# Targeting Low Referral Rates for Colorectal Adenocarcinoma to Cancer Genetics

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## Introduction

- Colorectal cancer (CRC) incidence is rising, particularly among those 20-49 years old.
- Approximately 10.5% of new CRC diagnoses occur in those under 50 years old.
- Individuals with early-onset CRC should be referred for cancer genetic testing to evaluate for an inherited syndrome.
- Genetic referral rates for this target population have been low.
- Hereditary CRC is commonly inherited in an autosomal dominant pattern although some syndromes (*MUTHY* associated polyposis and *NTHL1*) are inherited in an autosomal recessive pattern.

## Methods

- Retrospective chart review of individuals age $\leq 50$
- Cancer registry database with colon or rectal adenocarcinoma from 2016 to 2020.
- The primary intervention was to contact via telephone those who had not been previously referred for cancer genetic testing and to invite them to undergo risks assessment and testing.

## Baseline Demographics

| Variable | Previously Referred | Eligible for Referral |
|---|---|---|
| N | 34 | 36 |
| Average Age | 45 | 43.5 |
| Caucasian | 23 | 19 |
| African American | 5 | 7 |
| Non-White Hispanic | 4 | 7 |
| Asian | 2 | 3 |

## Results

| Variable | Pre Intervention | Post Intervention | % Change | p-Value |
|---|---|---|---|---|
| N | 34 | 44 | 29.4 | 0.787 |
| Caucasian | 23 | 29 | 26.1 | 0.178 |
| African American | 5 | 6 | 20.0 | 0.201 |
| Non-White Hispanic | 4 | 7 | 75 | 0.682 |
| Asian | 2 | 2 | 0 | 1.00 |

- Overall, referrals to cancer genetics increased 29.4%.
- Differences in referral rates across races exist.

## Conclusion

- A subset of young onset CRC may be detected earlier by identifying those with associated mutations.
- Helping patients navigate using age criteria and tumor subtype may increase referral rates to genetics counselors.
- Racial disparities in genetics referrals exist, but improving navigation can increase referrals across all races.
- A detailed history of first and second degree relatives may identify at risk patients.

## Future Directions

- Prospective best practice advisory to identify patients who qualify for referral.

## References

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