

Patients Diagnosed with Autism Are Less Likely to Receive On-Time Cancer Screening, Except for Colorectal Cancer

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Last updated July 28, 2026 • Check for updates at EpicResearch.org

Key Findings:

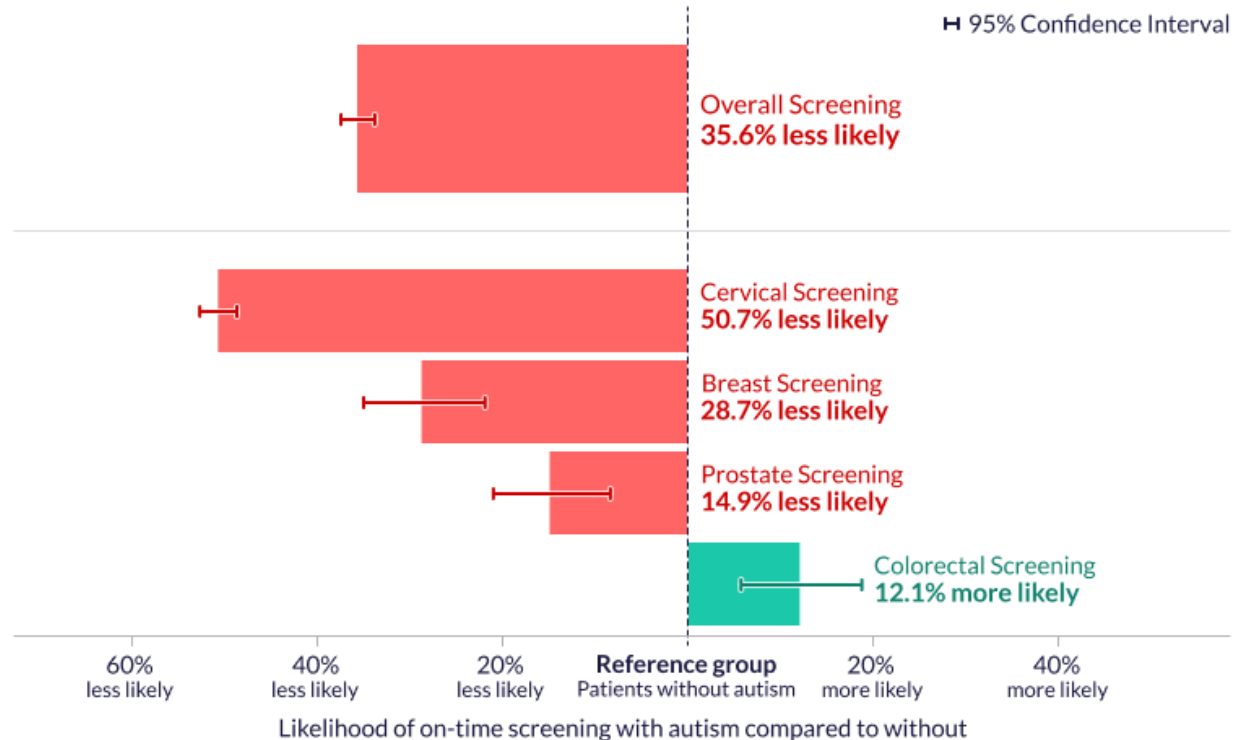
- Among patients newly eligible for cancer screening, those diagnosed with autism had a 35.6% lower likelihood of on-time screening overall compared to patients without autism. The gap was largest for cervical (50.7% lower likelihood) and breast (28.7% lower likelihood) cancer screening, and smaller but still significant for prostate cancer screening (14.9% lower likelihood).
- Colorectal cancer screening ran opposite to this pattern: patients with autism had 12.1% higher likelihood of on-time colorectal cancer screening than patients without autism. This coincided with greater use of at-home, stool-based tests, which made up 46.2% of colorectal cancer screenings among patients with autism versus 37.6% among those without.

Patients with autism and other developmental disabilities are diagnosed with cancer at roughly the same rate as the general population, but they are far more likely to die from it, a disparity widely attributed to gaps in preventive care, delayed diagnosis, and barriers to treatment rather than to the disease itself.¹ Routine screening is one of the most effective tools for catching cancers early, yet prior research suggests it reaches this population unevenly. In one survey of adult women with autism, it was found that intellectual disability, communication difficulty, and non-independent living were all linked to going without having a Pap smear performed.² Understanding where screening falls short and where it does not can help health systems target outreach and accommodations to the patients most likely to be missed.

We studied more than 6 million U.S. adults who newly became eligible for breast, cervical, colorectal, or prostate cancer screening between 2022 and 2024, each followed for at least one year after becoming eligible. Patients were included if they had outpatient care before, during, and after the eligibility window and met age and sex criteria for the relevant screening type; those with a prior history of the corresponding cancer or related conditions were excluded. We compared the share of patients screened on time (within one year of first becoming eligible) between patients with autism and patients without autism. We accounted for demographics, social vulnerability and rurality based on recent address, census region, and eligibility year.

Patients with autism were less likely to be screened on time for most cancer types. Overall, patients with autism had a 35.6% lower likelihood of on-time screening than patients without autism, as seen in Figure 1. The largest gaps were for cervical cancer screening, where patients with autism had a 50.7% lower likelihood, and breast cancer screening, where they had a 28.7% lower likelihood; prostate cancer screening showed a smaller but still significant 14.9% lower likelihood.

Likelihood of On-Time Cancer Screening by Presence of Autism Diagnosis



N=32,291 patients w/ autism;
6,381,501 patients w/o autism

"Likelihood of On-Time Cancer Screening by Presence of Autism Diagnosis," 2026. EpicResearch.org

Figure 1. The likelihood of on-time cancer screening among patients diagnosed with autism compared to patients without, by screening type.

Colorectal cancer screening was the exception to this pattern. Unlike the other screening types, patients with autism had a 12.1% higher likelihood of on-time colorectal cancer screening than patients without autism. This appears to be explained by how the screening was done: at-home, stool-based tests (FIT/gFOBT and sDNA-FIT) accounted for 46.2% of colorectal cancer screenings among patients with autism, compared with 37.6% among patients without autism, while in-clinic colonoscopy made up a correspondingly smaller share (52.5% versus 61.4%). Stool-based options can be completed at home without sedation or a procedural visit, which might lower barriers that depress screening rates elsewhere. Other screening methods (including sigmoidoscopy and colonography) were uncommon for both populations.

Colorectal Cancer Screening Method by Presence of Autism Diagnosis

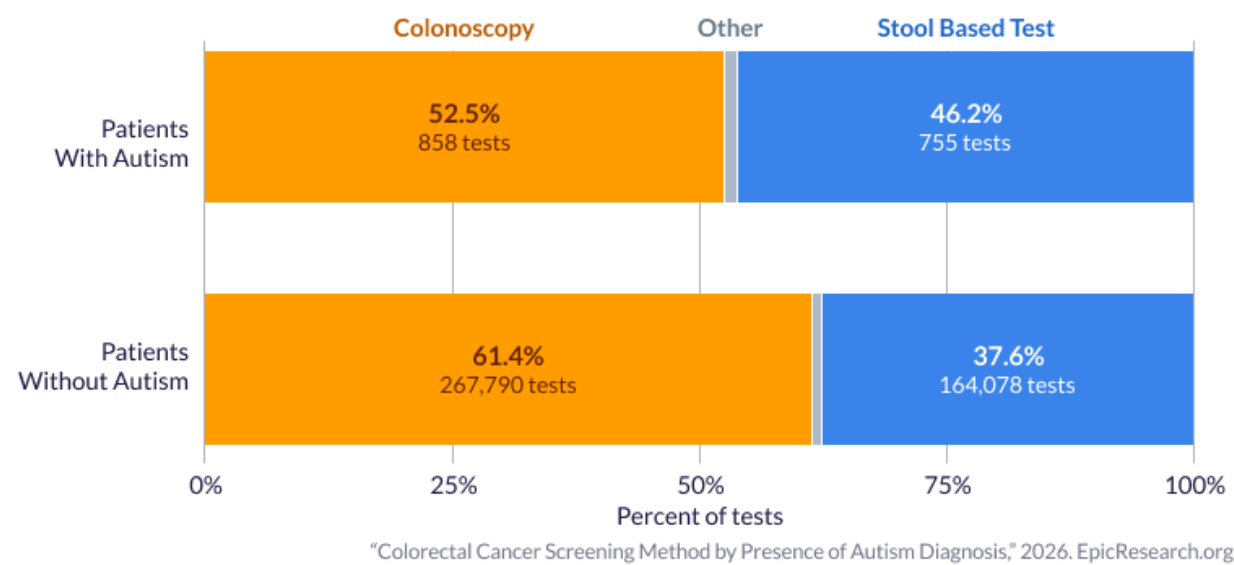


Figure 2. The distribution of colorectal cancer screening methods among patients with and without diagnosed autism.

Because patients with autism tend to have more frequent healthcare encounters, we conducted a sensitivity analysis additionally adjusting for healthcare utilization to test whether differences in visit frequency accounted for the observed screening gaps. The overall pattern was unchanged, indicating that the lower screening rates among patients with autism are not explained by differences in how often these patients access care.

These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 307 million patient records from 2,000 hospitals and more than 49,000 clinics from all 50 U.S. states, Canada, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientist. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Vuattoux D, Colomer-Lahiguera S, Fernandez PA, et al. Cancer Care of Children, Adolescents and Adults With Autism Spectrum Disorders: Key Information and Strategies for Oncology Teams. *Front Oncol.* 2021;10:595734. Published 2021 Jan 19. doi:10.3389/fonc.2020.595734
2. Chen Y, Powers J, McDougale CJ, Zürcher NR, Thom RP. Cervical Cancer Screening and Prevention Uptake in Females with Autism Spectrum Disorder. *J Autism Dev Disord.* 2026;56(1):1-12. doi:10.1007/s10803-024-06565-2

Data Definitions

Term	Definition
Study period	2022-2024, with a one-year follow-up period
Study population: inclusion	Patients who: • Have a residence in the U.S. • Newly became eligible for at least one screening type of interest during the study period • Have at least one outpatient face-to-face encounter before, in the year after, and within one to two years after the index date

	Breast cancer screening: • Evaluated sex of female • Age: 50-74 Cervical cancer screening: • Evaluated sex of female • Age: 21-65 Colorectal cancer screening: • Age: 45-75 Prostate cancer screening: • Evaluated sex of male • Age 55-69 Lung cancer screening: • Age 50-80 • 20+ pack-years of documented smoking history
Study population: exclusion	Breast: • History of breast cancer: C50*, Z85.3 • Family history: Z80.3 Cervical: • History of cervical cancer: C53* • History of cervix removal: Z90.710, Z90.712 Colorectal: • History of CRC: C18*, C19, C20, Z85.038 • History of polyps: D12.0-D12.8, K63.5, K51.4*, Z86.010 • History of IBD: K50*, K51* Prostate: • History of prostate cancer: C61 Lung: • History of lung cancer: C34*
Index date	Date the patient first became eligible for a given screening type during the study period
Exposures	Autism Spectrum Disorder: any evidence of a diagnosis with ICD-10-CM F84.0 or F84.5
Outcomes	Patient received screening of a given type within a year of the index date
Breast cancer screening	CPT 77063, 77067, 77046, 77047, 77048, 77049 or HCPCS G0279
Cervical cancer screening	Cervical cytology CPT: 88141, 88142, 88143, 88147, 88148, 88150, 88152, 88153, 88164, 88165, 88166, 88167, 88174, 88175 Cervical cytology HCPCS: Q0091, G0123, G0141, G0143-G0148, P3000, P3001 Cervical cytology LOINC: 10524-7, 18500-9, 19762-4, 19764-0, 19765-7, 19766-5, 19774-9, 33717-0, 47527-7, 47528-5, 104866-9 HPV test CPT: 87624, 87625, 87626, 87623, 0502U HPV test HCPCS: G0476 HPV test LOINC: 21440-3, 30167-1, 38372-9, 59263-4, 59264-2, 59420-0, 69002-4, 71431-1, 75694-0, 77379-6, 77399-4, 77400-0, 82354-2, 82456-5, 82675-0, 95539-3, 104132-6, 104170-6, 104752-1, 104766-1, 104783-6
Colorectal cancer screening	Colonoscopy: HCPCS G2204, G0105, G0121; CPT 44388, 44389, 44390, 44391, 44394, 44401-44408, 45378-45382, 45384-45386, 45391, 45392 sDNA-FIT: CPT 81528; SNOMED 457591000124105; LOINC 77353-1, 77354-9 FIT/gFOBT: LOINC 14563-1, 14564-9, 14565-6, 2335-8, 27396-1, 29771-3, 50196-5, 57803-9, 58453-2, 57905-2, 56490-6, 56491-4,

	80372-6, 12504-7, 27926-5, 27401-9, 12503-9, 27925-7; HCPCS G0328; CPT 82270, 82272, 82274 Flexible sigmoidoscopy: CPT 45330-45335, 45337, 45338, 45340-45342; HCPCS G0104, G0106 CT colonography: CPT 74261, 74262, 74263
Prostate cancer screening	CPT 84152, 84153; HCPCS G0102, G0103; LOINC 2857-1, 33667-7, 83112-3, 35741-8, 19195-7
Lung cancer screening	ICD-10: Z12.2 SNOMED: 268546004, 724167008, 713548006, 241540006, 241542003 HCPCS: S8032, G0297 CPT: 71271
Confounders	Evaluated sex Social Vulnerability Index quintile RUCA Census region Eligibility year Race and ethnicity
Race and ethnicity	Patient self-reported race and ethnicity, mapped to standards. Patients were classified as Asian, Black, Hispanic, other, unknown, or White.
Model specifications	Logistic Regression
Limitations	Women are more likely to be undiagnosed with autism, and the consistency of autism diagnosis is limited in older birth cohorts. Screenings performed outside the patient's health system are not likely to be captured. Limited data on lung cancer screenings and eligibility.

Table 1: Characteristics of Study Population

	Breast Elig.	Breast %	Cervical Elig.	Cervical %
Total	1,498,628	100.0%	1,119,240	100.0%
*Unspecified Sex	-	0.0%	-	0.0%
Ambiguous Sex	-	0.0%	-	0.0%
Female Sex	1,498,628	100.0%	1,119,240	100.0%
Male Sex	-	0.0%	-	0.0%
Asian	47,345	3.2%	20,242	1.8%
Black	182,298	12.2%	145,841	13.0%
Hispanic	159,030	10.6%	143,556	12.8%
Other	182,309	12.2%	160,777	14.4%
Unknown	228,103	15.2%	154,633	13.8%
White	699,543	46.7%	494,191	44.2%
SVI [.0,.2)	219,204	14.6%	149,003	13.3%
SVI [.2,.4)	281,556	18.8%	192,052	17.2%
SVI [.4,.6)	264,902	17.7%	194,882	17.4%
SVI [.6,.8)	313,566	20.9%	241,734	21.6%
SVI [.8,1]	413,200	27.6%	338,045	30.2%
Unknown SVI	6,200	0.4%	3,524	0.3%
Metropolitan	1,287,677	85.9%	962,436	86.0%
Micropolitan	118,043	7.9%	91,539	8.2%
Rural	34,581	2.3%	24,092	2.2%
Small Town	53,278	3.6%	39,055	3.5%
Unknown RUCA	5,049	0.3%	2,118	0.2%

No Autism	1,496,395	99.9%	1,100,962	98.4%
Autism	2,233	0.1%	18,278	1.6%

	Colo Elig.	Colo %	Lung Elig.	Lung %	Prostate Elig.	Prostate %
Total	2,454,650	100.0%	193451	100.0%	1,242,258	100.0%
*Unspecified Sex	131	0.0%	24	0.0%	-	0.0%
Ambiguous Sex	19,819	0.8%	1521	0.8%	-	0.0%
Female Sex	1,563,056	63.7%	98646	51.0%	1,242,258	100.0%
Male Sex	871,644	35.5%	93260	48.2%	-	0.0%
Asian	71,359	2.9%	1295	0.7%	28,687	2.3%
Black	292,133	11.9%	13389	6.9%	131,884	10.6%
Hispanic	257,732	10.5%	6817	3.5%	97,436	7.8%
Other	282,681	11.5%	21013	10.9%	121,857	9.8%
Unknown	410,584	16.7%	17961	9.3%	192,470	15.5%
White	1,140,161	46.4%	132976	68.7%	669,924	53.9%
SVI [.0,.2)	379,899	15.5%	22948	11.9%	198,833	16.0%
SVI [.2,.4)	474,129	19.3%	32442	16.8%	241,426	19.4%
SVI [.4,.6)	435,551	17.7%	36727	19.0%	222,281	17.9%
SVI [.6,.8)	501,897	20.4%	47530	24.6%	255,834	20.6%
SVI [.8,1]	654,132	26.6%	52905	27.3%	316,850	25.5%
Unknown SVI	9,042	0.4%	899	0.5%	7,034	0.6%
Metropolitan	2,126,554	86.6%	151949	78.5%	1,052,202	84.7%
Micropolitan	184,153	7.5%	23002	11.9%	102,654	8.3%
Rural	54,458	2.2%	7239	3.7%	33,795	2.7%
Small Town	82,484	3.4%	10817	5.6%	47,746	3.8%
Unknown RUCA	7,001	0.3%	444	0.2%	5,861	0.5%
No Autism	2,446,469	99.7%	193004	99.8%	1,238,939	99.7%
Autism	8,181	0.3%	447	0.2%	3,319	0.3%

Table 2: Likelihood of On-Time Cancer Screening by Presence of Autism Diagnosis

Screening Type	Odds Ratio	95% CI Lower	95% CI Upper
All	0.64	0.63	0.66
Breast	0.71	0.65	0.78
Cervical	0.49	0.47	0.51
Colorectal	1.12	1.06	1.19
Prostate	0.85	0.79	0.92

Table 3: Colorectal Cancer Screening Method by Presence of Autism Diagnosis

Screening Method	Tests - No Autism	% of total	Tests- Autism	% of total
Colonography CT	223	0.1%	0	0.0%
Colonoscopy (CPT)	267,790	61.4%	858	52.5%
FITgFOBT	74,084	17.0%	357	21.8%
Flex Sigmoid	3,972	0.9%	22	1.3%
sDNAFIT	89,994	20.6%	398	24.3%