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Table	1:	Search strategies	5
TUDIC	т.	Jui un strategies	,

Search Engine	Terms used
EMBASE	#1 Fecal
	#2 faecal
	#3 feces
	#4 #1 OR #2 OR #3
	#5 'immunochemistry'/exp
	#6 immunochem*
	#7 #5 OR #6
	#8 #4 AND #7
	#9 fit:ab,ti
	#10 guaiac:ab,ti
	#11 'occult blood'
	#12 fobt*
	#13 fob*
	#14 ifobt
	#15 ifob*
	#16 #6 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13
	OR #14 OR #15
	#17 insure
	#18 inform
	#19 #17 OR #18
	(insure OR inform)
	#20 #16 AND #19 AND (insure OR inform)
	#21 'instant view'
	#22 hemoccult
	#23 immocare
	#24 flexsure
	#25 monohaem

#26 hemosure
#27 occultech
#28 quickvue
#29 clearview
#30 hemoquant
#31 'hema screen'
#32 innovacon
#33 'oc micro'
#34 'oc sensor'
#35 'oc hemodia'
#36 'oc light'
#37 aimstep
#38 magstream
#39 immudia
#40 #16 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32
OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39
#41 'predictive value'/de
#42 'sensitivity and specificity'/de
#43 'laboratory diagnosis'/exp
#44 'reproducibility'/de
#45 'reference value'/de
#46 'diagnostic error'/exp 🛁
#47 'diagnostic test accuracy study'/de
#48 'diagnostic accuracy'/de
#49 'diagnostic value'/de
#50 'standard'/de
#51 'gold standard'/de
#52 'observer variation'/de
#53 'health care quality'/de
#54 'biomedical technology assessment'/de
#55 'clinical effectiveness'/de

#56 'clinical indicator'/de
#57 'medical error'/exp
#58 'root cause analysis'/de
#59 'good laboratory practice'/de
#60 'validation process'/de
#61 sensitiv*:ab,ti
#62 specificit*:ab,ti
#63 'predictive value':ab,ti
#64 accurac*:ab,ti
#65 (false NEXT/1 positive*):ab,ti
#66 (false NEXT/1 negative*):ab,ti
#67 (miss NEXT/1 rate*):ab,ti
#68 (error NEXT/1 rate*):ab,ti
#69 (detection NEXT/1 rate*):ab,ti
#70 (diagnostic NEXT/1 yield*):ab,ti
#71 (likelihood NEXT/1 ratio*):ab,ti
#72 'odds ratio':ab,ti AND diagnosis:ab,ti
#73 risk:ab,ti AND diagnosis:ab,ti
#74 'diagnostic odds ratio':ab,ti OR'diagnostic odds ratios':ab,ti
#75 'diagnostic accuracy'
#76 'reference standard':ab,ti OR 'reference standards':ab,ti
#77 #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54
OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68
OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76
#78 #40 AND #77
#79 'colon tumor'/exp
#80 'rectum tumor'/exp
#81 'intestine polyp'/exp
#82 'colon polyp'/exp
#83 'colon cancer':ab,ti
#84 'colonic cancer':ab,ti

	#85 'colorectal cancer':ab,ti
	#86 'colon neoplasm':ab,ti
	#87 'colonic neoplasm':ab,ti
	#88 'colorectal neoplasm':ab,ti
	#89 adenoma*:ab,ti
	#90 'colon polyp':ab,ti
	#91 'colonic polyp':ab,ti
	#92 'colorectal polyp':ab,ti
	#93 #79 OR #80 OR #81 OR #82 OR #83 OR #84 OR
	#85 OR #86 OR #87 OR #88 OR #89 OR #90 OR #91 OR #92
	#94 #78 AND #93
	#95 #78 AND #93 AND [english]/lim
	#96 #78 AND #93 AND [english]/lim NOT ([animals]/lim NOT ([humans]/lim OR 'patient'/exp))
	#97 #78 AND #93 AND [english]/lim NOT ([animals]/lim NOT ([humans]/lim OR 'patient'/exp)) NOT 'conference
	abstract'/it
	#98 #78 AND #93 AND [english]/lim NOT ([animals]/lim NOT ([humans]/lim OR 'patient'/exp)) NOT'conference
	abstract'/it AND [2008-2012]/py
Pubmed	(((((immunochemi* OR FIT OR guaiac OR "occult blood" OR FOBT* OR FOB* OR ifobt OR iFOB*) OR
	((immunochemi* OR FIT OR guaiac OR "occult blood" OR FOBT* OR FOB* OR ifobt OR iFOB*) AND (insure OR
	inform)) OR ("Instant-view" OR instant view OR hemoccult OR immocare OR flexure OR monohaem OR
	hemopure OR occlutech OR quickvue OR clearview OR hemoquant OR "Hema screen" OR hema-screen OR
	innovation OR oc-micro OR "OC Micro" OR oc-sensor OR "OC Sensor" OR "OC-Hemodia" OR "OC Hemodia OR "
	oc-light "OR " oc light OR kimstep OR mainstream OR immudia)) AND ("2008/01/01"[PDat] :
	"2012/12/31"[PDat]))) AND ((((("predictive value of tests"[mh] OR "Sensitivity and specificity"[mh] OR "False
	Negative Reactions"[mh] OR "False Positive Reactions"[mh] OR "Reproducibility of Results"[mh] OR "Reference
	Values"[mh] OR "Diagnostic Errors"[mh] OR "Reference Standards"[mh] OR "Observer Variation"[mh] OR
	"Quality Assurance, Health Care" [mh] OR standards [sh] OR sensitiv* [tiab] OR specificit* [tiab] OR predictive
	value[tiab] OR accurac*[tiab] OR false positive*[tiab] OR false negative*[tiab] OR miss rate*[tiab] OR error
	rate*[tiab] OR detection rate*[tiab] OR diagnostic yield*[tiab] OR likelihood ratio*[tiab] OR ("odds ratio" AND
	diagnosis[sh]) OR "diagnostic odds ratio" [tiab] OR "diagnostic odds ratios" [tiab])) AND ((("Colorectal
	Neoplasms"[mh] OR "Colonic Neoplasms"[mh] OR "Sigmoid Neoplasms"[mh] OR "Rectal Neoplasms"[mh] OR

"Intestinal Polyps" [mh] OR "Colonic Polyps" [mh] OR "colon cancer" [all fields] OR "colonic cancer" [all fields] OR
"colorectal cancer" [all fields] OR "colon neoplasm" [all fields] OR "colonic neoplasm" [all fields] OR "colorectal
neoplasm"[all fields] OR adenoma*[all fields] OR "colon polyp"[all fields] OR "colonic polyp"[all fields] OR
"colorectal polyp"[all fields] OR"colon cancers"[all fields] OR "colonic cancers"[all fields] OR "colorectal
cancers"[all fields] OR "colon neoplasms"[all fields] OR "colonic neoplasms"[all fields] OR "colorectal
neoplasms"[all fields] OR"colon polyps"[all fields] OR "colonic polyps"[all fields] OR "colorectal polyps"[all
fields])) Filters: Publication date from 2012/01/01 to 2018/05/30 Sort by: PublicationDate

Jon neopias... ("colon polyps"[all fields] c... ion date from 2012/01/01 to 2018/05/5c -

Table 2: Studies identified by systematic review as eligible that were subsequently included or excluded for systematic review. Exclusions to avoid overlap of study populations

Author	Year	Journal	Country	Included?
Symonds	2015	Clin Gastro Hep	Australia	No
Symonds	2015	Unit Eur Gastro J	Australia	Yes
Wong	2012	Int J Colo Dis	Canada	Yes
Huang	2016	Eur J Cancer	China	No
Launoy	2005	Int J Cancer	France	Yes
Graser	2008	Gut	Germany	Yes
Brenner	2010	Am J Gastro	Germany	No
Brenner	2013	Eur J Cancer	Germany	Yes
Brenner, H	2013	Eur J Cancer	Germany	No
Тао	2013	Aocologica	Germany	No
Chen, H	2016	Clin Gastro Hep	Germany	Yes
Brenner, H	2017	Int J Can	Germany	No
Brenner	2017	Clin Epid	Germany	No
Brenner	2017	Clin Trans Gastro	Germany	No
Brenner	2017	Int J Cancer	Germany	No
Brenner	2018	Clin Epid	Germany	No
Gies	2018	Gastroenterology	Germany	Yes
Levi	2007	Ann Int Med	Israel	Yes
Levi	2011	Int J Cancer	Israel	Yes
Castiglione	2007	Brit J Cancer	Italy	Yes
Itoh	1996	JMedSc	Japan	Yes
Nakama	2001	Eur J Cancer	Japan	Yes
Morikawa	2005	Gastroenterology	Japan	Yes
Nakazato	2006	Jap Med J	Japan	Yes
Sohn	2005	Can Res Treat	Korea	Yes
Park	2010	Am J Gastro	Korea	Yes
Shin	2013	PLoS One	Korea	Yes
Lee	2015	Clin Chem Lab M	Korea	Yes

Kim, N 2016	Dig Dis Sci	Korea	Yes
Jung 2017	J Gastro Hepat	Korea	No
Kim, N 2017	Dig Liver Dis	Korea	Yes
De 2012	Am J Gastro	Netherlands	Yes
Stogomon 2012	Int I Cancor	Nothorlands	No
Stegeman 2015	Cancer Eni	Netherlands	No
Vlaugala 2015		Netherlands	No
Vieugels 2013	Gastroenterology	Netherlands	No
Crabbas 2017	Gastroenterology	Netherlands	
Grobbee 2017	Unit Eur Gastro J	Netherlands	
Haug 2017	Gut	Netherlands	Yes
VanderVlugt 2017	Gastroenterology	Netherlands	Yes
Hernandez 2012	Gastroenterology	Spain	No
Cubiella 2013	Unit Eur Gastro J	Spain	No
Castro 2014	Dig Dis Sci	Spain	No
Cubiella 2014	Unit Eur Gastro J	Spain	No
Hernandez 2014	World J Gastro	Spain	Yes
Castro 2015	Dig Dis Sci	Spain	No
Liu 2003	Hepato-Gastro	Taiwan	Yes
Chen, L 2011	Lancet Onc	Taiwan	Yes
Chiu 2013	Clin Gastro Hep	Taiwan	No
Chen, Y 2014	Adv Dig Med	Taiwan	No
Chen, C 2016	Medicine	Taiwan	Yes
Chen 2018	C Epi Bio Prev	Taiwan	Yes
Aniwan 2017	Asia Pac J Canc	Thailand	Yes
Imperiale 2014	NEJM	USA	Yes
Johnson 2014	PLoS One	USA	Yes
Mzsliwiec 2014	Gastroenterology	USA	No
Doubeni 2016	JABFM	USA	No
Jensen 2016	Ann Int Med	USA	Yes
Redwood 2016	Mayo Cl Proc	USA	Yes
Chamina 2017			

Liles	2018	BMC Cancer	USA	Yes
Selby	2018	Ann Int Med	USA	Yes

Journal Pre-proof

Table 3: Studies used to create pooled estimates of cancer and advanced adenoma prevalence, subsequently utilized to estimate prevalence from a theoretical cohort of 100,000 patients

			Total					Without
			screened		Number	Number		cancer or
		Total	advanced	Positive	of	advanced	Without	advanced
Author	Year	screened	adenomas	tests	cancers	adenomas	cancer	adenoma
Itoh	1996	27860		1490	89		27771	
Nakama	2000	2460		175	27		2433	
Liu	2003	1387		31	6		1381	
Morikawa	2005	21805	21805	1231	79	648	21726	21078
Sohn	2005	3794	3794	53	12	67	3782	3715
Nakazato	2006	3090		404	19		3071	
Levi	2007	80	80	15	3	15	77	62
Graser	2009	285	285	45	1	24	284	260
Park	2010	770	770	86	13	59	757	698
Wong	2012	1075	1075	94	2	67	1073	1006
De Wijkerslooth	2012	1256	1256	71	8	113	1248	1135
Brenner	2013	2235	2235	110	15	207	2220	2013
Hernandez	2014	779	779	55	5	92	774	682
Johnson	2014	193	193	6	2	25	191	166
Imperiale	2014	9989	9989	695	65	757	9924	9167
Lee	2015	1397	1397	72	14	7	1383	1376
Chen	2016	3466	3466	370	29	354	3437	3083
Shapiro	2017	947	947	28	2	53	945	892
Aniwan	2017	1479	1479	108	14	123	1465	1342
Kim	2017	26316	26316	805	16	154	26300	26146
Liles	2018	2761	2761	116	2	209	2759	2550
		85564	78627	4570	334	2974	85230	75371

CRC prev 0.390% AA prev 3.782%

Figure 1: PRISMA flow chart detailing study selection



#	Author, Year (Ref)	FIT Brand and details	Setting and Study Design	Reference/Gold Standard	Inclusion/Exclusion Criteria	Patient Characteristics	Prevalence of CRC, AN, AA	FIT Positivity Rate	CRC Sensitivity (95% CI)	CRC Specificity (95% Cl)	AA definition	AA Sensitivity (95% Cl)	CRC+AA Specificity (95% Cl)	Comments and Applicability
1	Itoh, 1996	OC-Hemodia Cut-off: 10 μg/g 1 sample	Japan Asymptomatic patients 40 or older who worked for corporations participating in colorectal screening program were invited during 1991-1992. Diagnostic cohort design Enrollment order: consecutive Dates of recruitment: 1991-1992	Colonoscopy for FIT-positive patients and 2- year follow-up for FIT-negative patients FIT-negative patients were followed through health insurance claims and re- screened at 2 years. All treated cases, regardless of site for treatment, could be identified because all medical expenses are incurred by a single health insurance organization Blinding: Endoscopists were not blinded to the FIT results Interval between FIT and colonoscopy: Usually less than 2 months	Inclusion: Patients aged 40-59; employee of corporations that took part in CRC screening program Exclusion: symptoms of melena, hematochezia, diarrhea, relevant changes in stool frequency or abdominal pain. Prior colonoscopy within 5 years, family history for CRC, personal history of IBD or HNPCC	N: 27,860 Mean Age: 45.2 Age range: 40- 59 years old Age <40: 0% Age >80: 0% Males: 86.1% (calc)	CRC 89/27860 0.3%	1490/27860 5.3%	77/89 86.5% (78- 92)	26358/27771 94.9% (94.6- 95.2)	Not included in an	alysis		OC-Hemodia has been discontinued and is no longer in production. Fairly young population as mean age is 45. Overall, population appears to be an asymptomatic, primary care population. Women are under- represented. Funding: NR Did not stratify by age or sex
2	Nakama, 2001	OC-Hemodia Cut-off: 10, 30, and 60 μg/g 4 samples	Japan Patients who participated in medical check- up for CRC between 04/90- 03/99	Colonoscopy for all patients	Inclusion: Asymptomatic patients aged over 40 years who participated in a medical check-up for colorectal cancer between 04/90-03/99 Exclusion: not stated	N = 4260 Age: 40-49: 27.1% 50-59: 35.8% 60-69: 21.8% 70+: 15.2% Calculated mean: 57.2 Male: 46.5%	27/4260 0.6%	At 150 ng/ml: 175/4260 4.1%	22/27 81.5%	4080/4233 96.4%	Adenomatous polyp > 1 cm		4059/4204 96.6%	Including participants with a family history of CRC Funding: government Did not stratify by age or sex
3	Liu, 2003	OC-Hemodia	Taiwan	Colonoscopy on all	Exclusion: Patients	N = 1387	CRC 6/1387	31/1387	3/6 50%	1353/1381	Polyp > 1 cm	6/37	1322/1344	Exact number of

Table 4: Detailed information for included studies

		Cut-off:		natients	undergoing only		0.43%	2.2%		98.0%		16.2%	98.4%	natients <40
		procumphly 20	One center	putiento	unidirectional	Moon ago:	011070	2.275		50.070		10.270	50.170	uncloar Fow
			One center		andoscopy [oply	101ean age.	AA 27/1207							dotails about
		hg/g	Dotionto			40.2 +/- 12.1	AA 57/1567							
		Numbers	Patients		colonoscopy]; gross	years	2.7%							performance of
		Number of	participated in		gastrointestinal									OC-Hemodia (I.e.
		samples and cut-	medical check-		bleeding, anal-rectal	Male: 47%								blinding, etc.).
		off not specified,	up and agreed to		bleeding or gross									
		only "per	get both		blood on digital									Funding: NR
		manufacturer's	colonoscopy and		examination, previous									
		instructions"	upper		history of a known									Did not stratify
			endoscopy		gastrointestinal									by age or sex.
					bleeding lesion.									, 0
			Dates of		gastrointestinal									
			recruitment:		cancer previous									
			12/07 11/00		cancer, previous									
			12/9/-11/99		gastionitestinal									
					surgery, Inflammatory									
					bowel disease, and									
					premenopausal									
					females with iron									
					deficiency anemia.									
4	Morikawa,	Magstream	Japan	Colonoscopy for	Inclusion:	After	CRC	1231/21805	52/79	20547/21726	Advanced	145/648	20044/21078	Magstream
	2005	1000/Hem Sp		all patients	Asymptomatic	exclusion: N =	79/21805	5.6%	65.8% (55-	94.6% (94.3-	colonic	22%	95.1%	HemSp is not
		Cut-off: 67 ug/g	22.666	regardless of FIT	patients that	21.805	0.4%		76)	94.9)	neoplasia was			FDA approved
		1.0,0	asymptomatic	results.	voluntarily agreed to	,			-,	/	defined as			and is not
		Quantitative FIT	nts were		FIT and colonoscopy	Mean age:	АА				adenomas 10			available in the
		(magnetic	consecutively	Blinding	for CBC screening	18.2 ± 1.03	648/21805				mm or more in			LIS However it is
		Inagricuic	enrolled to	Endessenists work	for ene screening	40.2 1/ 5.5	2.00/				diamatar			ousilable in
		particle	enrolled to	Endoscopists were	Fuel and a patients	years	3.0%				ulameter,			
		aggiutination)	perform 1	blinded to the FIT	Exclusion: Patients						adenomas with			Australia and
			sample FIT and	results	who reported	Age <40:					high-grade			several other
		1-sample, FIT	colonoscopy at		symptoms of disease	18.8%					dysplasia, or			countries.
			Kameda General	Interval between	of the lower GI tract						invasive			
			Hospital or	FIT and	including visible rectal	Age >80:					cancer.			Fairly young
			Kameda	colonoscopy: less	bleeding, recent	0.07%					Therefore AA =			population as
			Makuhari Clinic	than 2 weeks,	change in bowel						AN – CRC			19% is <40 years
			between 1983-	participants	habits, or lower	Male: 72%								of age Overall,
			20002.	brought the	abdominal pain that									population
				collection tubes	normally would									annears to be an
1			Diagnostic	on the day of	require a medical									asymptomatic
1			cohort study	colonoscony and	evaluation Pts lacking									nrimary care
1			contrictury	the stool complex	sufficient info on the									population
1			Enrollmant	were cort to the	sumclent into on the									population.
1			Enrollment	were sent to the	polypola lesion were									Frankin er MD
			order:	lab within 24	also excluded.									Funding: NR
			consecutive	hours and tested										
1				immediately										Did not stratify
			Dates of											by age or sex
			recruitment:											
			1983-2002											
5	Launov, 2005	Magstream	France	Colonoscopy for	Inclusion: Patients	N: 7421	CRC 28/7421	434/7421	24/28	6983/7395	Not included in a	nalvsis		Magstream
Ĭ	,	1000/HemSp		FIT-nositive	aged 50-74 years old		0.38%	5.8%	85 7% (69-	94 5% (93 9-		.,		HemSn is not
1		Cut-off: 67 ug/g	Patients aged	natients and 2-	who were cooing their	Mean age:	0.0070	3.070	94)	95.0)				FDA approved
1		caron. or µg/g	50-74 yrs	year follow-up for	primary care	61 2 ±/- 0 9			541	55.07				and is not
		2 complex	ottonding a	FIT pogativo	philliary care	01.3 +/- 0.0								and is not
1		2 samples	accenting a	FIT-flegative	physician	years								
		with >= 1 above	regular	patients.										US. However, it is
1		67 μg/g	consultation		Exclusion:	Age range: 50-								available in

		considered positive	with their physician were invited to participate. Diagnostic cohort design Enrollment order: consecutive Dates of recruitment: 1/01-12/02	FIT-negative patients were followed through a cancer registry. Only followed up 5597/6987 (80.1%) for 2 years, so not a complete 2-year cancer registry follow-up. Blinding: Endoscopists were not blinded to the FIT results. Interval between FIT and colonoscopy: NR	symptomatic patients and patients who were not average-risk	74 years old Age: 50-54 20.9% 55-59 20.3% 60-64 19.8% 65-69 22.1% 70-74 26.8% Males: 43%	.0	.0 ⁶	5					Australia and several other countries. Overall, population appears to be an asymptomatic, average-risk primary care population. Funding: Caisse Nationale d'Assurance Maladie; Direction generale de la Sante; and Ligue contre le Cancer. FIT kits were supplied by the manufacturer
6	Sohn, 2005	OC-Hemodia Cut-off: 20 µg/g Quantitative FIT (optical latex agglutination technique) 1-sample FIT No diet or medication restriction Sample method: wet	Korea 3794 asymptomatic average risk screenees, and 304 CRC pts admitted to the National Cancer Center, Korea were studied prospectively	Colonoscopy for all patients regardless of FIT results Blinding: NR	Inclusion: Asymptomatic, average risk screenees, and 304 CRC pts admitted to the National Cancer Center, Korea from 5/01-11/02 were studied prospectively Exclusion: Subjects with a previous colorectal pathology such as CRC, or polyps, and who had a family history of FAP, HNPCC. Subjects with recent colorectal symptoms such as abdominal pain, diarrhea, constipation, and hematochezia. Also excluded failed colonoscopic exam or poor prep. Inclusion:	N = 3794 (screenee group) Mean age: 48.9 Age range 15- 78 years old Age <40: 18.2% Age >80: 0% Male: 56.7% N = 3090	CRC 12/3794 0.3% AA 67/3794 1.8%	1.4%	3/12 25% (8.9-53.2)	3732/3782 98.7% (98.3- 99.0) 2677/3071	High-risk adenomas were defined as adenomas with high grade dysplasia, a 10 mm or greater diameter or with at least 25% villous components.	4/67 6% (2-15)	3678/3727 99% (98-99) 2637/3018	Did not stratify by age or sex. OC-Hemodia has been discontinued and is no longer in production. Fairly young population as 18% is <40 years of age. Overall, population appears to be an asymptomatic, primary care population. Funding: NR Not stratified by age or sex
	2006	Cut-off: 16 µg/g		all patients	Asymptomatic adults		0.6%	13.1%	52.6%	87.2% (86.0-	adenoma > 10	25% (13-	87%	been

	Two sample with >1 of 2 samples with 16 μg/g considered a positive test	Cross-sectional analysis of asymptomatic adults who underwent a colonoscopy and a FIT in a single day Diagnostic cohort design Enrollment order: consecutive	regardless of FIT results Blinding: Endoscopists were blinded to the FIT results Interval between FIT and colonoscopy: Less than 1 month, but majority within 1 week	willing to undergo both a colonoscopy and FIT Exclusion: Personal history of CRC and colonoscopic treatment of colorectal neoplasm, history of altered bowel habits, rectal bleeding, IBD, FAP, HNPCC	Mean age: 53.4 +/- 8.2 years Age range: 25- 81 years old Age <40: 3.0% Age >80: 0.06% Male: 85%	AA 53/3,090 1.7%		(30.1-75.1)	88.4)	mm	36)		discontinued and is no longer in production. Fairly young population as 3% is <40 years of age. Overall, population appears to be an asymptomatic, primary care population. Funding: NR
		Dates of recruitment: 7/98-7/02					20						Did not stratify by age or sex
8 Levi, 2007	OC-Micro Cut-off: 15 µg/g 3 samples >= 1 of 3 samples with >= 15 µg/g considered a positive result 3 day collection, no restrictions	Israel 1000 consecutive ambulatory patients, some asymptomatic but at increased risk for CRC and some symptomatic. We only analyzed a subset of 80 asymptomatic, patients with a family history of CRC. Asymptomatic, above average- risk due to family history of CRC. Prospective, cross-sectional study design Enrollment order: consecutive Dates of	Colonoscopy for all patients regardless of FIT results. Blinding: Endoscopists were blinded to the FIT results Interval between FIT and colonoscopy: FIT samples were prepared one week prior to the colonoscopy	Inclusion: Referred for colonoscopy Exclusion: Concurrent hospitalization; visible rectal bleeding; IBD; hematuria; menstruation at time of stool specimen; inability to prepare FIT	N: 1000 Analyzing subset with family history (N = 80) Age: NR for subgroup Age range: NR Age <40: NR Age <40: NR Male: NR for subgroup	CRC 3/80 3.8% AA 15/80 18.8%	15/80 18.8%	2/3 66.7% (21-94)	64/77 83% (73-90)	>= 10 mm, villous histology, any high-grade dysplasia	8/15 53.3%	57/62 91.9%	OC-Micro is FDA approved and available in the US. It has been replaced by OC- Sensor. In addition, age was not reported in this subgroup and 100% of sample had a family history of CRC. Overall, population appears to be asymptomatic with slightly above average- risk primary care population. Funding: Eiken Chemical provided the instruments, reagents, and partial financial support for administration. Foundation grant. Did not stratify

9	Castiglione, 2007	OC-Hemodia, developed with the OC-Sensor instrument Cut-off: 20 μg/g 1 sample	Italy Regional screening program 19 municipalities in the Province of Florence Dates of recruitment: 01/00-12/02 Follow-up with Tuscany Cancer Registry	Cancer registry follow-up to 2 years	Subjects aged 50-70, living in 19 municipalities in the Province of Florence, and attending FOBT screening from 01/00- 12/02 were eligible for the present study.	N = 27503 tests (24913 individuals) Calculated mean: 58.1 Age 50-59: 50% Age 60-69: 47% Age 70: 3.3% Male: 47.8%	CRC 83/27503 0.3% AA 219/27503 0.8%	1097/27503 4.0%	67/83 80.7%	26390/ 27420 96.2%	Not included in a	nalysis		Discrepancy between number of tests and number of individuals. Sens/spec based on number of tests Funding: NR Did not stratify by age or sex
10	Graser, 2009	FOB Gold assay Cut-off: 14 ng/ml, 2.38 μg/g Two 10ml stool sample containers FIT was performed in each of the two samples per patient	Germany Prospective colorectal cancer screening cohort study of average risk adults	Colonoscopy for all participants, augmented by Segmental unblinding (enhanced gold standard)	Inclusion: Participants had to be 50 years of age and free of symptoms of colonic diseases such as melenic stools, hematochezia, diarrhea, relevant changes in stool frequency or abdominal pain Exclusion: Prior OC within the last 5 years, and positive family history for CRC (one first-degree relative diagnosed with CRC before age 60 or two first-degree relatives diagnosed with CRC at any age). Persons with a history of or present IBD, hereditary colorectal cancer syndromes, a body weight 150 kg or severe cardiovascular or pulmonary disease were also excluded.	N = 285 (for FIT) Age range: 50- 81 Mean age: 60.5 (SD 7.0) Male: 55%	In screening population: CRC 1/285 0.35% AA 24/285 8.4%	45/285 15.8%	1/1 100%	240/284 84.5%	>= 10 mm, villous histology, high- grade dysplasia	7/24 29.2%	223/260 85.5%	CRC results in detailed table Funding source: industry Did not stratify by age or sex
11	Park, 2010	OC-Micro Cut-off: 10 µg/g, 15 µg/g, 20 µg/g 1-, 2-, and 3- sample FIT	Korea 1020 consecutive asymptomatic, average risk people between	Colonoscopy for all patients regardless of FIT results. Blinding: Endoscopists were	Inclusion: Asymptomatic, average risk, age 50- 75, who were undergoing a screening colonoscopy.	After exclusion: N = 770 Mean age: 59.3 +/- 7.5 years	At 20 μg/g CRC 13/770 1.7% AA 59/770 7.7%	86/770 11.2%	10/13, 76.9% (46.2-95.0)	709/757 93.7% (90- 94)	>= 10 mm, villous histology, high- grade dysplasia	14/59 23.7% (14-37)	664/698 95.1% (93.3- 96.6)	OC-Micro is FDA approved and available in the US. It has been replaced by OC- Sensor.

		>= 1 of 2	50-75 years of	blinded to the FIT									Overall,
		samples, or >= 1	age undergoing	results	Exclusion: History of	Age range: 50-							population
		with the	colonoscopy	Interval between	nolvos or CRC History	75 years old							appears to be an
		specified	from 4 tertiary	FIT and	of colonoscopy or	Age <40: 0%							average-risk
		threshold	medical centers	colonoscopy:	sigmoidoscopy within	0							primary care
		concentration	in South Korea	Stool specimens	5 years. Symptoms of	Age >80: 0%							population.
		considered	were invited to	from 3 daily or	lower GI issues, visible								
		positive	the study.	consecutive BMs	rectal bleeding, or a	Males: 51.4%							Funding: FIT kit,
			Asymptomatic	were collected	family history of CRC.								reagents, and
			average risk	FIT sampling									provided by
				probes during the									Eiken Chemical.
			Prospective	week before									
			cohort design	colonoscopy					D Č				Did not stratify
			Enrollment										by upe of sex
			order:										
			consecutive				-	\mathbf{O}^*					
			Dates of										
			recruitment:					· ·					
			12/07-11/08										
12	Levi, 2011	OC-Micro	Israel	Colonoscopy for	Inclusion:	4,657 were	CRC 6/1204	153/1204	6/6 100%	1051/1198	>= 10 mm,	Unable to	OC-Micro is FDA
		Cut-off: 14 µg/g	Average risk	FIT-positive	Asymptomatic people	FIT arm but	0.5%	12.7%	(52-100)	87.7% (86-	villous histology any	calculate (no false	approved and
		3 samples on	persons aged 50-	year follow-up for	received care at the 9	only 1536 FIT	AA 29/1204			50)	high-grade	negatives)	US. It has been
		consecutive days	75 years were	FIT-negative	primary care clinics of	kits were	2.4%				dysplasia		replaced with
			offered either	patients.	CHS	dispensed							OC-Sensor.
			FIT or HO-SENSA										
			according to a	All the	Exclusion: Patients	Of the 1536							Overall,
			randomization	participants who	who had undergone a	1204 returned							population
			on the SES of the	regardless of its	sigmoidoscopy of	the FIT kits							asymptomatic.
			primary care	results, were	last 5 years, patients								average-risk
			clinic.	followed through	who participated in	After							primary care
				the Israel National	gFOBT screening	exclusion: N =							population.
			Patients from 9	Cancer Registry	within 2 years, IBD	1204							
			primary care	Plinding:	history, CRC history	Moon ago:							Funding: Liken
			Health Services	Endoscopists were		FIT 60.4 +/-							provided the
			(CHS) in Tel Aviv	not blinded to the		7.6 years							instruments,
				FIT results									reagents, and
			Randomized			Age <40: 0%							partial financial
			prospective	Interval between									support for
			conort design	FIL and		Age >80: 0%							administration.
			study	colonoscopy. NK		Male: 43.6%							Did not stratify
			All included										by age or sex
			people received										
			an invitation										
			letter to										
			the study.										

			Asymptomatic people willing to participate were instructed to go to the primary care clinic and ask for the FIT/FOBT kits.											
			Enrollment order: random											
			Dates of recruitment: NR											
13	Chen, 2011	OC-Sensor Cut-off 20 μg/g 1 sample Results for intervals (1-19, 20-39, 40-59, 60- 79, 80-99, and > 100 ng/mL) also presented	Taiwan Participants part of a community- based colorectal screening program (part of larger multiple- screening program). 56025 individuals aged 40-69 identified from population registry in Keelung, Taiwan. Prospective cohort with staggered entry Dates of recruitment: 2001-2007	Colonoscopy recommended for positive tests. For those who did not do colonoscopy or had negative screen, linkage to the national cancer registry.	Inclusion: Unclear. Population invited to a screening program for residents aged 40- 69. Number with family history of CRC not reported.	N = 45992 Mean age (calculated): 53 40-49 44% 50-59 32% 60-69 24% Male: 37%	CRC 115/46355 0.25% Only screen detected adenomas reported	2031/46355 4.4% (at 20 μg/g)	70/115 60.9%	44279/46240 96%	Adenomas larger than 10 mm were defined as advanced	Only screen detected adenomas reported		Numbers extracted those for the full follow-up (median 4.39 years, IRQ 2.53- 6.12), which may artificially lower the sensitivity, especially in the setting of repeat screening. Other results presented in rates. May be worth contacting the study authors to obtain number of cancers within 1 or 2 years follow- up. Funding: No funding source Did not stratify by age or sex.
14	De Wijkerslooth, 2012	OC- Micro/Sensor Cut-off: 10, 15, 20 μg/g 1 sample	Netherlands Asymptomatic subjects who voluntarily underwent screening colonoscopy as part of a colon cancer screening program	Colonoscopy for all patients regardless of FIT results Blinding: Endoscopists were blinded to the FIT results Interval between FIT and	Inclusion: Asymptomatic individuals from Amsterdam and Rotterdam regions Exclusion: Invitees who had a prior colonoscopy, CT colonography, double contrast barium enema within 5 years,	After exclusion: N = 1256 Mean age: 60 Age range: 50- 75 years Male: 51% Family history	CC 8/1256 0.6% AA 113/1256 9%	71/1256 5.7% (at 20 μg/g)	6/8 75% (36-96)	1183/1248 95% (93-96)	>= 10 mm, villous histology, any high-grade dysplasia	33/113 29% (21- 39)	1103/1137 97% (96-98)	OC-Micro/Sensor is FDA approved and available in the US. In addition, 15% of sample had a family history of CRC. Overall, population appears to be an asymptomatic,

			order: Randomized Prospective cohort design (part of COCOS- trial) Dates of recruitment: 6/09-7/10	Usually less than 48 hours	CRC, IBD, or adenomas, and individuals with an end stage and a life expectancy of less than 5 years	193/1256 15.4%			5					primary care population. Funding: The Netherlands Organization for Health Research and Development and by the Center for Transitional Molecular Medicine Did not stratify by age or sex
15	Wong, 2012	MagStream HemSp/HT (tube-based wet sampling, immunochemical test) Cut-off: 67 µg/g One sample for quantitative FIT 2 samples for qualitative FIT	Canada Regional cancer screening program Referred for elective screening colonoscopy Dates of recruitment: 4/08-10/09	Colonoscopy on all patients	Inclusion: Asymptomatic, 50-75 years of age, and no personal or family history of colorectal cancer or polyps. Participants at increased risk for colorectal cancer were included if they were 40-75 years of age with known personal or significant family history of colorectal cancer or polyps. Exclusion: Under 40 or over 75 years of age, unable to understand or sign the informed consent, or had a recent history of visible hematochezia or IBD. Participants with significant medical comorbidities were also excluded.	N = 1075 Mean age: 56.3 years Male: 46.25% 42% with first degree family hx of cancer, 12% of polyps	CRC 2/1075 0.2% Screen relevant neoplasia 69/1075 6.4%	94/1075 8.7% at 67 µg/g	2/2 100%	981/1073 91.4%	>10 mm diameter, tubulovillous or villous structure, and high-grade dysplasia	24/67 35.8%	938/1006 93.8%	Results provided by private communication Funding: Capital Health Authority, Edmonton, Alberta, Canada. Beckman Coulter Inc., USA provided Hemoccult ICT collection cards and test devices. Fujirebio Inc., Japan provided the Magstream HT. Reagents and support were provided by Fujirebio Diagnostics Inc., USA. Did not stratify by age or sex
16	Brenner, 2013	RIDASCREEN Haemoglobin Cut-off: 24.5 µg/g Adjusted thresholds for 3 different FIT tests to match	Germany Asymptomatic, average-risk subjects who underwent screening colonoscopy	Colonoscopy for all patients regardless of FIT results. Blinding: Endoscopists were blinded to the FIT results	Inclusion: Average risk patients ages 50-79 years who were willing to undergo a screening colonoscopy and were willing to perform an FOBT and provide stool prior to	After exclusion: N = 2235 Mean age: 62.7 years Age range: 50- 79 years	CRC 15/2235 0.7% AA 207/2235 9.3%	112/2235 5%	9/15 60%	2118/2220 95.4%	>= 10 mm, villous histology, any high-grade dysplasia	43/207 20.8%	1954/2013 97.1%	RIDASCREEN is not FDA approved and not available in the US. Overall, population appears to be an

17	positivity ra gFOBT Quantitativ 1-sample F OC- Sensor Cut-off: 6.1 Adjusted thresholds different Fl tests to ma positivity ra gFOBT Quantitativ	te of Enrollment order: Consecutive FIT Prospective cohort design µg/g Dates of recruitment: 2005-2009 ch te of ETT	Interval between FIT and colonoscopy: average about 4 days	colonoscopy. Exclusion: visible rectal bleeding, previous +FOBT, IBD, prior colonoscopy, bad prep, stool sampling after colonoscopy, incomplete colonoscopy, pseudopolyps found on colonoscopy	Age <40: 0% Age >80: 0% Male: 49.2%		112/2235 5%	11/15 73.3% (44.8-91.1)	2121/2220 95.5% (94.6- 96.3)	>= 10 mm, villous histology, any high-grade dysplasia	46/207 22.2%	1960/2013 97.4%	asymptomatic, average-risk primary care population. Funding: German Research Foundation and by a grant from the German Federal ministry of Education and Research. R- Biopharm AG provided FIT kits without charge.
18 Sh	1-sample F in, 2013 OC Sensor Cut-off: unspecified presumably µB/g 27.2% quantitativ Sample nur unclear	Korea 20 Screening Program Dates of recruitment: 2004-2007	Cancer ascertainment by linkage to national cancer registry	Inclusion: Medical Aid recipients and NHI beneficiaries invited to participate in the NCSP, men and women aged 50 years and older, lower 30- 50% income bracket Exclusion: 528 participants with missing screening results	N = 354014 FIT kits first round Age range: 50-59 48.9% 60-69 38% 70+ 13.1 Calculated mean age: 61.4 Men: 43.6%	CRC 839/354014 0.24% AAs not noted as from cancer registry	9665/ 354014 2.73% (2.68- 2.77)	434/839 51.7 (48.3- 55.2)	343915/ 353175 97.3% (97.3- 97.4)	Not included in a	nalysis		by age or sex OC-Sensor was the most popular FIT, but not exclusive. Concern that not all quantitative FIT were OC- Sensor or at which threshold. Used results from first round of screening. Sensitivity calculated using sensitivity within 1 year (interval cancer was defined as a CRC cancer that was diagnosed outside a screening program within a year from the time of a negative screening in the NCSP). Funding: Grant- in-Aid for Cancer Research and Control from the National Cancer Center, Korea

													_	and a grant from the National R&D Program for Cancer Control, Ministry of Health and Welfare, Republic of Korea.
19	Imperiale, 2014	OC FIT-CHEK Cut-off: 20 µg/g 1 sample	US and Canada Cross-sectional study at 90 sites in US and Canada, private- practice and academic settings Dates of recruitment: 06/11-11/12	Screening colonoscopy on all participants	Inclusion: Age 50-84 scheduled for screening colonoscopy Exclusion: personal history of colorectal neoplasia, digestive cancer, or IBD; had undergone colonoscopy within the previous 9 years or a barium enema, computed tomographic colonography, or sigmoidoscopy within the previous 5 years; had positive results on fecal blood testing within the previous 6 months; had undergone colorectal resection for any reason other than sigmoid diverticular; had overt rectal bleeding within the previous 30 days; had a personal or family history of colorectal cancer; had participated in any interventional clinical study within the previous 30 days; or were unable or unwilling to provide written informed consent	N = 9989 Mean age: 64.2 (SD 8.41) Age range: 50- 84 years Male: 46.3%	CRC 65/9989 0.65% High-grade dysplasia 39/9989 0.39% Advanced precancerous lesions 757/9989 7.6%	6.96% (taken from table extrapolated to 10,000 people)	48/65 73.8% (61.5-84.0)	9294/9924 93.6% (proportion with negative test among those without cancer)	High-grade dysplasia or with > 25% villous histologic features or measuring > 1 cm in the greatest dimension	180/757 23.8%	8695/9167 94.9%	The study author definition of specificity: "with advanced precancerous lesions on colonoscopy excluded and only non- advanced adenomas and negative results include (the primary measure of specificity) and with only negative results included (the secondary measure of specificity). Had to back-calculate specificity). Had to back-calculate specificity among those without cancer, a s these numbers weren't presented. Funding: Exact Sciences Did not stratify by age or sex
20	Hernandez, 2014	OC-Sensor Cut-off: 10, 15, 20, 25, 30, 40 µg/g	Spain Multicenter, prospective, blinded cohort	Colonoscopy on all patients	Inclusion: asymptomatic men and women aged 50- 69 years included in COLONPREV study	N = 779 Mean age 57.55 +/- 4.55 Male: 50%	CRC 5/779 0.6% AA 92/779 11.7%	FIT1 at 20 μg/g 55/779 7.1%	5/5 100% (90-100)	724/774 94% (92-95)	High-grade dysplasia or with > 25% villous histologic	26/92 28.3%	655/682 96%	Funding: government Did not stratify by age or sex

Γ			2 samples on	study								features or			
			consecutive			Exclusion: Personal						measuring > 1			
			days. Only 1	3 hospitals in		history of CRC,						cm in the			
			sample results	Spain,		adenoma or IBD,						greatest			
			used.	COLONPREV		family history of						dimension			
				study in Galicia		hereditary or familial									
				and Euskadi.		CRC (i.e. >2 first-									
				Colonoscopy		degree relatives with									
				arm of a		CRC or one diagnosed									
				randomized trial		before the age of 60									
				comparing FIT		vears) severe									
				and		comorbidity previous									
				colonoscony		colectomy FIT				6					
				colonoscopy.		screening in the past									
				Dates of		2 voars									
				recruitment:		z years,									
				1/10.6.11		colonoscopy within									
				1/10-0-11		the past E years or									
						cumptoms requiring									
						additional workup									
						Individuals work also									
						individuals were also									
						excluded if they ald									
						not accept the study									
						or refused to undergo									
_	24					the colonoscopy.	N. 400.1	0000/4000	C (400 0 40)	2/2 4000/	407/404		4/25 0 40/	100/100	
	21	Johnson,	OC FIT-CHEK	United States	Colonoscopy on all	Inclusion: Undergoing	N = 193 in	CRC 2/193	6/193 3.1%	2/2 100%	187/191	>10 mm	1/25 0.4%	163/166	Results provided
		2014	Cut-off: 20 µg/g		patients	screening	screening	1.0%			97.9%	diameter,		98.2%	by private
															.,,
				Prospective		colonoscopy	cohort					tubulovillous or			communication
			1 sample	Prospective cohort		colonoscopy	cohort	AA 25/193				tubulovillous or villous			communication
			1 sample	Prospective cohort evaluation		colonoscopy Exclusion: History of	cohort Age range	AA 25/193 13%				tubulovillous or villous structure, and			communication Funding: The
			1 sample	Prospective cohort evaluation		colonoscopy Exclusion: History of CRC or	cohort Age range 50-59 64%	AA 25/193 13%				tubulovillous or villous structure, and high-grade			communication Funding: The study was
			1 sample	Prospective cohort evaluation 61 sites		colonoscopy Exclusion: History of CRC or recommendation for	cohort Age range 50-59 64% 60-69 25%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by
			1 sample	Prospective cohort evaluation 61 sites		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy	cohort Age range 50-59 64% 60-69 25% >69 11%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG
			1 sample	Prospective cohort evaluation 61 sites Dates of		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years;	cohort Age range 50-59 64% 60-69 25% >69 11%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin,
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment:		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany).
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age:	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School,
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis;	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd.,
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV,	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc.,
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy'	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy' at time of	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of salaries.
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy' at time of colonoscopy also	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of salaries.
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy' at time of colonoscopy also excluded.	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of salaries.
			1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12		colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy' at time of colonoscopy also excluded.	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38%	AA 25/193 13%				tubulovillous or villous structure, and high-grade dysplasia			communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of salaries.
	22	Symonds,	1 sample	Prospective cohort evaluation 61 sites Dates of recruitment: 3/12-11/12	Colonoscopy on all	colonoscopy Exclusion: History of CRC or recommendation for repeat colonoscopy interval <10 years; neoadjuvant treatment; family history; IBD; acute or chronic gastritis; current cancer diagnosis other than CRC; overt bleeding or bleeding hemorrhoids; known infection with HIV, HBV, or HCV; IV fluids at time of sample collection. Patients with 'curative biopsy' at time of colonoscopy also excluded.	cohort Age range 50-59 64% 60-69 25% >69 11% Calculated mean age: 59.7 Male: 38% N = 1381	AA 25/193 13%	309/1381	52/66	1058/1315	tubulovillous or villous structure, and high-grade dysplasia	80/189	949/1126	communication Funding: The study was sponsored by Epigenomics AG (Berlin, Germany). Eastern VA Medical School, Rockford Gastroenterology Associates, Ltd., Digestive Health Specialists and Molecular Pathology Laboratory Network, Inc., provided support in the form of salaries. Did not stratify by age or sex Elevated number

	1 sample	Patients scheduled for colonoscopy. Part of study for screening blood test (methylated BCAT/IKZF1, Clinical Genomics) FIT within 2 weeks of colonoscopy		scheduled for colonoscopy for standard clinical indications were approached about volunteering. Subjects were excluded if the scheduled colonoscopy was canceled, if insufficient blood was drawn, or if FIT kits were returned to the processing lab >2 weeks after sample collection. Exclusion: Younger age groups were not included as they are considered to be at lower risk for developing CRC.	Median age: 60.7 (42.0- 79.0) Male: 29.4%	AA 189/1381 13.7%	010	5		morphology, >= 10 mm, high- grade dysplasia, or more than two tubular adenomas			though appears to be a screening population. Data taken from two identical abstracts. Assumption made that "significant neoplasia" = CRC + AA. Funding: FIT for the studies were subsidized by Elken Chemical Co., Japan. Parts of the research were supported by a project grant from NHMRC Australia. Did not stratify
23 Stege 2015	man, OC-Sensor Cut-off: 10 3 rounds (i article focu on third ro calculation focused or round), 1 s each time	μg/g μg/g Dynamic cohort his study ses und, Screening-naïve s part of biennial first FIT-based CRC ample screening program	FIT positive received colonoscopy (if no contraindications); interval cancers were detected by link to the Netherlands Cancer Registry	Inclusion: Randomly selected individuals between 50 and 75 years of age, living in the same postal code areas in Amsterdam region as those invited to rounds one and two, were invited to participate in this third round of biennial FIT screening (eligible invitees). Exclusion: Except for those who had moved out of the area, passed the upper age limit, or had tested positive in a previous screening round; institutionalized people; the invitation letter indicated that invitees with rectal blood loss and/or a change in bowel habits should not	N = 2871 in first round Mean age 59 (SD 6.8) Male: 51%	1 st round CRC 12/2871 0.23%	1 st round: 233/2871 8.1%	15/20 75%	2633/2851 92.4%	>= 10 mm, villous adenoma, high- grade dysplasia	N/A	N/A	by age or sex. 2-year registry between FIT used for those with a negative FIT Funding: Government and industry

24	Lee, 2015	Hemo Techt NS- Plus C system Cut off: 6.3, 19 μg/g 1 sample	Korea 1397 individuals who received annual physical check-up at the Gangnam branch of Korean Association of Health Promotion (KAHP) Dates of recruitment: 07/12-03/13	Colonoscopy on all patients	participate in screening, but contact their general practitioner instead. Inclusion: Individuals aged 50-76 years who received annual physical check-up at Gangnam branch of KAHP Exclusion: Personal history of CRC	N = 1397 Median age: 58 years Male: 47%	At 19 μg/g: 14/1397 1%	72/1397 5.1%	10/14 71.4%	1321/1383 95.5%	High-risk adenoma >3 or >1 cm diameter or villous in nature or showing high- grade dysplasia	3/7 42.9%	1325/1376 96.3%	Letter to the editor Funding source: NR Did not stratify by age or sex
25	Jensen, 2015	OC-FIT CHEK samples analyzed with OC SENSOR DIANA automatic analyzer Cut-off: 20 µg/g 1 sample	United States Retrospective longitudinal study 2 integrated health systems, first round mailing in 2007 or 2008 to ages 50-70, 1 year follow-up. Extraction of 1 st round of screening	Cancer within 1 year from cancer registry. 7% of positives did colonoscopy.	Inclusion: Participants aged 50-70 years on the date an initial kit was mailed to them in 2007 or 2008 Exclusion: Patients were excluded if they had been enrolled in the health plan for less than 1 year before the round 1 FIT mail date (to allow for the recording of prior out-of-system endoscopy procedures). They were also excluded if they were mailed a kit but subsequently had sigmoidoscopy or colonoscopy, were diagnosed with CRC, died or terminated membership in the health plan before returning the initial FIT or within 1 year after their round 1 mail date if no FIT was returned.	N = 323349 Mean age: 58.5 years (SD 5.7) Men: 46.4%	CRC 645/323349 0.2%	16037/ 323349 5%	545/645 84.5%	307202/ 322704 95.2%				Used results first round of screening, with one year of follow-up in registry. Reported sensitivity to two years was programmatic results, unable to calculate corresponding specificity. Funding: government Did not stratify by age or sex
26	Chen, 2016	OC-Sensor Cut-off: 20 μg/g	Taiwan	National cancer registry and	Restricted to those 50 years and older for	N = 513283 total	CRC 763/141045	8583/ 141045	712/763 93.3%	132411/ 140282	Not included in a	nalysis		Extraction restricted to
1	1		Standard	National Death	this extraction.		0.54\$	6.1%	(91.5-95.1)	94.4% (94.3-				those 50+.

		1 sample	medical screening program between 1994 and end of 2007	File	Otherwise not noted.	Age 50+: 28% Extraction restricted to those 50+, which included age: 50-59: 53% 60+: 47% Calculated mean age: 60 Male: 46%	AAs not noted as from cancer registry			94.5)				Inconsistencies in numbers between Table 1 and Table 2, possibly because of 1 year vs. longer follow-up Funding: government Stratified by age and sex (ages 20- 49)
27	Kim, 2016	OC-Sensor DIANA Cut-off: 10, 15, 20 μg/g (20 is principal cut-off) 1 sample FIT test	Korea National Cancer Screening Program at Kangbuk Samsung Hospital Dates of recruitment: 6/13-5/15	Colonoscopy on all participants	Inclusion: All subjects participating in the NCSP who got colonoscopy, including 770/1532 with positive results and 3489/33015 with negative results. Exclusion: Previous history of CRC or colorectal surgery, IBD, incomplete colonoscopy, under age 50.	N = 3990, after exclusions Mean age: 64.3 Male: 54.2%	CRC 79/3990 2% AA 376/3990 9.4%	770/3990 19%	58/79 73.4% (62.3-82.7)	3230/3911 82.6% (81.4- 83.8)	Adenoma >10 mm in diameter, with tubulovillous or villous structure, or with high- grade dysplasia (HGD).	145/386 38.6% (33.6- 43.7)	3006/3566 84.3% (83.1- 85.5)	Positive FIT over- represented in this study as those with positive FIT are more likely to get colonoscopy, unclear direction of bias with that. Funding: NR Did not stratify by age or sex
28	Chen, 2016	FOB Gold Cut-off: 17 μg/g, and thresholds with positivity of 5% or 10% 1 sample	Germany 20 gastroenterology practices in BLITZ study Stool samples either frozen prior, or stool directly in test tube. Dates of recruitment: 11/08-09/14	Colonoscopy on all patients	Inclusion: Undergoing screening colonoscopy Exclusion: History of CRC or IBD, colonoscopy in the preceeding 5 years, inadequate bowel preparation, incomplete colonoscopy (cecum not reached)	N = 3466 Mean age: 62 +/- 6.4 years Range: 50-79 years Male: 50%	CRC 29/3466 0.84% AA 354/3466 10%	370/3466 10.7%	23/29 96.6%	3095/3437 90%	Standard: > 1 cm, villous components or high-grade dysplasia	116/354 32.8%	2861/3083 92.8%	Funding: government Did not stratify by age or sex
29	Redwood, 2016	OC-Sensor Diana Cut-off: 20 μg/g 1 sample Sent by mail, processing done at Mayo clinic	USA, Alaska Asymptomatic persons with any degree of self- reported Alaska Native heritage who were 40 through 85 years	Colonoscopy on all patients	Excluded patients if they (1) had undergone invasive screening tests in the previous 4 years or surveillance (i.e. CRC or polyp follow-up) in the previous 2 years, (2) had a history of	N = 435 in the screening group Median age: 52 years (IQR 50-59 years) Female: 60%	CRC 4/424 0.94% AA 56/424 13.2%	34/424 8.0%	3/4 75%	389/420 92.6%	Standard	15/56 28.6%	349/364 95.9%	Funding: foundation and industry Included large proportion getting surveillance colonoscopy

			old, were scheduled for average-risk screening or surveillance colonoscopy		upper GI cancer, (3) had overt hematochezia in the previous month, or (4) had inflammatory bowel disease or known hereditary CRC syndromes (e.g. Lynch syndrome, familial adenomatous polyposis)									
30	Kim, 2017	OC-Sensor Cut-off: 20 µg/g 1 sample	Dates of recruitment: 2007-2013	Colonoscopy on all patients	Exclusion criteria were as follows: Poor bowel preparation (n = 2574), lack of an adequate biopsy (n = 144), a history of CRC or colorectal surgery (n = 190), a history of IBD (N = 74), diagnosed with ischemic or infectious colitis during this study (n = 13), and subjects <30 years (n = 755)	N = 26,316 Age range: 30-39 43% 40-49 40% 50+ 17% Calculated mean age 42.4 Fam Hx of CRC 4% Male: 72%	CRC 16/26316 0.06% AA 454/26316 1.7%	805/26316 3.1%	11/16 69%	25493/26302 97%	>10 mm diameter, tubulovillous or villous structure and high-grade dysplasia	88/454 19.3%	25130/ 25846 97.2%	Young population, therefore excluded from pooled prevalence Funding: NR Stratified by age (30-30, 40-40, and >= 50) but not by sex
31	Aniwan, 2017	OC-Sensor Cut-off: 5, 10, 20, 30, 40 μg/g Automated analyzer machine (OC- Sensor DIANA machine) 1 sample	Thailand Cross-sectional study Health promotion program at the 6 university hospitals across Thailand. Represents all regions	Colonoscopy on all patients	Inclusion: Asymptomatic participants, aged 50- 75 years, health promotion program participants Exclusion: Prior colon examination (endoscopy/radiologic imaging), previous colonic resection, previous history of CRC, IBD, and family history of hereditary CRC such as familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer (at least 1 first degree relative with CRC before 60 years or at least 2 first degree relatives with CRC). Participants who had a positive FOBT in the	N = 1479 Mean age: 60.4 +/- 7.2 Range: 50-75 years Male: 38.3% 254/1479 with 1 st degree family hx of CRC	CRC 14/1479 0.9% AA 123/1479 8.3%	108/1479 7.3%	11/14 78.6% (49- 95)	1368/1465 93.4% (92- 95)	>= 10 mm, villous adenoma, high- grade dysplasia	20/123 16.2%	1266/1342 94.3% (92.9- 95.5)	Present results for Advanced Neoplasia = CRC + AA. Presumably 123 AAs. Funding: Government, foundation and industry Does not stratify by age or sex.

					past year.							
32	Van der	OC-Sensor and	Netherlands	FIT positive	Inclusion: 50-74 years	N = 18716	CRC	2140/18716	89/116 77%	16549/18600	Not included in analysis	Funding:
	Vlugt, 2017	FOB-Gold		received	living in target areas;	(participated	116/18716	11.4%		89%		Netherlands
		Cut-off: 10 µg/g	Screening-naïve	colonoscopy; FIT	screening-naïve	in FIT test)	0.62%					Organization for
			part of biennial	negative were re-								Health Research
		1 sample in each	FIT-based CRC	invited for	Exclusion: From	Age range: 50-						and
		round of testing	screening	screening	consecutive rounds:	76 years						Development of
			program	biennially	Participants who							the Dutch
					moved out of the	Round 1: MW						Ministry of
			Dates of	CRC detected	area, those who had	(5028, median						Health
			recruitment:	during screening	passed the upper age	age 59 (54-						
			2006-2014	and non-screening	limit, institutionalized	65), male			ć			Stratified by age
				programs (FIT	people, those with an	2485, 49%);			X			and sex
				interval cancers,	estimated life	SW (9623,						
				colonoscopy	expectancy of less	median age 60						
				interval cancers)	than 5 years, those	(55-66), male						
					unable to give	4779, 50%)						
				Linked to	informed consent,	Round 2: MW						
				Netherlands	and those who had	(10198,	4					
				Cancer Registry	tested positive in a	median age 59						
				through 3/15	previous screening	(54-65), male						
						4981, 49%);						
					undergone a	SW (8185,						
					Lodividuals with a	(FE EE) male						
					history of IPD or CPC	(50-00), Illale						
					were advised not to	S302, 4876) Round 2: MM						
					norticipate in CPC	(10022						
					screening	(10032, median age 60						
					screening.	(55-66) male						
						4901 49%)·						
						SW (9586						
						median age 60						
						(54-65) male						
						4648 49%)						
						Round 4: MW						
					J	(9517, median						
						age 61 (57-						
						67), male4618.						
						49%); SW						
						 (9774, median						
						age 61 (56-						
						67), male						
						4672, 48%)						

3	3 Haug 2017	OC-Sensor Micro	Amsterdam	Occurrence of CBC	Inclusion:	N = 4253	CBC 36/4523	380/4523	22/25 88%	4140/4498		Funding: NR
	5 11006, 2017	Cut off: 10 ug/g	Vinsterdum	was determined	Domographic data of	11 - 4255	0 705%	9 1%	22/23 00/0	0.2%		runung. m
		Cut-011. 10 µg/g	Drocpoctivo	was determined	all individuals aged	Ago rango: EO	0.79376	0.470		9270		Did not stratify
		1	etuduuuse	by record linkage		Age range. 50-	AA 190/4252					Did fiot stratily
		1 sample	study was a	With the Dutch	50-74 years living in	74 years	AA 180/4253					by age of sex
			random	Comprenensive	the southwest of The		3.98%					
		iviuitipie	selection of the	Cancer Center	Netherlands were	iviean age						
		threshold	general Dutch		obtained from	(SD): 60.5 (6.6)						
		reported for	population	Positive FIT50	municipal population							
		alternative	between 50 and	received	registers to identify	Male: 48%						
		scenarios: 11,	75 years of age	colonoscopy;	the target population.							
		14, 22, 36, 45, 50	in Nijmegen,	patients with a	This population was							
		ng/mL	Amsterdam, and	negative	screening-naïve since				1			
			surrounding	colonoscopy were	there was no CRC				X			
			areas	considered not to	screening programme							
				require FIT	at the time of							
			Ongoing	screening for 10	recruitment for this							
			population	years	study.							
			based CRC									
			screening study		Exclusion: History of							
			that started in		CRC, IBD, an							
			2006		estimated life-							
					expectancy of ≤ 5			· · · · · · · · · · · · · · · · · · ·				
					vears, a colonoscopy.							
					sigmoidoscopy or							
					double-contrast							
					barium enema within		K					
					the previous 3 years							
					and inability to give							
					consent Subjects							
					were no longer							
					invited to subsequent							
					rounds if they tested							
					nocitive at a prior							
					positive at a prior	J						
					screening round, If							
					they had become >75							
					years of age, if they	1						
					nad moved out of the	1						
					region or had died.							

34	Shapiro,	OC FIT-CHEK	USA	Colonoscopy for	Inclusion:	N = 1006	CRC 2/1006	AN from OC	0/2 0%	917/945 97%	Standard	6/38	282/291	Including
	2017	Cut-off: 20 µg/g		all patients	Asymptomatic		0.2%	Sensor at 20		1		15.8%	96.9%	participants with
			Clinics in		patients aged 50-75	Age:		µg/g: 3%				1		a family history
		1 sample	Minneapolis and		years who were	50-54 15.9%	AA 53/1006							of CRC, and
			Indianapolis		scheduled to have a	55-59 22.6%	5.3%							cancer screening
			metro areas		colonoscopy for CRC	60-75 61.5%								history
					screening		AN 55/1006							
			Dates of			Mean average:	5.4%							Funding: The
			recruitment:		Exclusion: Having	55.6 years								Division of
			05/11-07/14		colonoscopy due to									Cancer
					bleeding or other	Male: 45.5%								Prevention and
					symptoms, positive or				¢					Control, Centers
					abnormal flexible				X					for Disease
					sigmoidoscopy,									Control and
					double-contrast									Prevention
					barium enema,									provided
					tomputed									for the study
					colonographic									through a
					EORT Dationts word									contract with
					alsoneligible if they									Battelle
					had >1 enisode of									Memorial
					rectal bleeding in the									Institute.
					past 6 months, a									
					personal history of									
					CRC or colorectal									
					polyps, a positive									
					FOBT in the past 12									
					months, a									
					colonoscopy within									
					the past 5 years, a									
					prior colon resection									
					or other colon/rectal									
					surgery, a history of									
					IBD, a personal or									
					family history of									
					national adenomatous									
					hereditary							1		
					nonpolyposis							1		
					colorectal cancer							1		
					were currently taking							1		
					anticoagulant									
					medication, or were							1		
					not able to read					1		1		1
					English.							1		
35	Gies, 2018	CAREprime	Southern	Colonoscopy for	Inclusion: Targeted	N = 516	CRC 16/516	71/516	13/16	442/500	Standard	62/200	274/300	Used a case-
		Cut-off: 6.3	Germany	all patients	selection of all eligible		3.1%	13.8%	81.3% (54-	88.4%		31% (25-	91.3%	control design.
		(primary), 7, 12,			216 cases with CRC or	Age range: 50-			96)			38)		Included all
		15, 26 μg/g	Prospective,		AA, and random	79 years	AA 200/516					1		cancers from the
			cohort study		selection of 300		38.8%					1		Blitz cohort, as
		1 sample	conducted with		participants without	Mean age:					_		/-	well as 200
36	Gies, 2018	Hb Elisa	20		CRC and AA from	63.2 years	AN 216/516	103/500	13/1681.3%	410/500		87/200	257/300	advanced
		Cut-off: 2	gastroenterology		about 1,600 eligibe		41.8%	20.6%	(54-96)	81.9% (79-		43.5%	85.7% (81-	adenomas, then

Image Lange Content Sector Sector </th <th></th> <th></th> <th>(primary), 5, 15,</th> <th>practices in</th> <th></th> <th>participants of</th> <th>Male: 55.6%</th> <th></th> <th></th> <th></th> <th>85)</th> <th></th> <th>(37-51)</th> <th>89)</th> <th>completed with</th>			(primary), 5, 15,	practices in		participants of	Male: 55.6%				85)		(37-51)	89)	completed with
i i samphe (C) C) C			29 µg/g	Germany.		colonoscopy, with									screening cohort;
37 685, 708 CbC correr (cl-cl-cl-1, 7, 1), 10, 10 CbC classer (cl-cl-cl-1, 7, 1), 10, 10 CbC classer (cl-cl-cl-1, 7, 1), 10, 10 cp-coles in 0 one, cl-cl-cl-1, 7, 10, 10 cp-coles in 10 one, cl-cl-cl-1, 70, 10 cp-coles in 10 one, cl-cl-cl-1, 70, 10 cp-coles in 10 one, cl-cl-cl-cl-1, 20, 10 cp-coles in 10 one, cl-cl-cl-cl-cl-cl-cl-cl-cl-cl-cl-cl-cl-c			1 sample	Enriched with		stool samples									used stool
Image: Cale of the first of the fi	37	Gies, 2018	OC Sensor	CRC cases		provided in 60 mL			33/516,	11/16	478/500		36/200	293/300	samples that
Image: problem in the problem in the problem is the proble			Cut-off: 4, 7, 10	recruited in		collection containers			6.4%	68.8% (41-	95.6% (94-		18% (13-	97.7% (95-	have been stored
10 0est, 2014 2015 (conserve) (conserve), 12, 2015 2010 0est, 01 (conserve), 12, 2015 2010			(primary), 15, 18	another study.		Evolution: Not				89)	97)		24)	99)	for several years
all and, units Guarding Counting Counting <t< td=""><td>20</td><td>Gioc. 2019</td><td></td><td>Dates of</td><td></td><td>between 50-79 years</td><td></td><td></td><td>77/516</td><td>12/16</td><td>426/500</td><td>-</td><td>72/200</td><td>272/200</td><td>Funding source:</td></t<>	20	Gioc. 2019		Dates of		between 50-79 years			77/516	12/16	426/500	-	72/200	272/200	Funding source:
information control contro control control	50	Gles, 2018	Cut-off: 8	recruitment:		IBD, personal history			14.9%	81 3% (54-	87 2% (84-		36% (29-	272/300 90.7% (87-	government.
image 13.3 gr/gr image 1.3 gr/gr 1.3 g			(primary) 12	2005-2010		of CRC, adenoma or			14.570	96)	90)		43	94)	foundation and
30 Gies, 2018 FO6 condit Cur-Off: 25, 15, 17 (primary), 18, 53 us/26 Conditional previous Systems: stool sampling not before colonoscopy: in computer (primary), 28, 55 17, 77 ug/g) Sets, 2018 Furthyse FO8 (conditional previous Systems: stool sampling not before colonoscopy: in computer (primary), 43, 51 5, 22, 26, 70 Sets, 2018 Sets,			15.30 µg/g			polyps; previous				50,	507		10	5.17	industry
Image: curve,	39	Gies, 2018	FOB-Gold			colonoscopy in			38/516 7.4%	1/16 68.8%	473/500		36/200	289/300	
Image: series (primary): 18, 53 in target in the series of t		,	Cut-off: 2, 15, 17			previous 5 years; stool				(41-89)	94.5% (92-		18% (13-	96.3% (94-	
is during for the start of the sta			(primary), 18, 53			sampling not before					96)		24)	98)	
40 Gies, 2018 Europhyer F08 Incomplete			µg/g			colonoscopy;									
Image: Instance of the state of th	40	Gies, 2018	Eurolyser FOB			incomplete			35/516 4.8%	10/16	475/500		39/200	291/300 97%	
Curver Curver S. 21 (20) (20) Curver S. 21 (20) (20) Minimization Mininal antionwide Minimization			test			colonoscopy;				62.5% (35-	86.7% (84-		19.5%	(94-97)	
1 Clip (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2			Cut-off: 2, 6, 8,			nreparation				85)	90)		(14-26)		
11 Otes, 2018 Immutate-company, 5, 15, 17, 37 upt Participants aged 50 introvide (RC internal introvide registry from entry unit nationwide (RC internal introvide (RC internal internal introvide (RC internal inter	41	Ciae 2018	15, 21 μg/g	_		preparation			70/510	12/10	424/500	-	70/200	270/200.00%	
L Cuthur, b, 15, 1 (pr), my, 15, 5, 1 (pr), my, 15, 5, 1 (pr), my, 15, 5, 1 (pr), my, 15, 5, 1 (pr), my, 15, 1 (pr), my, 15, 1 (pr), my, 15, 1 (pr), my, 15, 15, 10, 10/5 (pr), my, 1	41	Gles, 2018	Cut off: 6 6 25						15 29/	13/10	434/500		70/200	270/300 90%	
Inv Inv <td></td> <td></td> <td>(primary) 9 15</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>15.5%</td> <td>96)</td> <td>00.0% (04- 00)</td> <td></td> <td>(29/42)</td> <td>(00-95)</td> <td></td>			(primary) 9 15						15.5%	96)	00.0% (04- 00)		(29/42)	(00-95)	
42 Gies, 2018 QuartOn Hem, Cut-off: 37 (primary), 4, 10, 15, 18, 30 ug/g QuikRead go iFOBT Cut-off: 15 (primary), 23 Hg/g Autical analy 1, 2004 Cancer registry from erry until end of 2009 N = 723,113 (calculated): 59 years N = 723,113 (calculated): 59 years N = 723,113 (calculated): 59 years CRC 2005/ 723,113 (calculated): 59 years 2890/ 225/7(93- 97) MA MA Sels, 40,00 (a) Base (a)			17.37 ug/g					\sim		50)	507		(23) 42)		
1 Cur-off: 3.7 (primary), 4.10, 15, 15, 80, 90, gr/g 43 Cur-off: 3.7 (primary), 4.10, 15/08T Cur-off: 15 (primary), 23 µg/g QuikRead go (primary), 23 µg/g Taiwan (nalowide CRC screening program with fill between antowide CRC screening program with fill between included. N = 723,113 (alculated): Screening program with fill between included. N = 723,113 (Alwrage age (calculated): Screening program with fill between included. N = 723,113 (Alwrage age (calculated): Screening program with fill between included. N = 723,113 (Alwrage age (calculated): Screening program with fill between included. N/A N/A I = I (Signifie) Screening program with cancer registry follow-up for 2 wers N/A I = I (Signifie) Screening program screening program s	42	Gies, 2018	QuantOn Hem						102/516	13/16	411/500		83/200	257/300	
$ \frac{1}{43} \frac{1}{645, 2018} \frac{1}{6057, 01.45, 0$,	Cut-off: 3.7						19.8%	81.3% (54-	82.2% (79-		41.5%	85.7% (81-	
Image: space			(primary), 4, 10,							96)	85)		(35-49)	89)	
Image: Addition of the section of the sectin of the section of the section of the section of the section of t			15, 18, 30 μg/g												
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Image: Series in the series				National	years	attended biennial	Average age	0.277%	4.0%		96.3%				-
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A Selby, 2018 OC-Sensor Diana Cut-off: 20 µg/g USA, California follow-up for 2 programs from kaiser Northern Cancer registry follow-up for 2 programs from kaiser Northern Individuals were eligible if they had a quantitative FIT result available between January 1, 2013 and December 31, 2014, Firespective of N = 640,859 Firespective of CRC 1245/ Firespective of 48561/ Firespective of 925/1245 Firespective of 591978/ Firespective of N/A Used Verage age Firespective of Organized FIT- Firespective of Individuals were eligible if they had a quantitative FIT result follow-up for 2 programs from kaiser Northern N = 640,859 Firespective of 640859 Firespective of 74.3% 591978/ Firespective of N/A Verage age firespective of 0.19% 7.5% 74.3% 639614 Firespective of 92.5% N/A Verage age firespective of 0.19% 7.5% 74.3% 639614 Firespective of 92.5% N/A Verage age firespective of 0.19% 7.5% 74.3% 639614 Firespective of 92.5% 92.5% N/A				nationwide		2009. Unly those									
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Sent by mail, 1 based mailed available between (calculated): sample out-reach January 1, 2013 and 61.5 years programs from December 31, 2014, had a positive FIT Kaiser Northern irrespective of Female: 53%				Organized FIT-	years	quantitative FIT result	Average age	0.19%	7.6%		92.6%				sensitivity, which
sample out-reach January 1, 2013 and 61.5 years programs from December 31, 2014, had a positive FIT Kaiser Northern irrespective of Female: 53%		1	Sent by mail, 1	based mailed		available between	(calculated):		1						is proportion
programs from December 31, 2014, Kaiser Northern irrespective of Female: 53% had a positive FIT at baseline or			sample	out-reach		January 1, 2013 and	61.5 years				1				with cancer who
Kaiser Northern I irrespective of Female: 53% and the second		1		programs from		December 31, 2014,			1						had a positive FIT
and Caratherin unballed in the second s		1		Kaiser Northern		irrespective of	Female: 53%		1						at baseline or
ariu souurerni waterer it was treir California first-over FIT' were				California		first-ever FIT: were									Programmatic

			Retrospective cohort, using programmatic sens/spec. Those with quantitative FIT available 01/13- 12/14, with two years follow-up in cancer registry		50-75 years of age; were at average risk for CRC (no personal history of CRC, total colectomy, or IBD); had been members of the health system for >2 years before the test result date, to capture prior endoscopy examinations or FIT; and were members for >2 years after the test result date or until their CRC diagnosis date if it was within 2 years.			,0	5					specificity is proportion without cancer with all negative results. Funding: government
46	Liles, 2018	OC-Auto FIT Cut-off: 20 µg/g Two kits sent by mail, to be completed on separate days Only 1-sample results used	USA, Kaiser Permanente Northwest, HMO Members receiving referral for screening colonoscopy between 12/11- 06/14	Colonoscopy on all patients	Exclusion: High-risk diagnosis, recent endoscopy, not medically indicated (dementia, nursing home, hospice), needs interpreter, opt out of study	N = 2771 Average age (calculated): 60.0 Female: 51% Family history: 5.2%	CRC 2/2771 0.072%	116/2771 4.2%	2/2, 100%	2655/2769, 95.9%	Standard (currently + cancers)	28/209, 13.4%	2473/2560 96.6%	Author provided results for cancer sensitivity and specificity Funding source: government, Polymedco supplied test kits and analyzer Did not stratify by age or sex



Figure 2: QUADAS-2 overview of study quality for included studies/cohorts

Author, Year	Ris		sk of Bias		Applicability Concerns			
(Reference)	Patient Selection	Index Test	Reference Standard	Flow and Timing	Patient Selection	Index Test	Reference Standard	
Itoh, 1996	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Nakama, 2001	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Liu, 2003	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Morikawa, 2005	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Launoy, 2005	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Sohn, 2005	Low risk	Unclear risk	Unclear risk	Low risk	High risk	High risk	Low risk	
Nakazato, 2006	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Levi, 2007	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Castiglione, 2007	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Graser, 2009	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	
Park, 2010	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	
Levi, 2011	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Chen, 2011	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
DeWijkersloot, 2012	Low risk	Low risk	Low risk	Low risk	High risk	High risk	Low risk	
Wong, 2012	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Brenner and Tao, 2013	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	
Shin, 2013	Low risk	High risk	High risk	High risk	Low risk	Low risk	Low risk	
Imperiale, 2014	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	
Hernandez, 2014	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Johnson, 2014	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	
Symonds, 2015	Unclear risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	Low risk	
Stegeman, 2015	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Lee, 2015	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	
Jensen, 2016	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Chen, 2016	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Kim, 2016	High risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Chen and Warner, 2016	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	
Redwood, 2016	High risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Kim, 2017	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Aniwan, 2017	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	
Van der Vlugt, 2017	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Haug, 2017	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk	
Shapiro, 2017	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk	

Table 5: Detailed QUADAS assessment for individual studies

Gies, 2018	Low risk	Low risk	Low risk	Low risk	Low risk	High risk	Low risk
Chen, 2018	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Selby, 2018	Low risk	Low risk	High risk	High risk	Low risk	Low risk	Low risk
Liles, 2018	Low risk	Low risk	Low risk	Low risk	High risk	Low risk	Low risk

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Figures 3A-D: Colorectal cancer detection at varying quantitative thresholds using all available positivity thresholds, from studies with colonoscopy follow-up

A. Positivity thresholds $\leq 10 \ \mu g/g$



B. Positivity thresholds >10 and \leq 20 µg/g

Studyld		SENSITIVITY (95% CI)	Studyld		SPECIFICITY (95% CI)
Liles/2018/OC-Micro		1.00 [0.16 - 1.00]	Liles/2018/OC-Micro		0.96 [0.95 - 0.97]
Gies/2018/QuikRead go		0.63 [0.35 - 0.85]	Gies/2018/QuikRead go	•	0.95 [0.92 - 0.97]
Gies/2018/QuantOn Hem		0.75 [0.48 - 0.93]	Gies/2018/QuantOn Hem	-	0.95 [0.92 - 0.97]
Gies/2018/ImmoCare		0.63 [0.35 - 0.85]	Gies/2018/ImmoCare	<u> </u>	0.95 [0.92 - 0.96]
Gies/2018/Eurolyser FOB		0.56 [0.30 - 0.80]	Gies/2018/Eurolyser FOB		0.97 [0.95 - 0.98]
Gies/2018/FOB-Gold		0.69 [0.41 - 0.89]	Gies/2018/FOB-Gold	- • ·	0.95 [0.92 - 0.96]
Gies/2018/RIDASCREEN Hb		0.81 [0.54 - 0.96]	Gies/2018/RIDASCREEN Hb		0.91 [0.88 - 0.93]
Gies/2018/OC-Sensor		0.56 [0.30 - 0.80]	Gies/2018/OC-Sensor		0.97 [0.96 - 0.99]
Gies/2018/Hb Elisa		0.69 [0.41 - 0.89]	Gies/2018/Hb Elisa	•	0.95 [0.92 - 0.96]
Gies/2018/CAREprime		0.69 [0.41 - 0.89]	Gies/2018/CAREprime	in in	0.95 [0.93 - 0.97]
Shapiro/2017/OC-Sensor		0.00 [0.00 - 0.84]	Shapiro/2017/OC-Sensor	<u>h</u>	0.97 [0.96 - 0.98]
Aniwan/2017/OC-Sensor		0.79 [0.49 - 0.95]	Aniwan/2017/OC-Sensor		0.93 [0.92 - 0.95]
Kim/2017/OC-Sensor		0.69 [0.41 - 0.89]	Kim/2017/OC-Sensor	in 1	0.97 [0.97 - 0.97]
Redwood/2016/OC-Sensor		0.75 [0.19 - 0.99]	Redwood/2016/OC-Sensor	-	0.93 [0.90 - 0.95]
Chen/2016/FOB-Gold		0.97 [0.82 - 1.00]	Chen/2016/FOB-Gold		0.90 [0.89 - 0.91]
Kim/2016/OC-Sensor		0.73 [0.62 - 0.83]	Kim/2016/OC-Sensor	• • •	0.83 [0.81 - 0.84]
Lee/2015/HemoTecht		0.71 [0.42 - 0.92]	Lee/2015/HemoTecht	()	0.96 [0.94 - 0.97]
Johnson/2014/OC-Sensor		1.00 [0.16 - 1.00]	Johnson/2014/OC-Sensor		0.98 [0.95 - 0.99]
Hernandez/2014/OC-Sensor		1.00 [0.48 - 1.00]	Hernandez/2014/OC-Sensor		0.94 [0.92 - 0.95]
Imperiale/2014/OC-Sensor	-	0.74 [0.61 - 0.84]	Imperiale/2014/OC-Sensor		0.94 [0.93 - 0.94]
DeWijkerslooth/2012/OC-Sensor		0.75 [0.35 - 0.97]	DeWijkerslooth/2012/OC-Sensor	•	0.95 [0.93 - 0.96]
Park/2010/OC-Micro		0.69 [0.39 - 0.91]	Park/2010/OC-Micro		0.94 [0.92 - 0.95]
Graser/2009/FOB-Gold		1.00 [0.03 - 1.00]	Graser/2009/FOB-Gold		0.84 [0.79 - 0.88]
Levi/2007/OC-Micro		0.67 [0.09 - 0.99]	Levi/2007/OC-Micro		0.83 [0.73 - 0.91]
Nakazato/2006/OC-Hemodia	- B i	0.53 [0.29 - 0.76]	Nakazato/2006/OC-Hemodia	n i	0.87 [0.86 - 0.88]
Sohn/2005/OC-Hemodia		0.25 [0.05 - 0.57]	Sohn/2005/OC-Hemodia		0.99 [0.98 - 0.99]
COMBINED	•	0.69[0.63 - 0.75]	COMBINED	• •	0.94[0.93 - 0.96]
		Q = 52.39, df = 25.00, p = 0.00		<u> </u>	Q =1966.95, df = 25.00, p = 0.00
		12 = 52.28 [30.89 - 73.66]			12 = 98.73 [98.53 - 98.92]
	0.0 1.0 SENSITIVITY			U.7 1.0 SPECIFICITY	





C. Positivity thresholds >20 and \leq 30 µg/g

D. Positivity thresholds >30 μ g/g



Figures 4A-D: Advanced adenoma detection at varying quantitative thresholds using all available positivity thresholds, from studies with colonoscopy follow-up



A. Positivity thresholds ≤10 µg/g

B. Positivity thresholds >10 and $\leq 20 \ \mu g/g$

Studyld		SENSITIVITY (95% CI)	Studyld		SPECIFICITY (95% CI)
Liles/2018/OC-Sensor		0.13 [0.09 - 0.19]	Liles/2018/OC-Sensor		0.97 [0.96 - 0.97]
Gies/2018/QuikRead go		0.19 [0.13 - 0.25]	Gies/2018/QuikRead go		0.97 [0.94 - 0.98]
Gies/2018/QuantOn Hem		0.19 [0.13 - 0.25]	Gies/2018/QuantOn Hem		0.97 [0.94 - 0.98]
Gies/2018/ImmoCare	<u> </u>	0.20 [0.15 - 0.26]	Gies/2018/ImmoCare		0.97 [0.94 - 0.98]
Gies/2018/Eurolyser FOB		0.14 [0.09 - 0.19]	Gies/2018/Eurolyser FOB	<u> </u>	0.98 [0.96 - 0.99]
Gies/2018/FOB-Gold		0.18 [0.13 - 0.24]	Gies/2018/FOB-Gold	- + -	0.96 [0.94 - 0.98]
Gies/2018/RIDASCREEN Hb	in in	0.31 [0.24 - 0.37]	Gies/2018/RIDASCREEN Hb		0.94 [0.91 - 0.96]
Gies/2018/OC Sensor		0.13 [0.09 - 0.18]	Gies/2018/OC Sensor		0.99 [0.97 - 1.00]
Gies/2018/Hb Elisa		0.17 [0.13 - 0.23]	Gies/2018/Hb Elisa	+ +	0.96 [0.94 - 0.98]
Gies/2018/CAREprime		0.18 [0.13 - 0.24]	Gies/2018/CAREprime		0.97 [0.94 - 0.99]
Shapiro/2017/OC-Sensor		0.15 [0.07 - 0.28]	Shapiro/2017/OC-Sensor		0.98 [0.97 - 0.99]
Kim/2017/OC-Sensor		0.19 [0.16 - 0.23]	Kim/2017/OC-Sensor		0.97 [0.97 - 0.97]
Aniwan/2017/OC-Sensor		0.16 [0.10 - 0.24]	Aniwan/2017/OC-Sensor		0.94 [0.93 - 0.96]
Redwood/2016/OC-Sensor	<u> </u>	0.29 [0.17 - 0.42]	Redwood/2016/OC-Sensor		0.96 [0.93 - 0.98]
Kim/2016/OC-Sensor		0.39 [0.34 - 0.44]	Kim/2016/OC-Sensor		0.84 [0.83 - 0.85]
Chen/2016/FOB-Gold	in i	0.33 [0.28 - 0.38]	Chen/2016/FOB-Gold	i	0.93 [0.92 - 0.94]
Lee/2015/HemoTecht	<u>+</u>	0.43 [0.10 - 0.82]	Lee/2015/HemoTecht	+ + I	0.96 [0.95 - 0.97]
Johnson/2014/OC-Sensor		0.04 [0.00 - 0.20]	Johnson/2014/OC-Sensor		0.98 [0.95 - 1.00]
Imperiale/2014/OC-Sensor		0.24 [0.21 - 0.27]	Imperiale/2014/OC-Sensor	- mi	0.95 [0.94 - 0.95]
Hernandez/2014/OC-Sensor	-	0.26 [0.17 - 0.36]	Hernandez/2014/OC-Sensor	•	0.96 [0.95 - 0.98]
DeWijkerslooth/2012/OC-Sensor		0.29 [0.21 - 0.39]	DeWijkerslooth/2012/OC-Sensor	•	0.97 [0.96 - 0.98]
Park/2010/OC-Sensor	i∎-	0.34 [0.22 - 0.47]	Park/2010/OC-Sensor		0.95 [0.93 - 0.96]
Graser/2009/FOB-Gold		0.29 [0.13 - 0.51]	Graser/2009/FOB-Gold		0.86 [0.81 - 0.90]
Levi/2007/OC-Sensor	-8	0.53 [0.27 - 0.79]	Levi/2007/OC-Sensor		0.92 [0.82 - 0.97]
Nakazato/2006/OC-Hemodia	-	0.25 [0.14 - 0.38]	Nakazato/2006/OC-Hemodia	- • i	0.87 [0.86 - 0.89]
Sohn/2005/OC-Hemodia		0.06 [0.02 - 0.15]	Sohn/2005/OC-Hemodia		0.99 [0.98 - 0.99]
COMBINED	÷	0.21[0.18 - 0.25]	COMBINED		0.96[0.95 - 0.97]
		Q =168.48, df = 25.00, p = 0.00			Q =1768.25, df = 25.00, p = 0.00
		12 = 85.16 [80.28 - 90.05]			12 = 98.59 [98.36 - 98.81]
	SENSITIVITY			SPECIFICITY	

Supplemental materials for "Accuracy of the Quantitative Fecal Immunochemical Test..." C. Positivity thresholds >20 and ≤30 μg/g



D. Positivity thresholds >30 μ g/g



Supplemental materials for "Accuracy of the Quantitative Fecal Immunochemical Test..." Figure 5: Colorectal cancer detection, using the primary positivity threshold from all included studies



Figure 6: Summary receiver operating characteristic for colorectal cancer detection, using the primary positivity threshold of all included studies



Figure 7: Sensitivity analyses for sensitivity and specificity of FIT for colorectal cancer detection including all studies, based on exclusion of select studies



Supplemental materials for "Accuracy of the Quantitative Fecal Immunochemical Test..." Figure 8: Advanced adenoma detection, using the primary positivity threshold of all studies reporting sensitivity and specificity for advanced adenomas



Figure 9: Summary receiver operating characteristic curve for advanced adenoma detection, using the primary positivity threshold of all included studies



Figures 10A-B: Colorectal cancer detection of the OC-Sensor test using all available positivity thresholds from only studies with colonoscopy follow-up

A. Positivity thresholds $\leq 10 \ \mu g/g$



B. Positivity thresholds >10 and $\leq 20 \ \mu g/g$



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Supplemental materials for "Accuracy of the Quantitative Fecal Immunochemical Test..." C. Positivity thresholds >20 $\mu g/g$



Supplemental materials for "Accuracy of the Quantitative Fecal Immunochemical Test..." Figures 11A-B: Advanced adenoma detection of the OC-Sensor test using all available positivity thresholds from only studies with colonoscopy follow-up. Pooled analyses were not possible >20 µg/g because of inadequate number of studies.

A. Positivity thresholds $\leq 10 \ \mu g/g$



B. Positivity thresholds >10 and $\leq 20 \ \mu g/g$



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Figures 12A-B: Colorectal cancer detection in studies that stratified by sex and age. Details of studies in Table 3. A. Sensitivity and specificity stratified by sex. 1=women, 0=men



B. Sensitivity and specificity stratified by sex. 1=60-69 years, 0=50-59 years

