

# Geospatial Travel Patterns of Major Cancer Surgery Patients within a Regionalized Health System

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#### 2015 Disclosure Slide

# Andrew Smith Nothing To Disclose

# Background, Hypothesis and Methods

- The volume-outcome relationship led to regionalization of complex surgical care and increased travel time for some patients.
- *Hypothesis:* travel patterns vary by age, race and insurance status for patients undergoing major cancer surgery in a regionalized setting.
- We identified 6,107 patients who underwent lung, esophageal, gastric, liver, pancreatic or colorectal resections from 2002 to 2013.
- We used Geographic Information System (GIS) software in R to map patients by their characteristics and calculate travel times that we used to conduct one way ANOVAs.

<sup>1.</sup> Milstein A, Galvin RS, Delbanco SF et al. Improving the safety of healthcare: the leapfrog initiative. Eff Clin Pract 2000; 3:313-316.

<sup>2.</sup> Birkmeyer JD, Sun Y, Wong SL, Stukel TA. Hospital volume and late survival after cancer surgery. Ann Surg. 2007;245(5):777-783. doi: 10.1097/01.sla.0000252402.33814.dd [doi]

<sup>3.</sup> Centers for Medicare and Medicaid Services. National Coverage Determination (NCD) for Bariatric Surgery for Treatment of Morbid Obesity (100.1). CMS 2014

<sup>4.</sup> BlueCross BlueShield Association. Blue Distinction Centers for Complex and Rare Cancers: Directory of Providers. BlueCross BlueShield Association 2014

<sup>5.</sup> Stitzenberg KB. Centralization of Cancer Surgery: Implications for patient access to optimal care. J Clin Oncol 2009

<sup>6.</sup> Harris K, Al-Refaie W. et al. Racial and Ethnic Differences in Use of High-Volume Hospitals for Total Gastrectomy. Presented at the Society of Black Academic Surgeons Conference.

### Results



### Results



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### Results: Travel Time by Race and Age



## **Summary and Conclusion**

#### Significance

• Understand travel patterns of major cancer surgery patients and care coordination for regionalized surgical care

#### Limitations

 No information on those who received their surgery outside of our system

#### Strengths

• Results from a large, diverse multihospital system

#### Conclusion

- Travel patterns to receive major cancer surgery in the greater Washington region <u>varied by age and race</u>.
- Future research should focus on the impact of travel distance to a regionalized system on quality measures of cancer surgery.

### THANK YOU!

