

# Variations in the availability and utilization of colonoscopy resources in Ontario

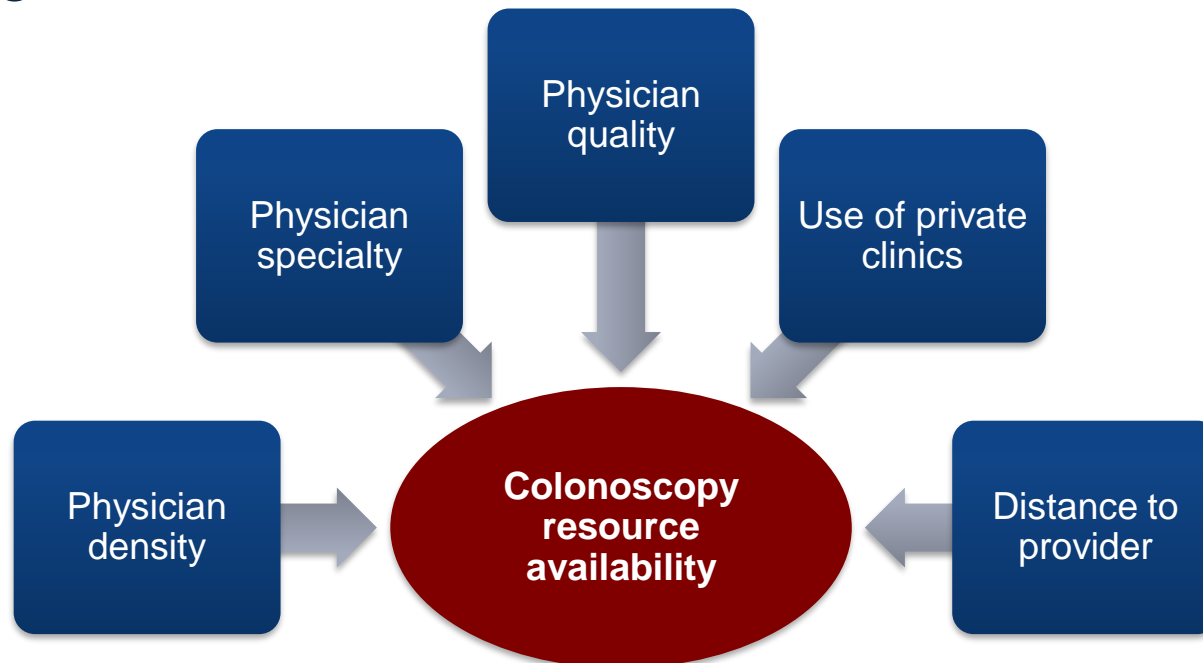
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# Background

- Colonoscopy is a key test used in the diagnosis and screening of colorectal cancer (CRC)
- Wait times for colonoscopy are longer than recommended by clinical guidelines
- Variation in colonoscopy utilization across Ontario

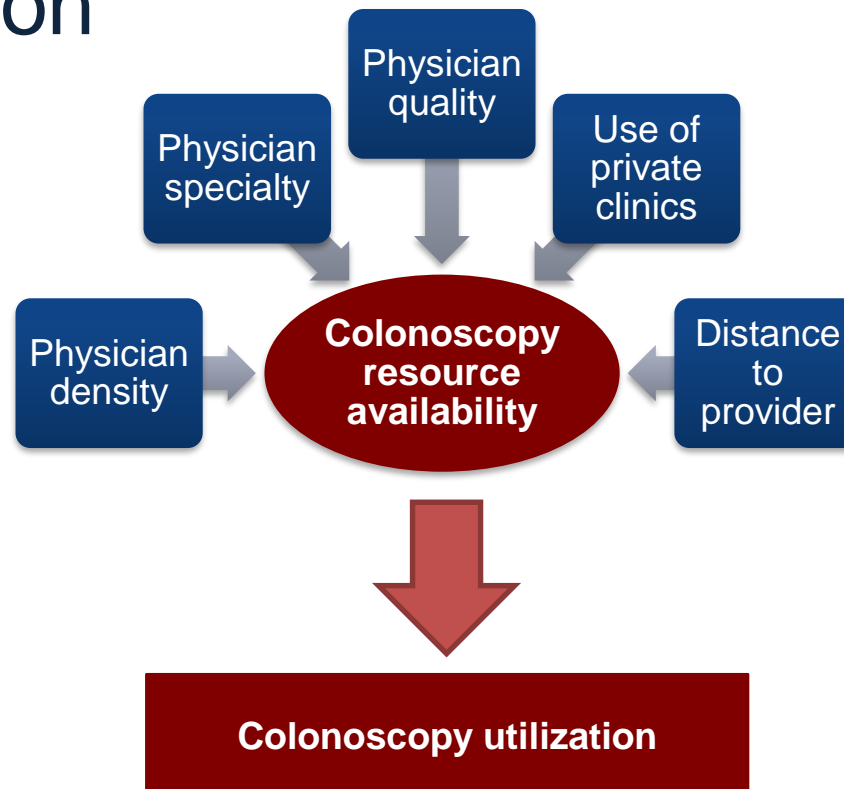
# Study Objectives

1. To describe variations in the availability of colonoscopy resources in Ontario in 2007 to 2013



# Study Objectives

2. To examine the association between resource availability and colonoscopy utilization

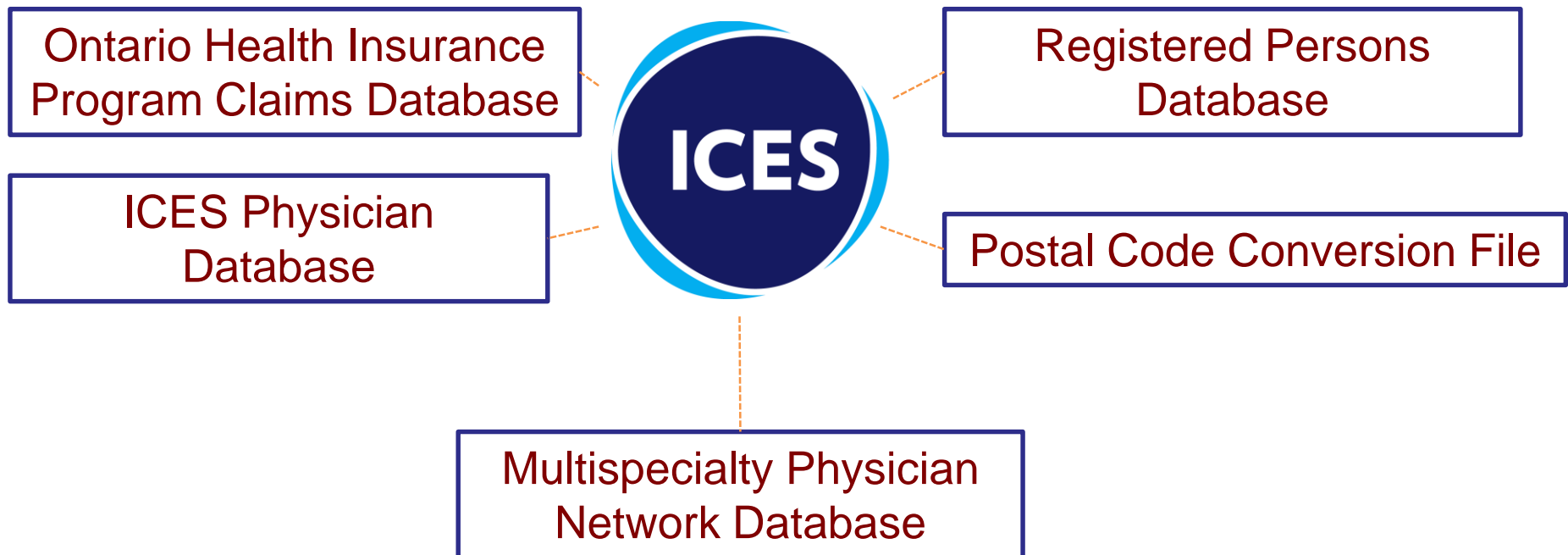


# Methods: Study overview

**Study design:** Population-based cross-sectional study

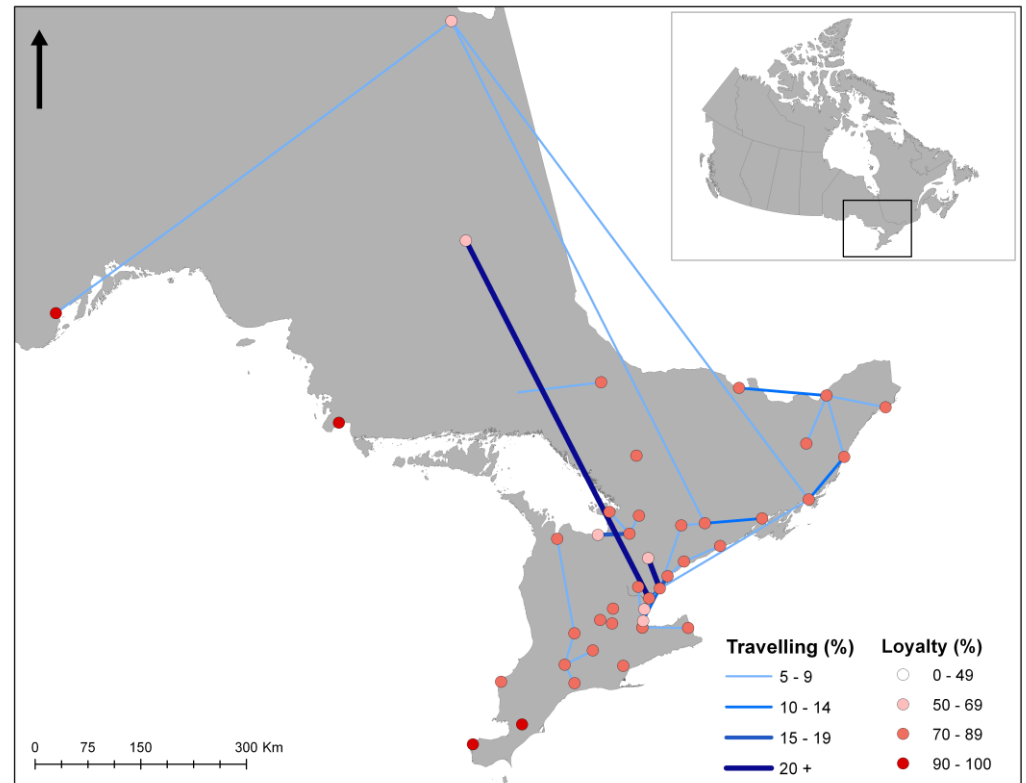
**Study population:** Residents of Ontario between ages 18 and 99, with at least one full year of OHIP coverage in 2007 to 2013

# Methods: Data sources



# Methods: Defining colonoscopy resource catchment areas

- Multispecialty physician networks in Ontario
- Amalgamated networks based on observed colonoscopy travel patterns within and between networks
- 43 networks



# Methods: Study variables

## Network-level measures of resource availability:

- Colonoscopy physician FTE per 100,000
- Specialty distribution
- Colonoscopy completion rate
- Polypectomy rate
- Private clinic utilization

## Distance to colonoscopy

- Distance to closest colonoscopy physician in network



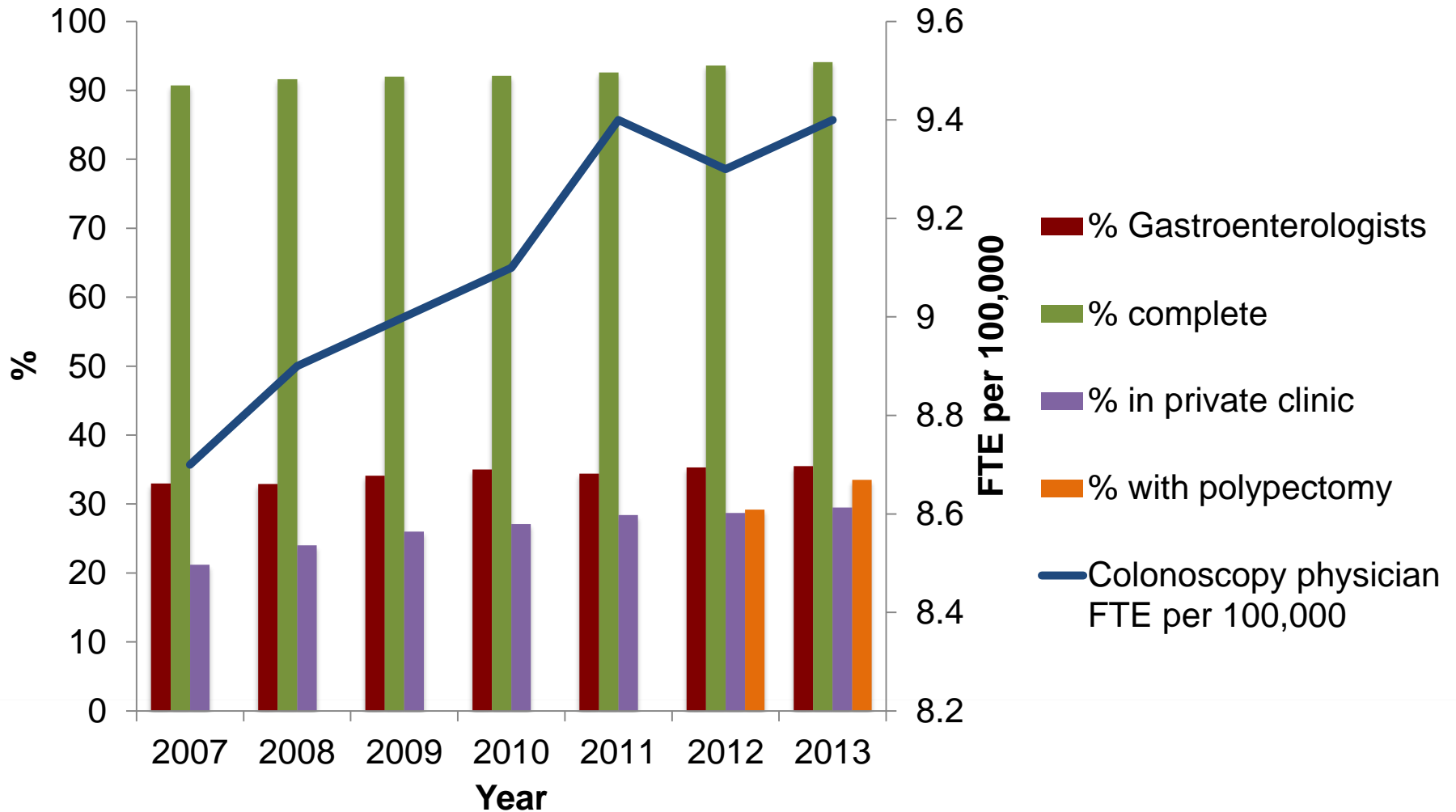
# Methods: Analysis

- Descriptive statistics to understand resource availability across Ontario from 2007 to 2013
- Pearson correlation and Poisson regression to analyze the association between resource availability and colonoscopy utilization

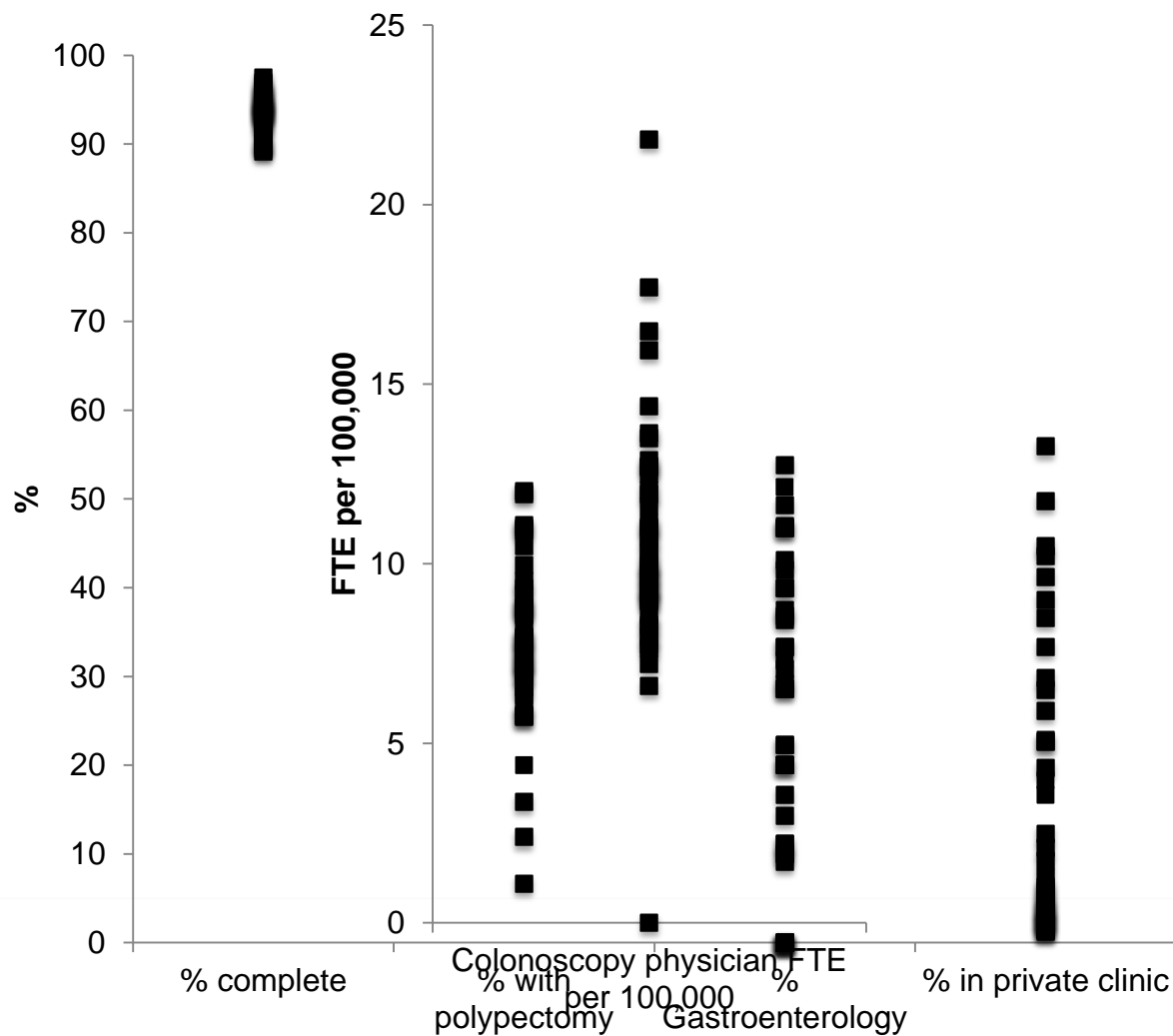
# Results

- 2,957,158 colonoscopies received by 2,211,052 patients from 2007 to 2013
- Between 697 and 825 colonoscopy physicians active per year

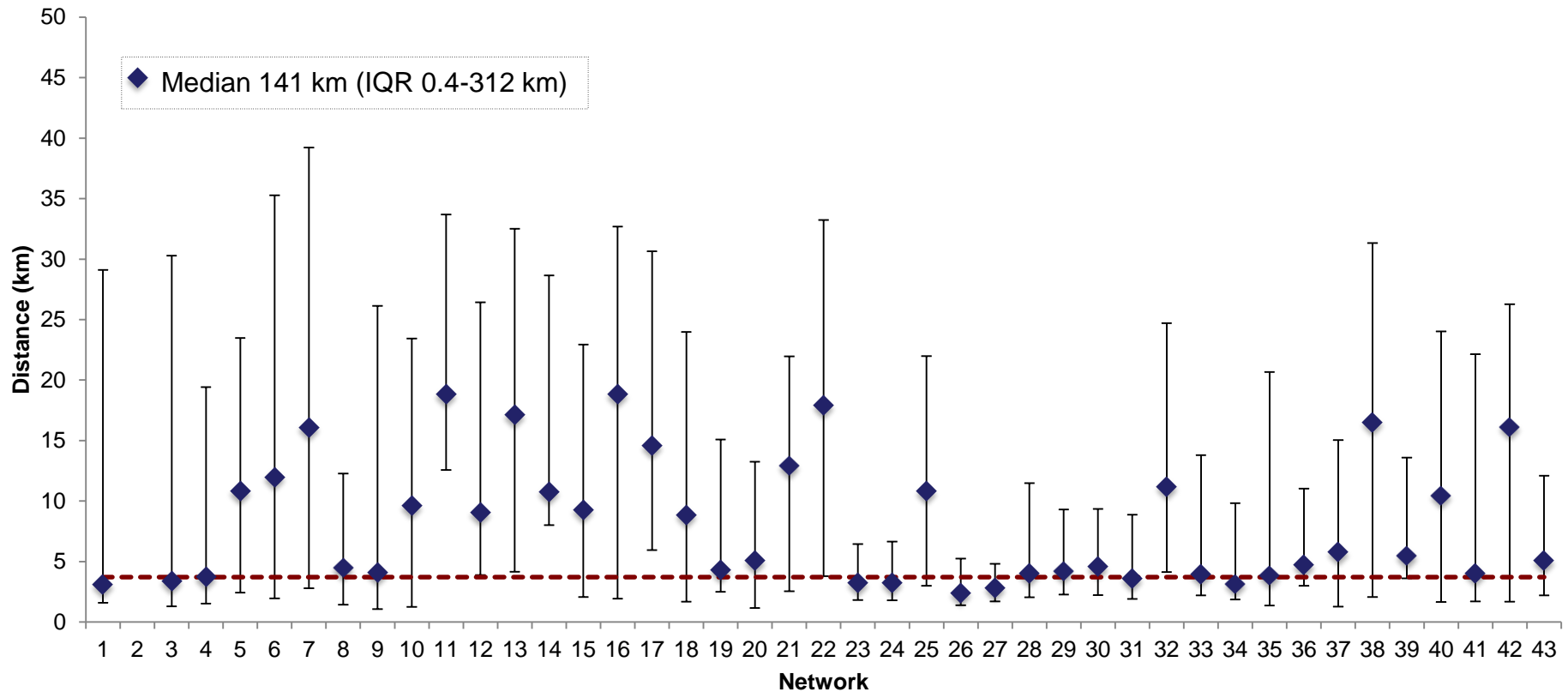
# Colonoscopy resource availability in Ontario, 2007 to 2013



# Variation in colonoscopy resource availability across Ontario, 2013



# Variation in colonoscopy resource availability across Ontario, 2013



# Association between colonoscopy resource availability and utilization

Resource availability	Significant results
Colonoscopy physician FTE per 100,000	Spearman r: 0.36-0.48
% complete	Spearman r: 0.36-0.48
% in private clinic	Spearman r: 0.31-0.49
Distance to closest colonoscopy physician	Poisson regression RR: <10 km: RR=1.00 10-50 km: RR=1.03 50-200 km: RR=0.96 ≥200 km: RR=0.89

# Summary

- Improved availability of colonoscopy resources in Ontario from 2007 to 2013
- Regional variation in colonoscopy resource availability raises concerns about under-serviced areas
- Improved resource availability may lead to increased utilization of colonoscopy and improved health outcomes

# Acknowledgements

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Jennifer Flemming (secondary supervisor)

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Data  
Discovery  
Better Health