Family History of Colorectal Cancer: A Predictor of Clinicians’ Preventive Recommendations and Patient Behavior

Results from the 2008 BRFSS

Oregon Public Health Genetics Program:

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Overview

- Goals of Oregon Cancer Genomics Surveillance Program
- Context: Why Family History?
- Objectives
- Methods
- Results: Weighted % & Adjusted Odds Ratios
- Conclusions
Surveillance Project Objectives

- Evaluate how familial risk of colorectal, breast & ovarian cancer influences Oregon healthcare practice & Oregonians’ behavior
- Evaluate Oregonians’ awareness, knowledge, & use of BRCA 1 & 2 testing
- Evaluate Oregon healthcare providers’ knowledge, attitudes, & use of genetic tests for colorectal, breast, & ovarian cancer
- Evaluate disparities in Oregonians' access to genetic testing & genetic counseling for colorectal, breast, & ovarian cancer
Why Family History?
50%-75% of CRC can be prevented
- Screening can reduce deaths through early diagnosis & removal of pre-cancerous polyps

20%-25% of CRC clusters in families

Because familial CRC often occurs at a younger age, some people with a family history should be screened differently than the general population:

- Earlier
- More frequently
- Specific screening test (colonoscopy vs. FOBT or sigmoidoscopy)
Objectives

- This study examines associations between family history of CRC &
  - clinician recommendations
  - perceived risk of developing CRC
  - preventive and screening behaviors
  - colorectal cancer risk factors
Methods of the BRFSS

- **Design**: telephone survey of health conditions and risk behaviors
- **Population**: randomly selected non-institutionalized Oregonians ≥18 years of age
- **2008 BRFSS**: 56% response rate
- **Final sample**: N = 1795
  - Without colorectal cancer
- **Family history**: 1st degree relative with CRC
  - 160 respondents or 7.6% with fhx of CRC
Healthcare Provider Behavior: Discussion and Recommendations

- **Risk**: 48.3% Positive fhx, 11.5% Negative fhx
- **Screening**: 63.2% Positive fhx, 36.8% Negative fhx
- **Recommendations**: 30.8% Positive fhx, 13.1% Negative fhx

*P < 0.05*
Healthcare Provider Behavior: Discussion and Recommendations

- Discussion of risk
- Discussion of screening
- Lifestyle recommendations

Positive Family History of Colorectal Cancer

Adjusted Odds Ratio

- Discussion of risk: 8.9
- Discussion of screening: 4.2
- Lifestyle recommendations: 2.6
Oregonians’ Perceived Risk & Lifestyle Changes

- **Perceived risk**: 45.8% (Positive fhx), 7.5% (Negative fhx)
- **Lifestyle change**: 32.3% (Positive fhx), 56.6% (Negative fhx)
- **Smoker**: 13.6% (Positive fhx), 24.9% (Negative fhx)

P < 0.05
Perceived Risk & Lifestyle Changes

![Bar chart showing odds ratios for perceived risk and lifestyle changes related to a positive family history of colorectal cancer.]

- Perceived risk: 8.5
- Lifestyle change: 2.6
- Current smoker: 2.3

Legend:
- Red: Perceived risk
- Blue: Lifestyle change
- Orange: Current smoker

Positive Family History of Colorectal Cancer
Colorectal Cancer Screening (≥ 50 years)

- Negative fhx
- Positive fhx

**Percentage**

- FOBT: 51.7% (Negative), 58.3% (Positive)
- Colonoscopy: 53.7% (Negative), 76.7% (Positive)
- CRC screening: 63.2% (Negative), 83.3% (Positive)
Colorectal Cancer Screening
(≥ 50 years)

- FOBT ever
- Colonoscopy ever
- Colorectal cancer screening

Bar chart showing adjusted odds ratios for colorectal cancer screening based on positive family history of colorectal cancer.
Take home messages

- Family History is associated with clinician behavior
  - Need better tools for clinicians

- Family History is associated with:
  - perceived risk
  - lifestyle change
  - smoking
  - education level

- People $\geq$ age 50 with a fhx were 2x more likely to have colorectal cancer screening.
Take home messages (cont)

- Awareness of family history of CRC can mitigate risk for developing CRC

- **Patient-mediated effects**: motivate individuals at risk to adopt behaviors or seek screening that may help prevent the disease or diagnose it at an early stage when it is most curable.

- **Clinician-mediated effects**: motivate clinicians
  - to counsel patients with a positive CRC family history about their risk for the disease
  - encourage strategies to decrease that risk
    - such as, appropriate screening & lifestyle changes
Program Implications

- Continue surveillance to assess if CRC screening guidelines are met for people at high familial risk.

- Provider education
  - ID high risk individuals
  - Screening
  - Treating
  - Referring
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CRC Screening Guidelines Pertaining to Family History

- **USPSTF**: Higher risk people (e.g., those with a first-degree relative with colorectal cancer < 60 years), initiating screening at an earlier age is reasonable.

- **ACS, US Multisociety Task Force on CRC, and the American College of Radiology**:  
  - CRC or adenomatous polyps in first degree relative < 60 years or in 2 or more first degree relatives at any age beginning at 40 years, or 10 years younger than the youngest diagnosis in the family, whichever comes first, colonoscopy every 5 years.
  
  - CRC or adenomatous polyps in a first degree relative ≥age 60 years or in 2 second-degree relatives with colorectal cancer beginning at 40 years.

- **NCCN**: different screening frequencies and beginning ages based on age & # of relatives. Colonoscopy is preferred.
References


