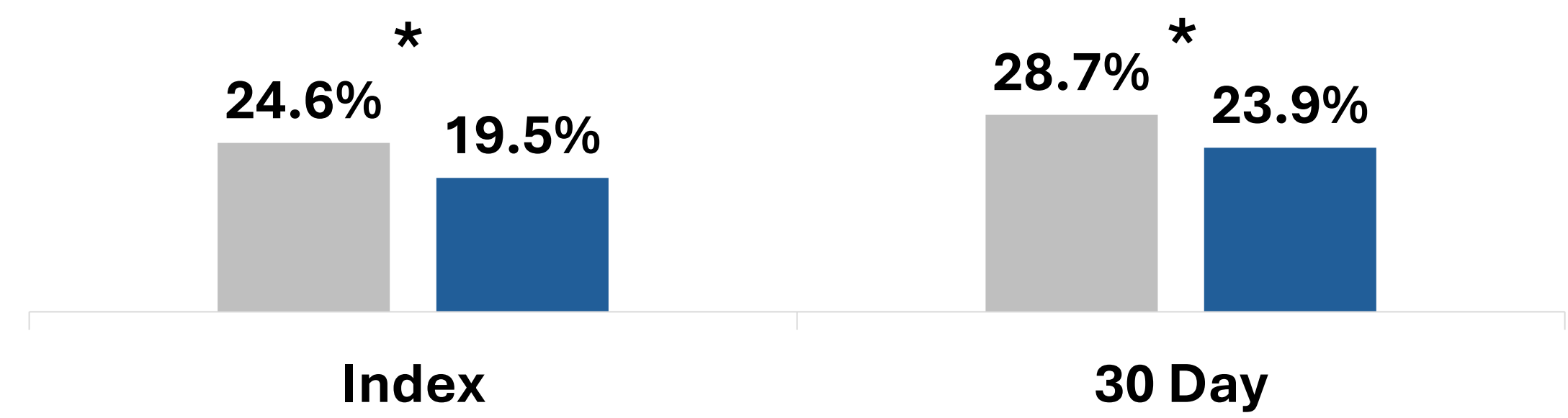
Matched: 1,674
Robotic = 837
Non-Robotic = 837

Significantly Favors Robotic

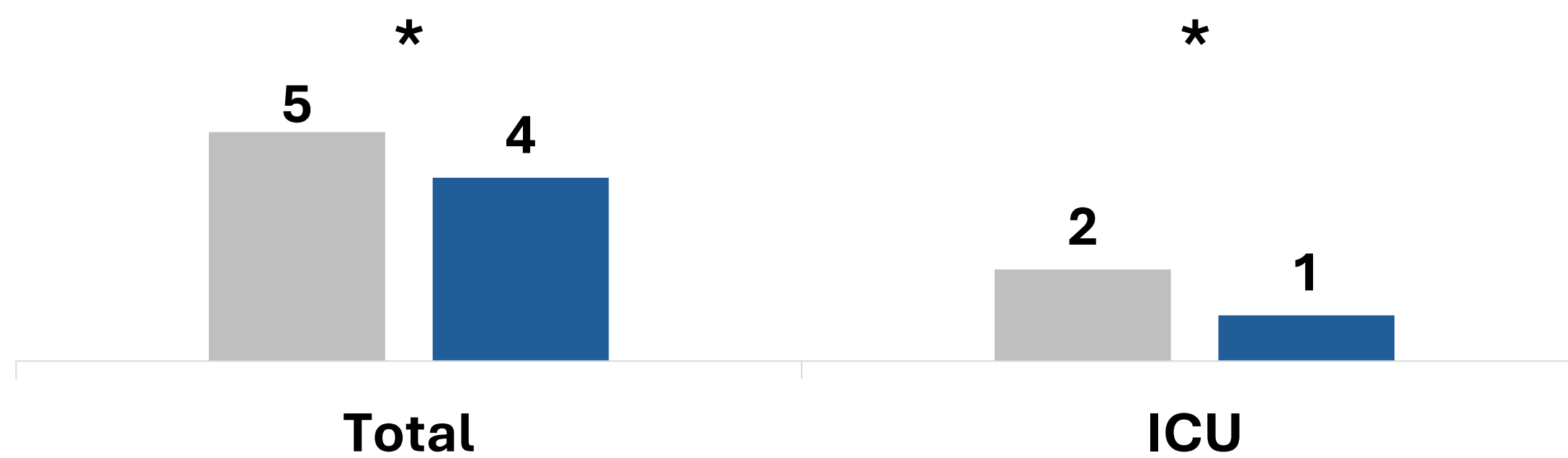
Stroke



Atrial Fibrillation

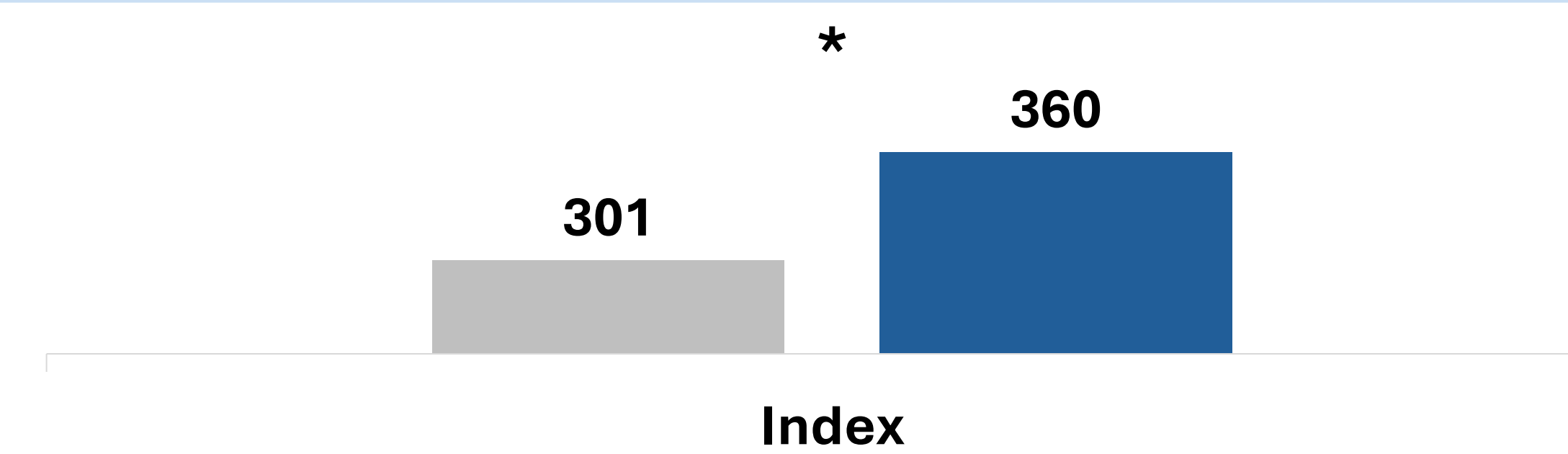


Length of Hospital Stay, Days



Significantly Favors Non-Robotic

Operating Room Time, Minutes



Legend:

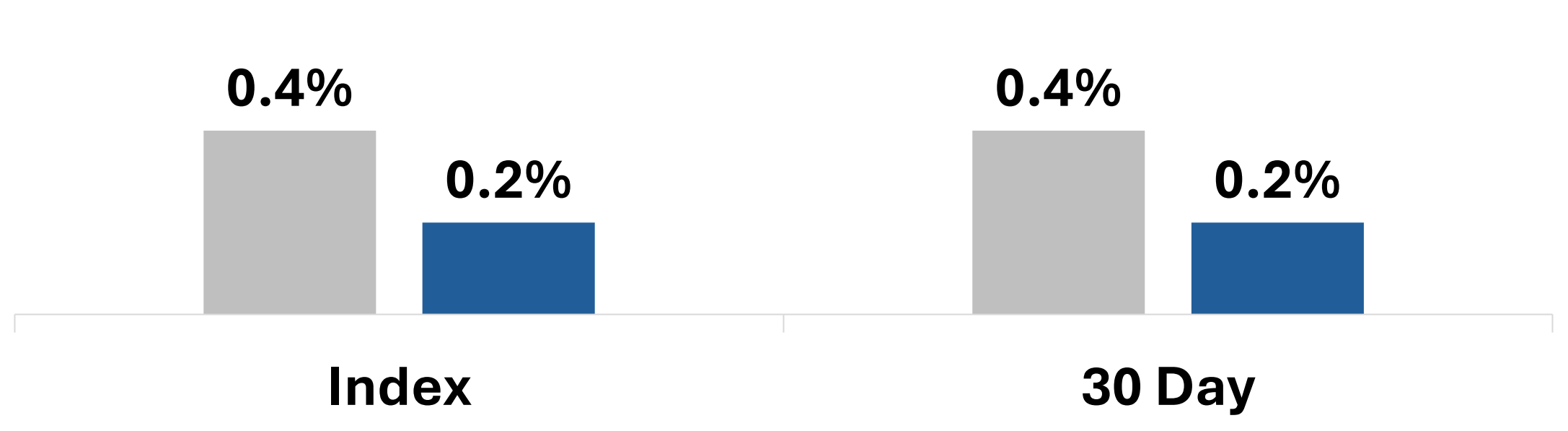
Non-Robotic

Robotic

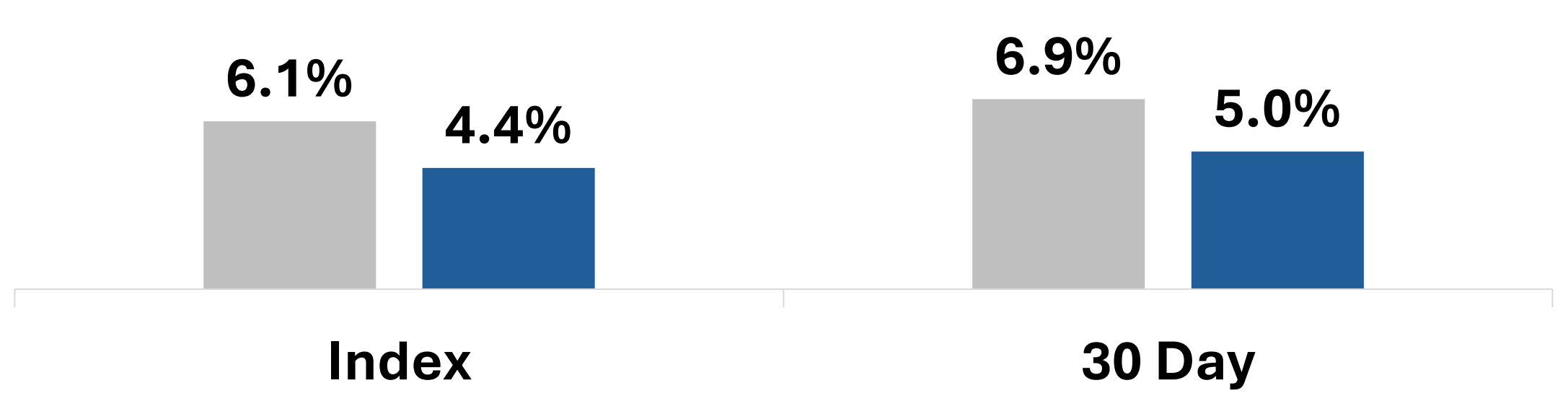
An asterisk * indicates statistical significance

Comparable (No Significant Difference)

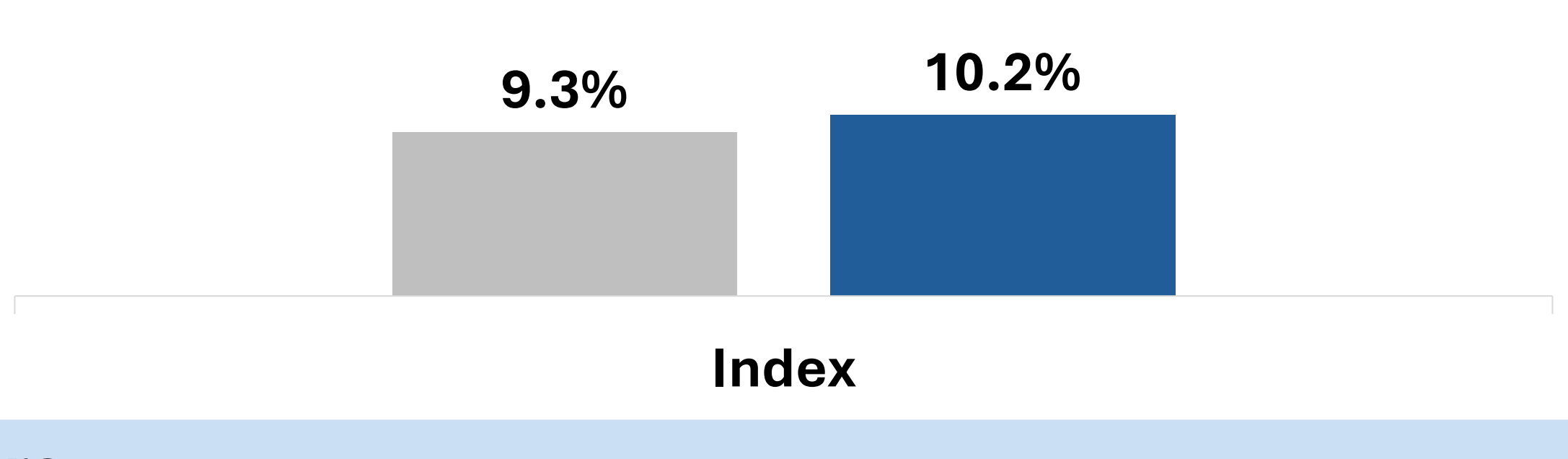
Mortality



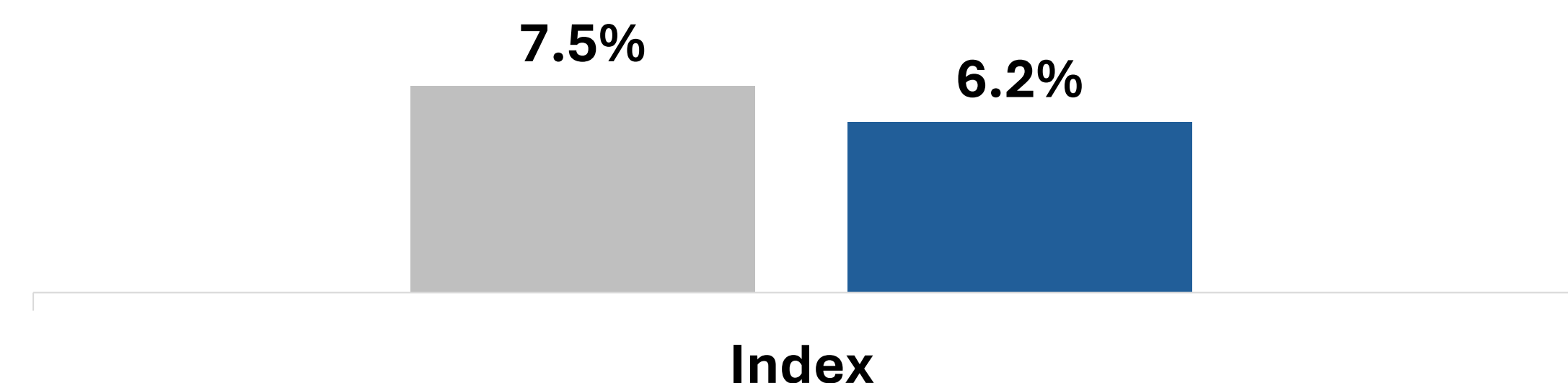
Renal Failure



Blood Transfusion



Respiratory Failure



30-Day Readmission

