

## **Adenoma Detection Rate in 45-49 Year-Olds Is Lower Compared to 50-54 Year-Olds, But Still Higher Than 25% Benchmark**



**Philip N. Okafor, MD, MPH**

*Senior Associate Consultant, Mayo Clinic,  
Jacksonville, Florida*

Philip N. Okafor, MD, MPH  
Associate Editor

This summary reviews: Bilal M, Holub J, Greenwald D, et al. Adenoma Detection Rates in 45-49 Year-Old Persons Undergoing Screening Colonoscopy: Analysis from the GIQuIC Registry. *Am J Gastroenterol* 2022; 117: 806-808. <https://pubmed.ncbi.nlm.nih.gov/35169107/>

Correspondence to Philip N. Okafor, MD, MPH, Associate Editor. Email: [EBGI@gi.org](mailto:EBGI@gi.org)

### **STRUCTURED ABSTRACT**

**Question:** What is the adenoma detection rate (ADR) in average-risk 45-49 year-olds undergoing their first screening colonoscopy?

**Design:** Retrospective database analysis using the GI Quality Improvement Consortium Ltd (GIQuIC) registry.

**Setting:** Participants in the GIQuIC registry include US endoscopists from multiple patient settings, including outpatient ambulatory endoscopy centers, hospital-based and office-based endoscopy units.

**Participants:** The study included individuals aged 45-49 years, 50-54 years, and 50-75 years who underwent colonoscopy between 2014 and 2020 who met the meeting following criteria: average-risk screening as only indication, adequate bowel preparation, and photo-documentation of cecum performed. Only procedures from endoscopists who performed at least 30 screening exams were included.

**Intervention/Exposure:** The GIQuIC registry was queried to

identify screening colonoscopies among average-risk individuals aged 45 to 75 years. ADR for these procedures were calculated. Only the first colonoscopy per patient was included in the study.

**Outcomes:** ADR was stratified by age group (45-49 years old, 50-54 years old, and 50-75 years old) and gender for the screening population. For completeness, ADR was also calculated for those in the 45-49 years old group undergoing screening colonoscopy regardless of family history of CRC.

**Data Analysis:** One-way ANOVA testing was used to determine differences in ADR among individuals aged 45-49 years, 50-54 years, and 50-75 years.

**Funding:** None

**Results:** Of the 2,806,539 screening colonoscopies performed by 814 endoscopists, 1.6% (n = 47,213) were performed in patients in the 45-49 age group, and 36% (n = 1,014,193) were in the 50-54 age group. As expected, the number of screening colonoscopies in patients aged 45 to 49 years increased over time, especially after 2018. The mean ADR was significantly lower in the 45-49 age group vs 50-54 age group (28.6% vs 31.8%, respectively,  $P < 0.001$ ; Table 1). After stratification for gender, mean ADR was still significantly lower in 45-49 age group vs 50-54 age group for men (32.9% vs 37.0%, respectively,  $P < 0.0001$ ) and women (22.8% vs 25.6%,  $P < 0.0001$ ). The overall ADR for patients aged 45 to 49, regardless of family history of CRC, was 28.5% (mean ADR in men: 32.8%; mean ADR in women: 22.9%).

## COMMENTARY

### *Why Is This Important?*

Recent data has shown that while CRC incidence has declined in the United States, there is an uptick in new cases among individuals younger than 50 years with a 13% increase in colon adenocarcinoma and 16% increase in rectal adenocarcinoma in those aged 40-49 years.<sup>1</sup> In fact, the current rates of incident CRC cases among 45 to 49-year-olds are comparable with rates in 50 year-olds before the adoption of nationwide CRC screening.<sup>2</sup> This has led major US societies to recommend the initiation

	45-49 years	50-54 years	P-value	50-75 Years	P-value
<b>Overall mean ADR% (SD) among 814 endoscopists</b>	28.63 (10.34)	31.87 (9.34)	<0.0001	36.32 (9.78)	<0.0001
<b>Total procedures</b>	47,213	1,014,193		2,759,326	
<b>Mean ADR% (SD) in men</b>	32.9 (10.74)	37.0%(9.96)	<0.0001	41.5 (9.89)	<0.0001
<b>Total procedures</b>	9,928	470,146		1,270,382	
<b>Mean ADR% (SD) in women</b>	22.84 (9.87)	25.57 (8.48)	<0.0001	30.10 (9.18)	<0.0001
<b>Total procedures</b>	16,372	529,084		1,477,418	

Table 1: Mean ADR stratified by age and gender

ADR, adenoma detection rate ; SD, standard deviation.

of CRC screening from age 45.<sup>2,3</sup> These recommendations have also been supported by data from simulation modelling studies which show that earlier CRC screening from age 45 is cost-effective.<sup>4</sup> However, while ADR in patients undergoing screening from age 50 have been established and benchmarked, ADRs in patients aged 45 to 49 years have not been rigorously studied.

### ***Key Study Findings***

Although the mean ADRs were significantly lower in the 45 to 49 year age cohort vs 50 to 54 year age cohort (28.6% vs 31.8%, respectively,  $P < 0.001$ ), the mean ADR in the 45 to 49 age group still exceeds national ADR benchmark of  $\geq 25\%$ , which further supports guideline recommendations to initiate screening at age 45.

### ***Caution***

The presence or absence of a family history of CRC in the screening cohort could not be reliably ascertained. Also, Black patients might have been overrepresented in the 45 to 49 age group as they accounted for 18% of this subgroup, compared with 8% in the over 50 cohort, which

most likely occurred because some societal guidelines had previously recommended screening from age 45 in Black patients.<sup>3</sup>

### *My Practice*

While we routinely report endoscopist ADRs at my institution as part of quality improvement, we are yet to report this metric in the 45-49 age group. The interesting results by Bilal et al do provide a benchmark for comparison when we review our data.

### *For Future Research*

This excellent study provides some national estimates of mean ADRs in patients aged 45 to 49 years undergoing their first screening colonoscopy. However, more work needs to be done since potentially higher risk groups may be overrepresented in this cohort. In addition, benchmarks for other screening colonoscopy quality metrics including serrated lesion detection rates, advanced adenomas detection rates, and advanced serrated lesion detection rate will need to be described in the 45 to 49 age group.

### *Disclosures*

Dr. Okafor has no disclosures to report.

## REFERENCES

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