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Impact of indication for procedure and setting on colonoscopy colorectal cancer detection in Ontario, Canada

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Presenter disclosure

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Relationships with commercial interests:

Not Applicable



Background

- Limited access to endoscopy during the COVID-19 pandemic has heightened the need to prioritize procedures to avoid negative health impacts from delays.
- The colonoscopy yield for colorectal cancer - colonoscopy colorectal cancer detection rate (CDR) - may inform prioritization.

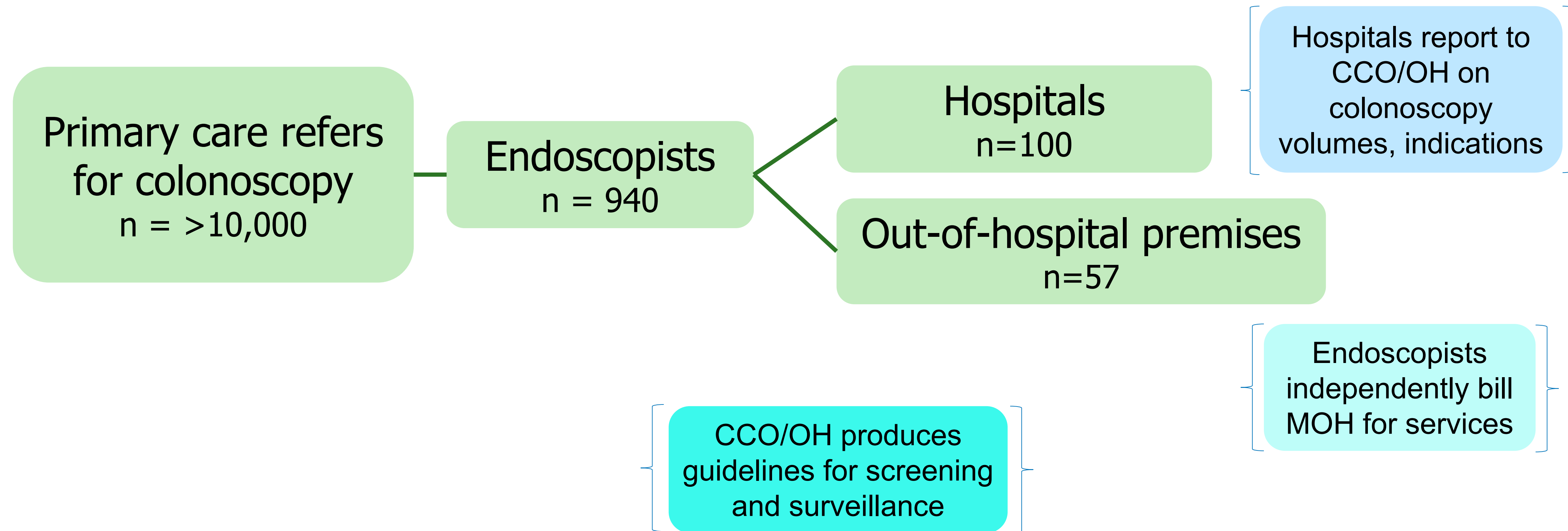


Objectives

- To measure the CDR of colonoscopies performed in Ontario by indication, setting, age, and sex, over a 31-month period before and during the COVID-19 pandemic.



Delivery of colonoscopy services in Ontario



Methods

#1 We identified colonoscopies

Men, women, 18 or over
June 2019-December 2021

Hospital colonoscopies

Ontario Health (OH)'s GI
Endoscopy Data Submission
Portal

Clinic colonoscopies

Ontario Health Insurance Plan
(OHIP)

#2 We identified invasive CRCs

Dx'ed 7 days before-183 days
after colonoscopy

Ontario Cancer Registry (OCR)

ICD-O-3 codes C18.0, C18.2-
C18.9, C19.9, C20.9
Consistent morphology,
microscopically confirmed and
reported

#3 We calculated the colonoscopy cancer detection rate (CDR)

stratified by age and sex

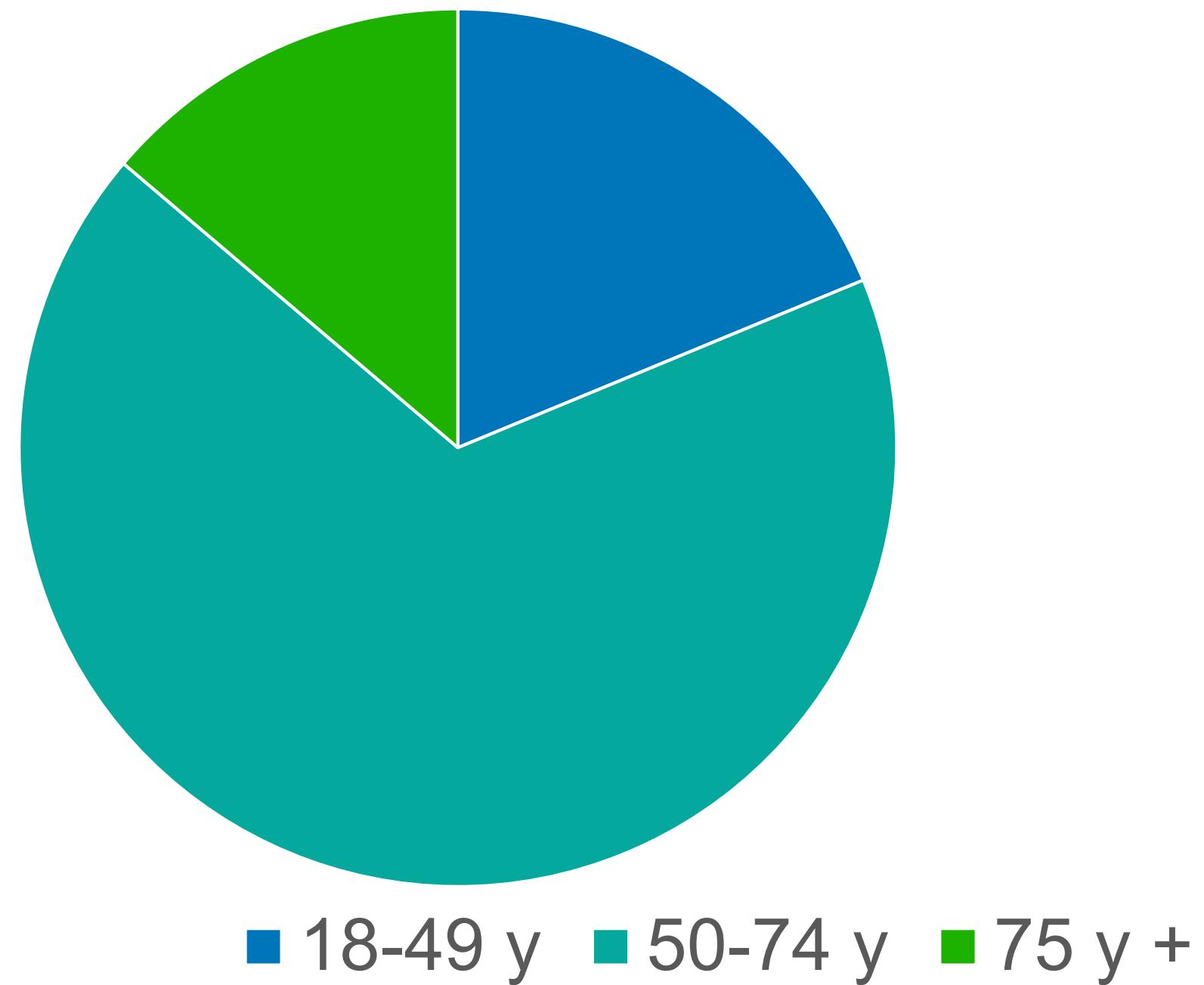
hospital colonoscopies also
stratified by indication
(FIT, symptomatic,
FHx screening, surveillance,
Avrg risk screening)



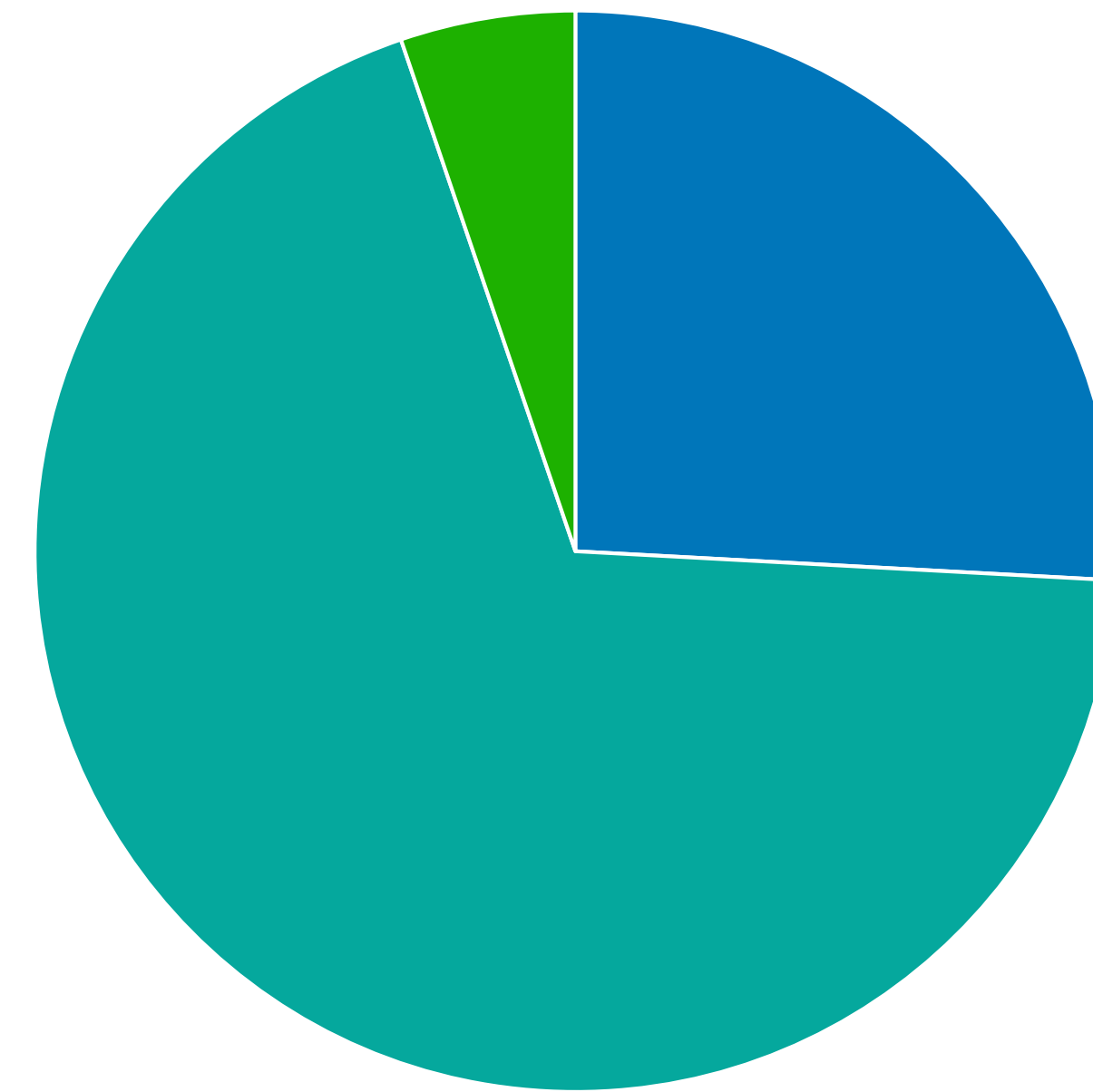
Results

Age distribution by setting

A- Hospital colonoscopies
N= 638,900



B- Clinic colonoscopies
N= 345,209



Results

Colonoscopy cancer detection rate

- Overall, 12,021 CRCs were detected (CDR: 1.2%): 9,451 CRCs in hospitals (CDR: 1.5%) and 2,570 CRCs in clinics (CDR: 0.7%).
- CDRs at any age and for any sex were lower in clinics as compared to hospitals.
- CDR at any age, for any indication and in any setting was greater in men (1.4%) than women (1.0%).

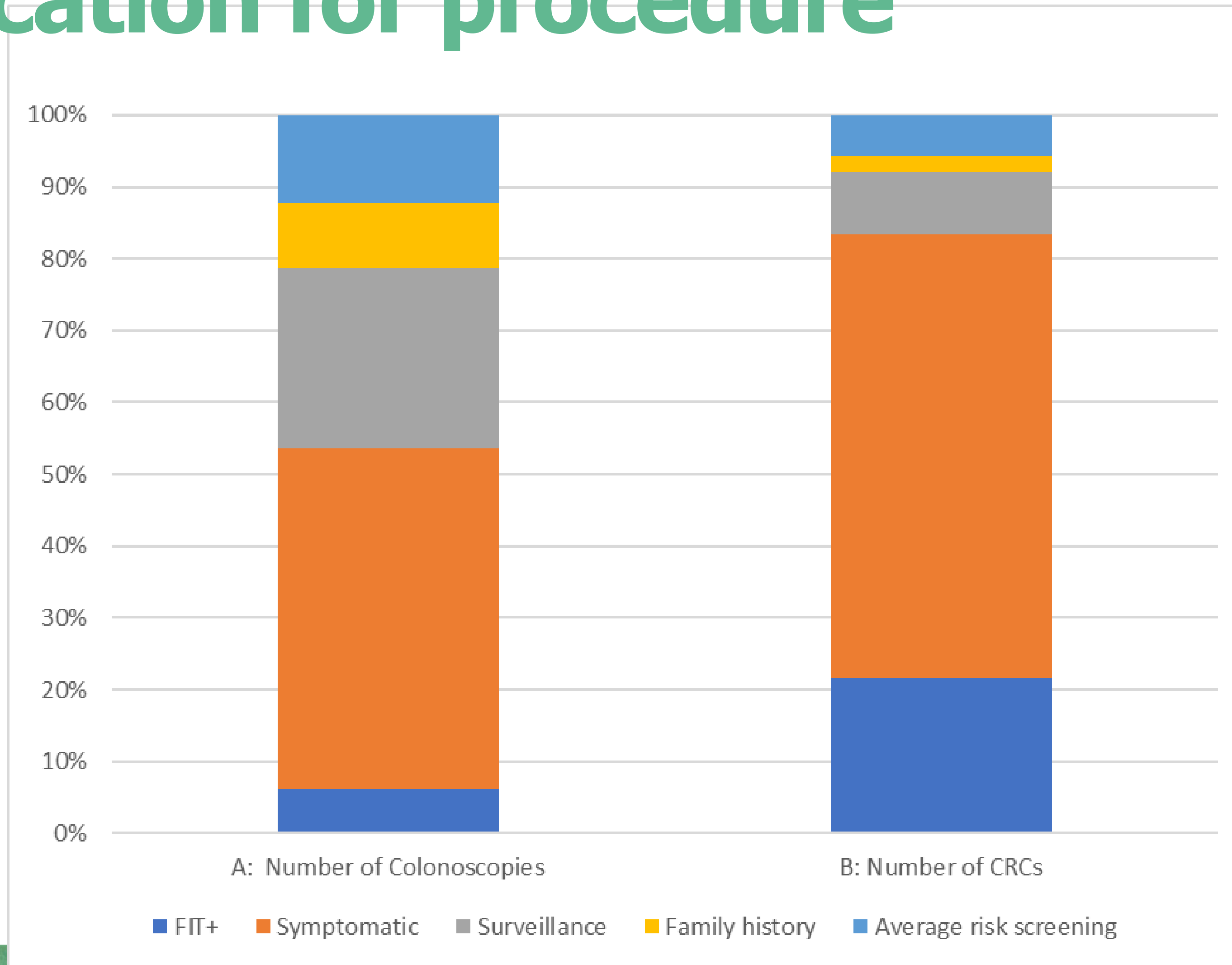


Number of CRCs and Cancer Detection Rate (CDR) by age, sex and setting

	Hospital colonoscopies		Clinic colonoscopies	
	# CRCs (% of Total)	CDR	# CRCs (% of Total)	CDR
Female	4242 (44.9%)	1.3%	1088 (42.3%)	0.6%
Male	5209 (55.1%)	1.7%	1482 (57.7%)	0.9%
18-49 yo	585 (6.2%)	0.5%	354 (13.8%)	0.4%
50-74 yo	5670 (60.0%)	1.3%	1856 (72.2%)	0.8%
>74 yo	3196 (33.8%)	3.6%	360 (14.0%)	2.0%



Proportion of colonoscopies and CRC detected by indication for procedure



Hospital colonoscopy CDR by indication

Indication	CRC Detection Rate		CRC Detection Rate by sex
FIT	5.2%	Female	4.9%
		Male	5.3%
Symptomatic	1.9%	Female	1.6%
		Male	2.3%
Surveillance	0.5%	Female	0.4%
		Male	0.6%
Family history	0.3%	Female	0.3%
		Male	0.4%
Average risk	0.7%	Female	0.6%
		Male	0.8%



Summary

- In Ontario, CDR is highest in colonoscopies for FIT+ patients; just over one in 20 colonoscopies will yield a diagnosis of CRC.
- CDR is lowest in colonoscopies for those with a family history of CRC; about one in 300 colonoscopies will yield a diagnosis of CRC.
- Comparative yield measured by CDR supports both OH's recommendation to prioritize FIT+ colonoscopies and OH's recommendation against colonoscopy for average risk screening and against colonoscopy for those with prior low-risk adenomas.
- The CDR in clinics, for all age groups, is lower than in hospital setting.
- There was a slight increase in CDR observed during the pandemic, in both settings.



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