Impact of Medicare Accountable Care penetration on the use of robotic surgery in New York State

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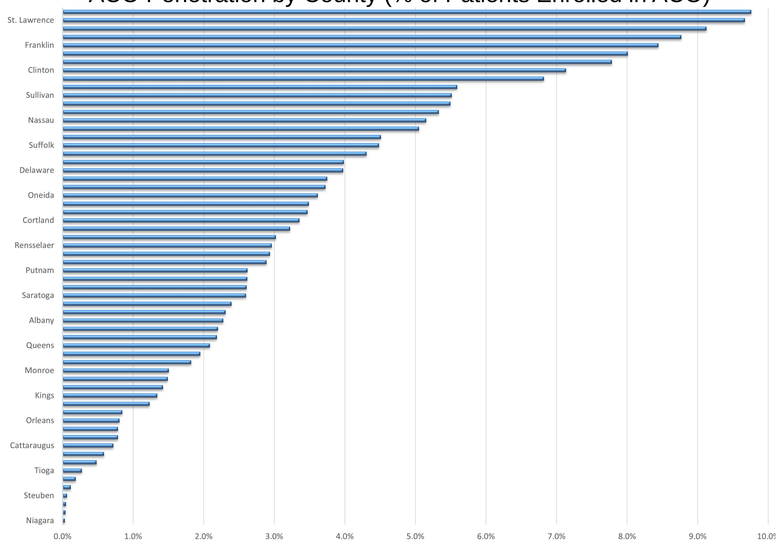
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INTRODUCTION

- Accountable care organizations (ACOs) were introduced by the 2010 Affordable Care Act to improve population health, quality of care, and reduce utilization of low value services by introducing alternative value-based payment models and greater integration of care.
- During the same time, the use of robotic surgery has increased despite lack of conclusive evidence of its preeminence compared to the laparoscopic approach for many general surgery applications.
- While the effect of the ACO on the use of preventive services and primary care has been studied extensively, little is known about the influence of ACOs on surgical practice and quality.
- **This study aimed to understand the relationship between ACO penetration across counties in New York state and the use of low- and high-value robot-assisted surgical procedures.**

ACO Penetration by County (% of Patients Enrolled in ACO)



KEY FINDINGS

- ACO presence increases local sensitivity to information about the value of individual procedures.
- High coefficient of variation in utilization of the robot-assisted technique in general surgery indicates significant uncertainty among surgeons about the benefits of robotic approach.
- This study provides supports the role of ACOs as leaders in value-based care delivery.

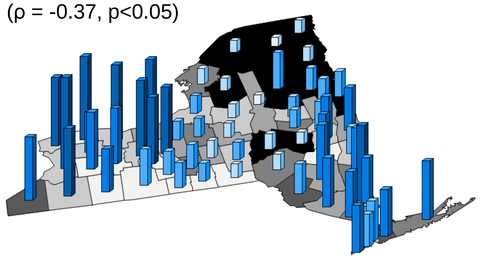
METHODS

- Data from hospital inpatient, emergency, and ambulatory centers - the New York Statewide Planning and Research Cooperative System (SPARCS).
- Identified procedures that could be performed both robotically and laparoscopically using ICD and CPT codes (2014-2019) and categorize as high/low value based on evidence[1-4].
  - gynecologic, n=173,277 (2019) (hysterectomies, myomectomies, endometriosis removal, and salpingo-oophorectomies);
  - urologic, n=342,042 (2019) (prostatectomy and genitourinary reconstruction) procedures
  - robotic cholecystectomies, n=1838 (2019)
  - bariatric surgery, n=27,937 (2019)

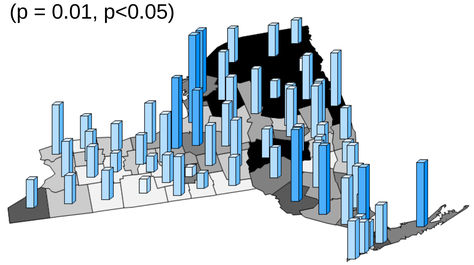
  ACO penetration by county was obtained from CMS's Shared Savings Program; county population data was obtained from U.S. Census data.
  - The percentage of the population enrolled in an ACO and the proportion of surgical procedures performed robotically was calculated for each county.
  - Bivariate and multivariable analyses were used to examine the association between ACO penetration and robotic and laparoscopic surgical volumes.

RESULTS

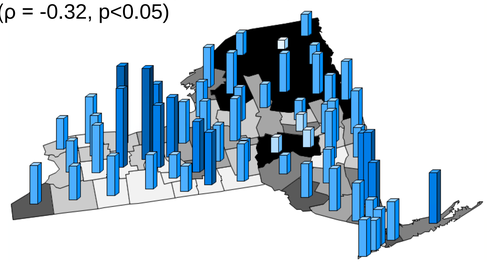
Greater ACO penetration is associated with lower use of Robotic GYN procedures (low value)
(ρ = -0.37, p<0.05)

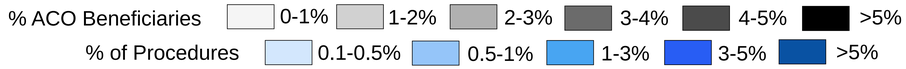


Greater ACO penetration is associated with greater use of Any Bariatric procedure (high value)
(p = 0.01, p<0.05)



Greater ACO penetration is associated with lower use of Robotic GU procedures (low value)
(ρ = -0.32, p<0.05)





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Questions/comments
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