

## Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

## **eAppendix.** Discussion: Statistical Properties of Physician Adenoma Detection Rate and Its Limits as a Predictor of Cancer Outcomes

Physician adenoma detection rate (ADR) is a recognized colonoscopy quality metric; it incorporates both physician performance at detecting adenomas and the (unknowable) true adenoma prevalence in patients. If the true adenoma prevalence was knowable for each colonoscopist, sensitivity could be calculated as the proportion of patients with a detected adenoma among all patients who had adenomas. For ADR to be a meaningful quality metric for comparing physicians, the presumption is that, across physicians, their patients' true adenoma prevalence is similar.

ADR measurements, like all measurements, also include random error; a given physician, by chance in any given measurement period, could have more patients with adenomas than another physician. Larger sample sizes increase precision; thus, measuring ADRs during very short intervals (e.g., per month) will have more random error than the longer periods used in this study (i.e., annually). For the current study, we restricted analyses to physicians with a minimum number of 100 overall and 25 screening procedures per calendar year to decrease random error. The median number (interquartile range) of screening colonoscopies per physician per year in which an ADR was calculated, ranged from a low of 107 (65-190) to a high of 196 (109-316) (eTable 1).

True adenoma prevalence may vary by colonoscopy indication (i.e., adenomas are more frequently found during diagnostic and surveillance colonoscopies compared to screening colonoscopies); to account for this, ADRs are recommended to be calculated using only screening examinations, to minimize variability in between-physician patient adenoma prevalence from colonoscopy indication (i.e., the exposure in this study).

Patient adenoma prevalence also varies by demographic characteristics; adenomas are more likely to be detected in men than women and with increasing age; the distributions for the Kaiser Permanente Northern California population have been previously published.<sup>1</sup>

Although differences in physician's ADR theoretically can be driven by differences in patient case mix, prior research indicates this is not likely influential in the current study population. For example, a physician who primarily performs screening colonoscopies in men or older patients would likely have a higher ADR than a physician who primarily performs screening colonoscopies in women or younger patients. To address this concern, we previously specifically investigated whether adjusting for patient case mix (i.e., patient age and sex) among gastroenterologists within Kaiser Permanente Northern California affected the order of their ADR ranking.<sup>2</sup> We found that adjusting for patient case-mix had only small effects on differences in ADRs between physicians; for example, out of approximately 100 physicians, only one person moved into or out of the lowest quartile of ADR based on adjustment for patient demographics. Thus, within the integrated healthcare settings for the current study, in which physicians perform colonoscopies on a heterogeneous mix of patients by age, sex, race and ethnicity, substantive differences in ADRs between physicians can most likely be ascribed to differences in the physician-level performance of adenoma detection rather than differences in adenoma prevalence between physicians' patient populations.

In the present study, physician ADRs were calculated using screening colonoscopies performed in the calendar year prior to the date a colorectal cancer-negative colonoscopy was performed. Consistent with prior studies, this metric was used to predict each physician's patients' cancer outcomes on all colonoscopies. Thus, it follows, for example, that a physician who performed colonoscopies in seven different study years would have seven screening ADR measurements, rather than a single ADR measurement. For example, if the ADR values for those seven years were 18%, 19%, 22%, 23%, 24%, 26%, and 27%, the individual physician would have contributed two ADR values to the <20%

ADR category, three values to the 20-24.9% ADR category, and two values to the 25-29.9% ADR category. This strategy allowed assessments for changes in ADR over time and more accurate assessments between a physician's recent ADR and their current patient outcomes over extended time periods. eTable 1 below provides information that addresses the possibility that physicians with high ADR values may have random error contributing to those values, e.g., they may have a high proportion of patients that had adenomas or a small sample of patients in which the ADR was based.

As noted in the table, there were 383 physicians in total in our study and the number of individual physicians who contributed ADR values in each ADR category ranged from 42 to 179. However, as explained above, because each physician could contribute multiple ADR values in a given ADR category and across ADR categories, the total number of physicians who contributed ADR values across the ADR categories ranged from 64 to 343.

Consistent with prior research in this population, there was no evidence that high ADR values were primarily driven by patient demographics; across ADR categories, the age and sex distributions were similar. Thus, in this population, the data do not suggest that differences in patient adenoma prevalence (i.e., patient age and sex) or small numbers of screening colonoscopies contributed substantially to ADR differences between physicians.

## References

1. Corley DA, Jensen CD, Marks AR, Zhao WK, de Boer J, Levin TR, Doubeni C, Fireman BH, Quesenberry CP. Variation of adenoma prevalence by age, sex, race, and colon location in a large population: implications for screening and quality programs. *Clin Gastroenterol Hepatol*. 2013 Feb;11(2):172-80.
2. Jensen CD, Doubeni CA, Quinn VP, Levin TR, Zauber AG, Schottinger JE, Marks AR, Zhao WK, Lee JK, Ghai NR, Schneider JL, Fireman BH, Quesenberry CP, Corley DA. Adjusting for patient demographics has minimal effects on rates of adenoma detection in a large, community-based setting. *Clin Gastroenterol Hepatol*. 2015 Apr;13(4):739-46.

**eTable 1.** Distribution of Physicians and the Sex and Age of Their Patients Whose Screening Colonoscopies Were Used as the Basis for ADR Calculations Across ADR Categories in 2010-2016

ADR category	Physicians		No. of screening colonoscopies per physician per year used as the basis for ADR calculations		Sex and age distribution of patients whose screening colonoscopies were used as the basis for ADR calculations			
	N <sup>1</sup>	ADR years, N	Mean (SD)	Median (IQR)	All, N	Men, N (%)	Age, Mean (SD)	Age, Median (IQR)
Overall	383	1820	195.9 (133.8)	162 (97-262)	356599	169738 (47.60)	58.9 (8.4)	58 (52-65)
<20%	132	343	228.2 (164.4)	186 (104-301)	78269	37236 (47.57)	58.8 (8.4)	58 (52-65)
20-24.9%	160	313	222.4 (140.5)	196 (109-316)	69606	33091 (47.54)	58.9 (8.4)	58 (52-65)
25-29.9%	179	335	195.2 (125.2)	169 (99-257)	65377	31174 (47.68)	59.1 (8.5)	58 (52-65)
30-34.9%	178	296	186.7 (119.6)	161 (99-240)	55266	26041 (47.12)	59.0 (8.4)	58 (52-65)
35-39.9%	132	219	180.4 (114.6)	156 (94-233)	39509	18644 (47.19)	58.9 (8.3)	58 (52-65)
40-44.9%	100	158	156.8 (99.6)	137 (82-192)	24767	11923 (48.14)	59.0 (8.3)	58 (52-65)
45-49.9%	65	92	154.4 (111.5)	129 (84-184)	14206	6877 (48.41)	58.8 (8.3)	58 (52-65)
≥50%	42	64	150.0 (123.5)	107 (65-190)	9599	4752 (49.51)	58.7 (8.2)	58 (52-65)

Abbreviations: ADR, adenoma detection rate; SD, standard deviation; IQR, interquartile range.

<sup>1</sup>Overall number of physicians (383) doesn't correspond to the total number of physicians across ADR categories because a physician could have different ADRs in different years and therefore could be represented multiple times in the same ADR category and/or represented in multiple ADR categories.

**eTable 2.** Associations Between Physician Adenoma Detection Rate and Risk of Postcolonoscopy Colorectal Cancer and Related Death

<i>Outcome / Model</i>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>	<b>Comparative Absolute Risk</b>
<b>PCCRC</b>							
8-group ADR Model							
	<20%	166650	209	579842	3.60	1.00 (REF)	0 (REF)
	20-24.9%	153253	139	485923	2.86	0.82 (0.67-1.00)	-5.1
	25-29.9%	156944	116	473212	2.45	0.67 (0.52-0.85)	-9.7
	30-34.9%	132983	67	345117	1.94	0.58 (0.44-0.75)	-12.3
	35-39.9%	99414	37	264635	1.40	0.41 (0.29-0.59)	-17.0
	40-44.9%	70809	27	154009	1.75	0.52 (0.35-0.78)	-14.0
	45-49.9%	43759	16	83538	1.92	0.63 (0.38-1.02)	-10.9
	≥50%	28812	8	49430	1.62	0.53 (0.25-1.12)	-13.8
Dichotomized ADR Model							
	<28.3%	428561	433	1396448	3.10	1.00 (REF)	0 (REF)
	≥28.3%	424063	186	1039259	1.79	0.61 (0.52-0.73)	-12.2
Continuous ADR Model							
	Per 1% ADR	852624	619	2435707	2.54	0.97 (0.96-0.98)	NA
<b>PCCRC-related Deaths</b>							
8-group ADR Model							
	<20%	166650	13	580306	0.22	1.00 (REF)	0 (REF)
	20-24.9%	153253	11	486195	0.23	1.07 (0.52-2.22)	-5.1
	25-29.9%	156944	8	473441	0.17	0.77 (0.30-2.00)	-9.7
	30-34.9%	132983	1	345253	0.03	0.16 (0.02-1.16)	-12.3
	35-39.9%	99414	1	264718	0.04	0.21 (0.03-1.54)	-17.0
	40-44.9%	70809	1	154061	0.06	0.38 (0.05-2.76)	-14.0
	45-49.9%	43759	1	83575	0.12	0.82 (0.11-6.06)	-10.9
	≥50%	28812	0	49445	0.00	0.00 (0.00-0.00)	-13.8
Dichotomized ADR Model							
	<28.3%	428561	31	1397355	0.22	1.00 (REF)	0 (REF)
	≥28.3%	424063	5	1039640	0.05	0.26 (0.11-0.65)	-1.2
Continuous ADR Model							
	Per 1% ADR	852624	36	2436995	0.15	0.95 (0.92-0.99)	NA

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, physician adenoma detection rate; CI, confidence interval; REF, referent group; NA, not applicable.

<sup>a</sup>Unadjusted (crude) PCCRC rate and PCCRC-related death rate are per 10 000 person-years of follow-up.

<sup>b</sup>Hazard ratios were adjusted for patient sex; race and ethnicity; age; body mass index; Charlson comorbidity score; health system site; colonoscopy year; and indication for the colorectal cancer-negative colonoscopy.

**eTable 3.** Associations Between Physician Adenoma Detection Rate and Risk of Postcolonoscopy Colorectal Cancer, by Patient Sex

<b>Group / Model</b>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>
<b>Men</b>						
8-group ADR Model						
	<20%	80676	119	276940	4.30	1.00 (REF)
	20-24.9%	73812	73	230271	3.17	0.77 (0.58-1.01)
	25-29.9%	75727	62	224525	2.76	0.64 (0.47-0.87)
	30-34.9%	64045	39	163117	2.39	0.61 (0.42-0.87)
	35-39.9%	48006	17	125525	1.35	0.35 (0.21-0.58)
	40-44.9%	34043	11	72907	1.51	0.39 (0.22-0.67)
	45-49.9%	21481	5	40337	1.24	0.35 (0.15-0.82)
	≥50%	14447	6	24532	2.45	0.70 (0.28-1.72)
Continuous ADR Model						
	Per 1% ADR	412237	332	1158153	2.87	0.97 (0.96-0.98)
<b>Women</b>						
8-group ADR Model						
	<20%	85968	90	302884	2.97	1.00 (REF)
	20-24.9%	79433	66	255626	2.58	0.89 (0.63-1.26)
	25-29.9%	81212	54	248674	2.17	0.70 (0.50-0.99)
	30-34.9%	68934	28	181997	1.54	0.54 (0.35-0.83)
	35-39.9%	51403	20	139098	1.44	0.49 (0.31-0.79)
	40-44.9%	36763	16	81100	1.97	0.68 (0.37-1.24)
	45-49.9%	22277	11	43201	2.55	0.98 (0.57-1.70)
	≥50%	14362	2	24897	0.80	0.30 (0.07-1.29)
Continuous ADR Model						
	Per 1% ADR	440352	287	1277475	2.25	0.98 (0.97-0.99)

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, physician adenoma detection rate; CI, confidence interval; REF, referent group.

<sup>a</sup>Unadjusted (crude) PCCRC rate and PCCRC-related death rate are per 10 000 person-years of follow-up.

<sup>b</sup>Hazard ratios were adjusted for race and ethnicity; age; body mass index; Charlson comorbidity score; health system site; colonoscopy year; and indication for the colorectal cancer-negative colonoscopy.

**eTable 4.** Associations Between Physician Adenoma Detection Rate and Risk of Postcolonoscopy Colorectal Cancer, by Patient Race and Ethnicity

<b>Outcome / Model</b>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>
<b>Asian or Pacific Islander</b>						
8-group ADR Model						
	<20%	21396	18	74031	2.43	1.00 (REF)
	20-24.9%	19988	11	65008	1.69	0.71 (0.34-1.49)
	25-29.9%	21921	13	69369	1.87	0.75 (0.37-1.55)
	30-34.9%	18186	10	49271	2.03	0.95 (0.45-2.03)
	35-39.9%	15133	6	42966	1.40	0.66 (0.26-1.70)
	40-44.9%	10944	5	24256	2.06	1.06 (0.39-2.87)
	45-49.9%	7240	1	13488	0.74	0.44 (0.06-3.42)
	≥50%	4428	0	8358	0.00	0.00 (0.00-0.00)
Continuous ADR Model						
	Per 1% ADR	119236	64	346747	1.85	0.99 (0.97-1.02)
<b>Black</b>						
8-group ADR Model						
	<20%	14897	17	55057	3.09	1.00 (REF)
	20-24.9%	14330	10	44324	2.26	0.75 (0.36-1.57)
	25-29.9%	16761	12	50936	2.36	0.75 (0.32-1.74)
	30-34.9%	14556	9	39259	2.29	0.81 (0.40-1.67)
	35-39.9%	9804	3	24217	1.24	0.39 (0.12-1.30)
	40-44.9%	5319	0	10875	0.00	0.00 (0.00-0.00)
	45-49.9%	2660	0	4988	0.00	0.00 (0.00-0.00)
	≥50%	1871	0	2973	0.00	0.00 (0.00-0.00)
Continuous ADR Model						
	Per 1% ADR	80198	51	232629	2.19	0.97 (0.94-0.996)
<b>Hispanic</b>						
8-group ADR Model						
	<20%	37586	34	127207	2.67	1.00 (REF)
	20-24.9%	37779	31	111696	2.78	1.09 (0.66-1.79)
	25-29.9%	30716	15	86954	1.73	0.59 (0.31-1.13)
	30-34.9%	27887	9	68998	1.30	0.49 (0.24-0.99)
	35-39.9%	21899	1	59483	0.17	0.06 (0.01-0.42)
	40-44.9%	12786	3	27163	1.10	0.37 (0.11-1.19)
	45-49.9%	7729	3	14608	2.05	0.70 (0.25-1.98)
	≥50%	4572	1	8370	1.19	0.39 (0.05-2.78)
Continuous ADR Model						
	Per 1% ADR	180954	97	504479	1.92	0.96 (0.94-0.98)

**eTable 4.** Associations Between Physician Adenoma Detection Rate and Risk of Postcolonoscopy Colorectal Cancer, by Patient Race and Ethnicity (continued)

<b>Outcome / Model</b>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>
<b>White</b>						
8-group ADR Model						
	<20%	89127	138	312019	4.42	1.00 (REF)
	20-24.9%	77989	87	255715	3.40	0.78 (0.62-1.00)
	25-29.9%	83983	75	256345	2.93	0.66 (0.50-0.87)
	30-34.9%	69305	37	180449	2.05	0.50 (0.35-0.70)
	35-39.9%	50319	27	132359	2.04	0.49 (0.33-0.72)
	40-44.9%	40142	19	88416	2.15	0.54 (0.32-0.89)
	45-49.9%	25083	12	48640	2.47	0.68 (0.35-1.33)
	≥50%	17248	7	28568	2.45	0.70 (0.30-1.61)
Continuous ADR Model						
	Per 1% ADR	453196	402	1302511	3.09	0.97 (0.96-0.98)
<b>Other<sup>c</sup></b>						
8-group ADR Model						
	<20%	3644	2	11527	1.74	1.00 (REF)
	20-24.9%	3167	0	9179	0.00	0.00 (0.00-0.00)
	25-29.9%	3563	1	9608	1.04	0.36 (0.03-4.73)
	30-34.9%	3049	2	7140	2.80	1.43 (0.43-4.77)
	35-39.9%	2259	0	5611	0.00	0.00 (0.00-0.00)
	40-44.9%	1618	0	3300	0.00	0.00 (0.00-0.00)
	45-49.9%	1047	0	1814	0.00	0.00 (0.00-0.00)
	≥50%	693	0	1160	0.00	0.00 (0.00-0.00)
Continuous ADR Model						
	Per 1% ADR	19040	5	49339	1.01	0.96 (0.90-1.02)

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, physician adenoma detection rate; CI, confidence interval; REF, referent group.

<sup>a</sup>Unadjusted (crude) PCCRC rate and PCCRC-related death rate are per 10 000 person-years of follow-up.

<sup>b</sup>Hazard ratios were adjusted for patient sex; age; body mass index; Charlson comorbidity score; health system site; colonoscopy year; and indication for the colorectal cancer-negative colonoscopy.

<sup>c</sup>Other includes Native American, Alaska Native, those who reported multiple races and/or ethnicities, and those who reported race and/or ethnicity as other, not otherwise specified.



**eTable 5.** Associations Between Physician Adenoma Detection Rate and Risk of Proximal and Distal Postcolonoscopy Colorectal Cancer

<b>Outcome / Model</b>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>
<b>Proximal Disease Location<sup>c</sup></b>						
8-group ADR Model						
	<20%	166540	99	579470	1.71	1.00 (REF)
	20-24.9%	153187	73	485709	1.50	0.91 (0.68-1.22)
	25-29.9%	156888	60	473045	1.27	0.72 (0.53-0.99)
	30-34.9%	132962	46	345054	1.33	0.82 (0.59-1.16)
	35-39.9%	99400	23	264601	0.87	0.54 (0.34-0.84)
	40-44.9%	70798	16	153981	1.04	0.63 (0.38-1.06)
	45-49.9%	43754	11	83528	1.32	0.88 (0.44-1.77)
	≥50%	28809	5	49422	1.01	0.67 (0.28-1.60)
Continuous ADR Model						
	Per 1% ADR	852338	333	2434811	1.37	0.98 (0.97-0.996)
<b>Distal Disease Location</b>						
8-group ADR Model						
	<20%	166538	97	579508	1.67	1.00 (REF)
	20-24.9%	153176	62	485682	1.28	0.80 (0.59-1.08)
	25-29.9%	156882	54	473019	1.14	0.68 (0.48-0.98)
	30-34.9%	132936	20	344998	0.58	0.38 (0.24-0.62)
	35-39.9%	99390	13	264566	0.49	0.32 (0.19-0.55)
	40-44.9%	70790	8	153952	0.52	0.35 (0.19-0.67)
	45-49.9%	43747	4	83509	0.48	0.36 (0.16-0.82)
	≥50%	28807	3	49424	0.61	0.46 (0.15-1.43)
Continuous ADR Model						
	Per 1% ADR	852266	261	2434657	1.07	0.96 (0.95-0.97)

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, physician adenoma detection rate; CI, confidence interval; REF, referent group.

<sup>a</sup>Unadjusted (crude) PCCRC rate and PCCRC-related death rate are per 10 000 person-years of follow-up.

<sup>b</sup>Hazard ratios were adjusted for patient sex; race and ethnicity; age; body mass index; Charlson comorbidity score; health system site; colonoscopy year; and indication for the colorectal cancer-negative colonoscopy.

Proximal location was defined as the cecum, ascending colon, hepatic flexure, and transverse colon; distal location was defined as the splenic flexure, descending colon, sigmoid colon, and rectum.

**eTable 6.** Associations Between Physician Adenoma Detection Rate and Risk of Early- and Advanced-stage Disease

<b>Outcome / Model</b>	<b>ADR</b>	<b>No. of Cancer-negative Colonoscopies</b>	<b>No. of PCCRC Cases</b>	<b>Person-Years</b>	<b>Crude Rate<sup>a</sup></b>	<b>Adjusted<sup>b</sup> Hazard Ratio (95% CI)</b>
<b>Early Stage</b>						
8-group ADR Model						
	<20%	166569	128	579568	2.21	1.00 (REF)
	20-24.9%	153197	83	485751	1.71	0.80 (0.60-1.07)
	25-29.9%	156887	59	473032	1.25	0.55 (0.38-0.80)
	30-34.9%	132958	42	345039	1.22	0.59 (0.41-0.84)
	35-39.9%	99400	23	264598	0.87	0.41 (0.26-0.66)
	40-44.9%	70798	16	153981	1.04	0.49 (0.29-0.82)
	45-49.9%	43755	12	83535	1.44	0.74 (0.37-1.47)
	≥50%	28811	7	49427	1.42	0.72 (0.32-1.61)
Continuous ADR Model						
	Per 1% ADR	852375	370	2434931	1.52	0.97 (0.96-0.99)
<b>Advanced Stage</b>						
8-group ADR Model						
	<20%	166519	78	579440	1.35	1.00 (REF)
	20-24.9%	153169	55	485649	1.13	0.87 (0.63-1.21)
	25-29.9%	156884	56	473033	1.18	0.87 (0.62-1.24)
	30-34.9%	132939	23	345011	0.67	0.54 (0.33-0.89)
	35-39.9%	99391	14	264571	0.53	0.43 (0.25-0.76)
	40-44.9%	70793	11	153957	0.71	0.60 (0.32-1.15)
	45-49.9%	43747	4	83504	0.48	0.45 (0.18-1.13)
	≥50%	28805	1	49419	0.20	0.20 (0.03-1.50)
Continuous ADR Model						
	Per 1% ADR	852247	242	2434584	0.99	0.97 (0.96-0.99)

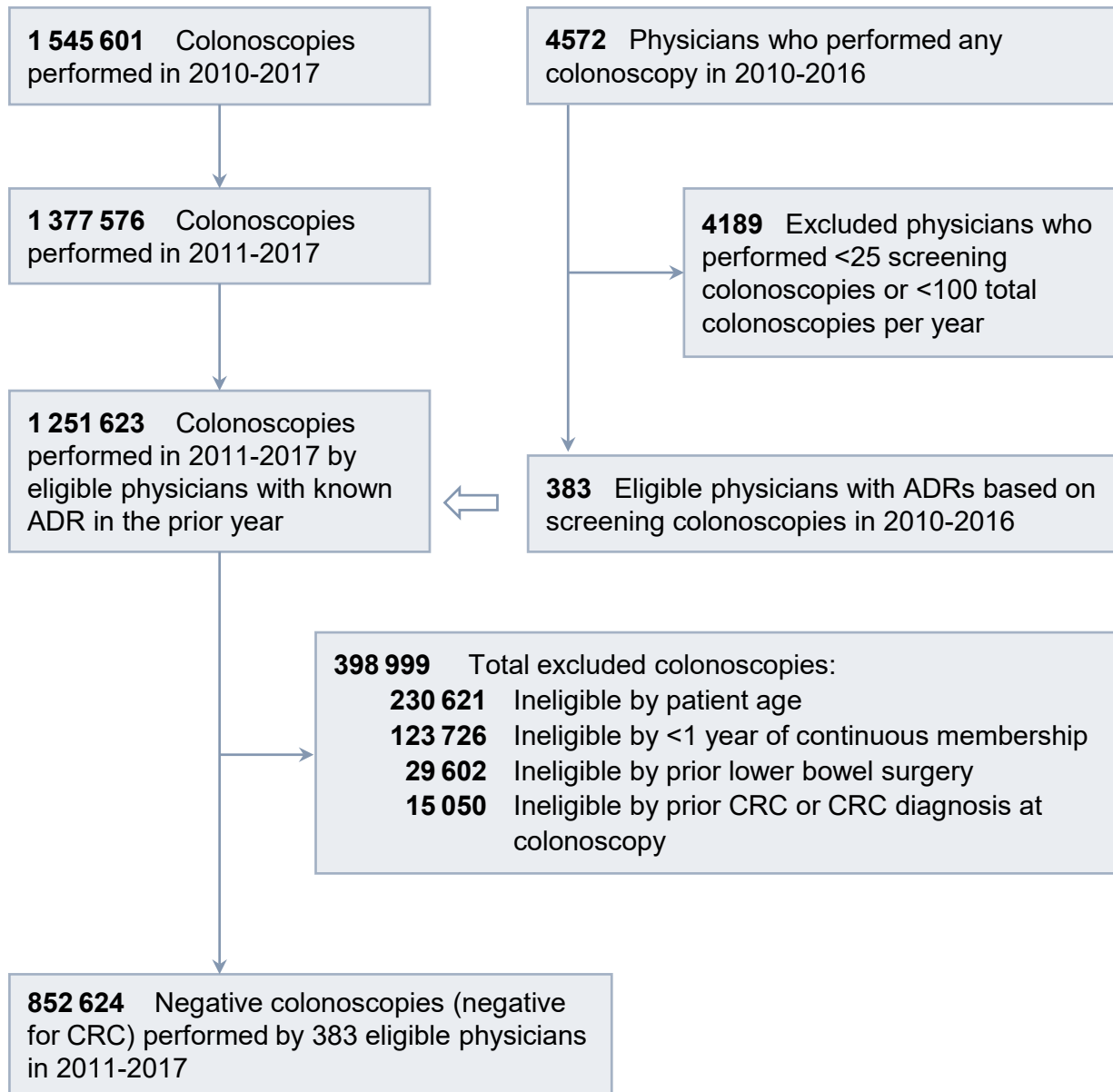
Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, physician adenoma detection rate; CI, confidence interval; REF, referent group.

<sup>a</sup>Unadjusted (crude) PCCRC rate and PCCRC-related death rate are per 10 000 person-years of follow-up.

<sup>b</sup>Hazard ratios were adjusted for patient sex; race and ethnicity; age, body mass index, and Charlson comorbidity score; health system site; colonoscopy year; and indication for the colorectal cancer-negative colonoscopy.

Colorectal cancer stage was defined using Surveillance, Epidemiology and End Results (SEER) summary staging (early stage: in situ, localized, or regional with direct extension only; advanced stage: regional or distant).

**eFigure 1.** Cohort Eligibility Flow Diagram



Abbreviations: ADR, adenoma detection rate; CRC, colorectal cancer; GI, gastrointestinal

**eFigure 2.** Screening Colonoscopies: Postcolonoscopy Colorectal Cancer Cumulative Incidence Stratified by Physician Adenoma Detection Rate Group

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, adenoma detection rate.

**eFigure 3.** Diagnostic Colonoscopies: Postcolonoscopy Colorectal Cancer Cumulative Incidence Stratified by Physician Adenoma Detection Rate Group

Abbreviations: PCCRC, post-colonoscopy colorectal cancer; ADR, adenoma detection rate.