

Family history-based colorectal cancer screening

projected impact of Canadian guideline recommendations

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Individuals with a family history of colorectal cancer are at an increased risk of colorectal cancer.

Colorectal cancer screening for individuals with a family history

How early? What test? How often?

Colonoscopy at age 40

VS.

FIT every 2 years at age 50

Same strategy for average risk individuals

- Every 10 years
- Every 5 years

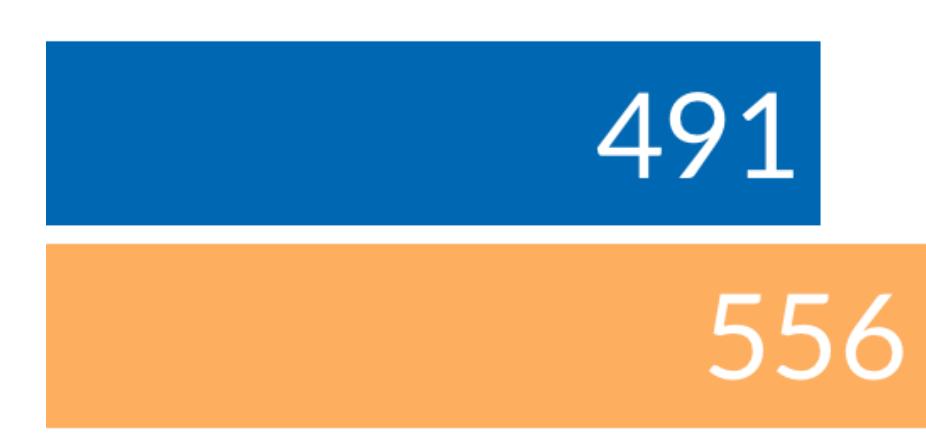
CAN PREVENT

>1,300
COLORECTAL CANCER CASES



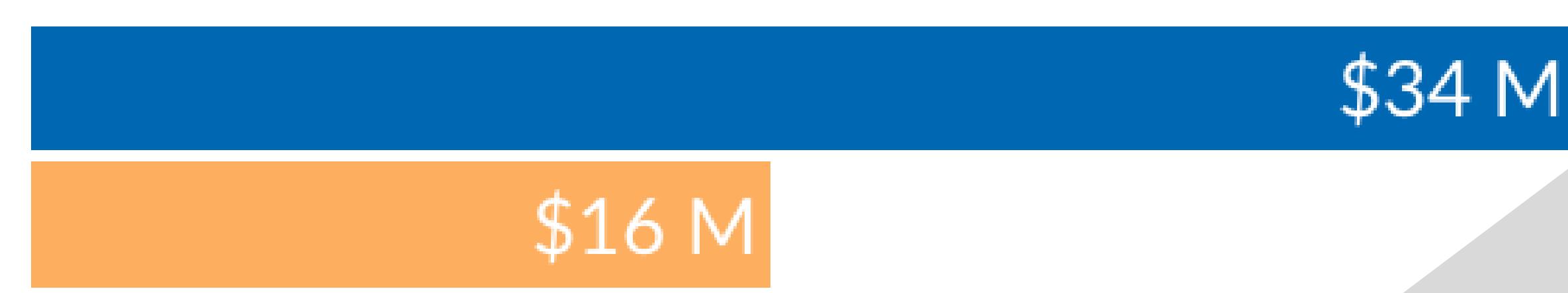
CAN PREVENT

~500
COLORECTAL CANCER DEATHS



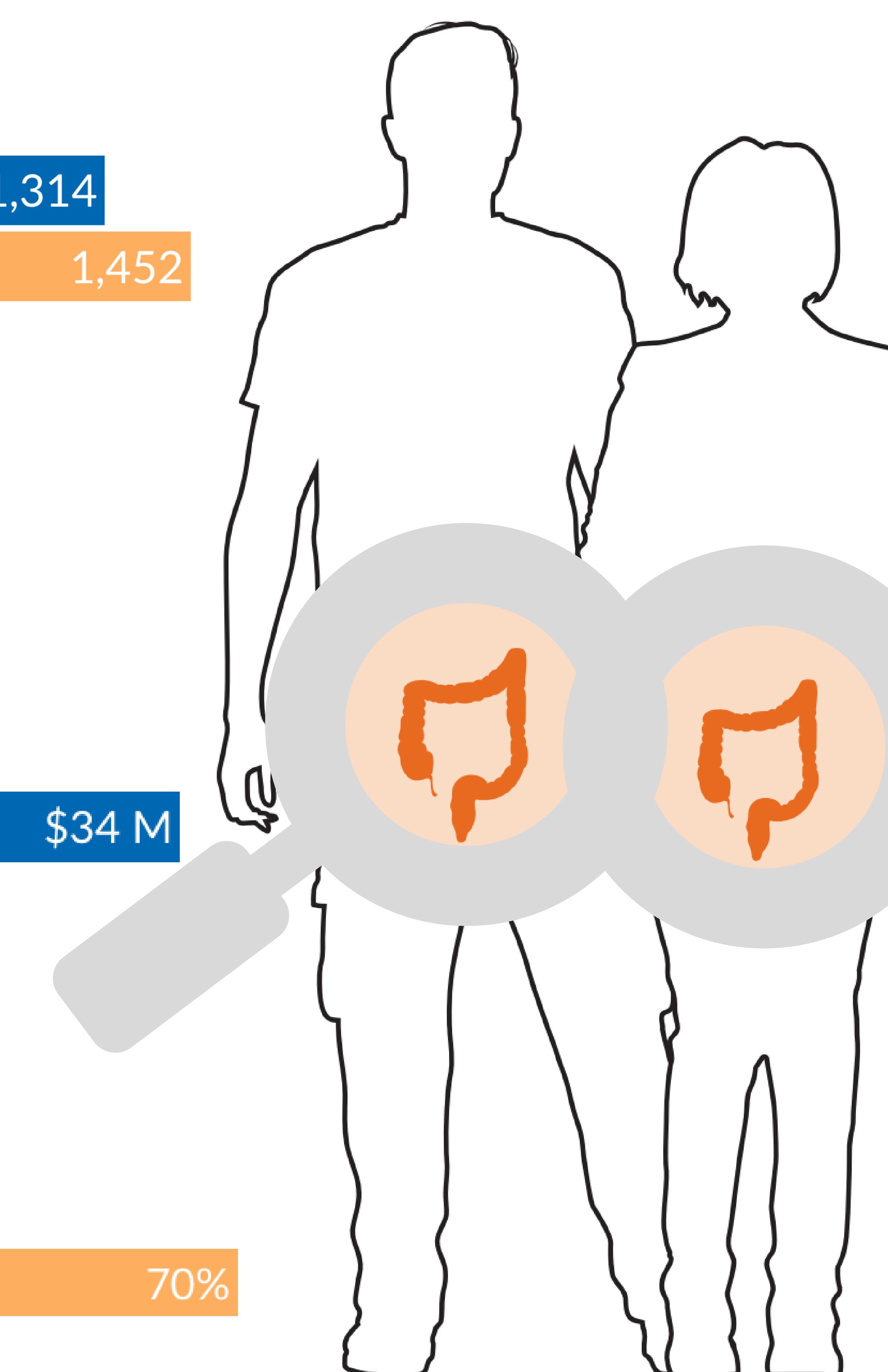
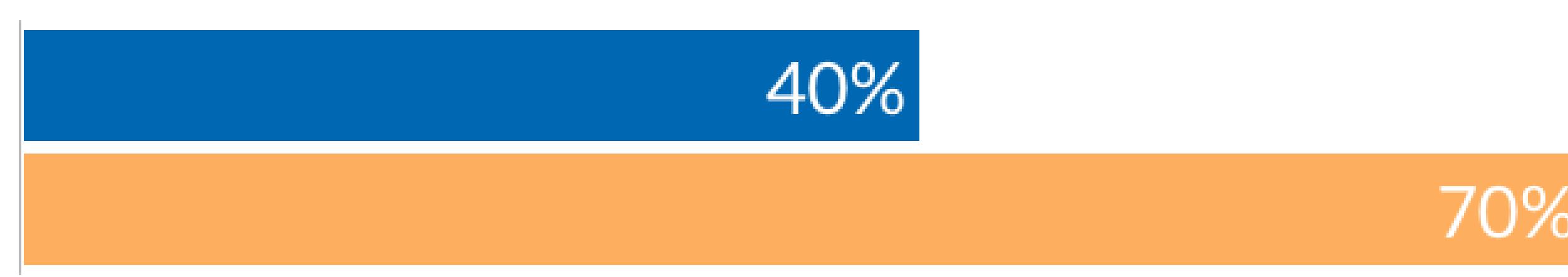
CAN SAVE

>\$16 million
LIFETIME COSTS



BUT REQUIRES

>40%
MORE COLONOSCOPIES



Methods

- OncoSim-Colorectal simulates the natural history of colorectal cancer.
- It has reproduced the observed effects in major screening trials.¹
- We simulated a Canadian cohort born in 1968 to compare lifetime colorectal cancer outcomes of three screening strategies up to age 74 for individuals with a family history of colorectal cancer.
- To account for the challenges in identifying individuals with family history, we assumed only half the eligible individuals are invited to family-history based screening.

More findings (Colonoscopy every 5 or 10 years)

- Between the two colonoscopy strategies, screening more often (every 5 years) prevents the most cancer and associated deaths but costs more and needs more colonoscopies.
- Discounting outcomes at 1.5%, screening more often costs \$40,000 per quality-adjusted life-years.

Limitations

- The results were model projections and not observed data.
- Validity of projections depends on the quality of model input.

About OncoSim

OncoSim is a free, web-based cancer simulation tool combining data from the real world, expert opinion, and the published literature. Its projections have been used by decision makers across Canada to support cancer control decisions. OncoSim is led and supported by the Canadian Partnership Against Cancer, with model development by Statistics Canada, and is made possible through funding by Health Canada.

References

- Coldman A, Pader J, Gauvreau C, et al. Simulating results from trials of sigmoidoscopy screening using the OncoSim microsimulation model. Journal of Cancer Policy 2018; 15: 52-8.



www.OncoSim.ca

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