

Report Supplementary Material 11

Table 8. Faecal immunochemical test sensitivity, specificity, PPV, and NPV for ACN at various thresholds in participants who completed 1-3 tests and had at least one colonic examination performed, by sex

Sex	FIT threshold (µg/g)	Test	Completed FIT ^a	Tested +ve		ACN ^b		Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)	NPV (95% CI)
						Total cases	+ve cases				
Men	40	1 st	n 3454	n 246	% 7.1	n 321 ^c	n 63	% 19.6 (15.4 to 24.4)	% 94.2 (93.3 to 95.0)	% 25.6 (20.3 to 31.5)	% 92.0 (91.0 to 92.9)
		2 nd ^d	3184	168	5.3	256	33	12.9 (9.0 to 17.6)	95.4 (94.6 to 96.1)	19.6 (13.9 to 26.5)	92.6 (91.6 to 93.5)
		3 rd ^e	2892	133	4.6	208	23	11.1 (7.1 to 16.1)	95.9 (95.1 to 96.6)	17.3 (11.3 to 24.8)	93.3 (92.3 to 94.2)
		Cumulative 2 tests ^f	3430	414	12.1	319	96	30.1 (25.1 to 35.5)	89.8 (88.7 to 90.8)	23.2 (19.2 to 27.6)	92.6 (91.6 to 93.5)
		test analysis 3 tests ^g	3306	547	16.5	304	119	39.1 (33.6 to 44.9)	85.7 (84.4 to 87.0)	21.8 (18.4 to 25.5)	93.3 (92.3 to 94.2)
		Programme 2 tests ^h	3454	414	12.0	321	96	29.9 (24.9 to 35.2)	89.8 (88.7 to 90.9)	23.2 (19.2 to 27.6)	92.6 (91.6 to 93.5)
	analysis 3 tests ⁱ	3454	547	15.8	321	119	37.1 (31.8 to 42.6)	86.3 (85.1 to 87.5)	21.8 (18.4 to 25.5)	93.1 (92.1 to 93.9)	
	30	1 st	3454	292	8.5	321	74	23.1 (18.6 to 28.1)	93.0 (92.1 to 93.9)	25.3 (20.5 to 30.7)	92.2 (91.2 to 93.1)
		2 nd ^d	3139	202	6.4	245	39	15.9 (11.6 to 21.1)	94.4 (93.5 to 95.2)	19.3 (14.1 to 25.4)	93.0 (92.0 to 93.9)
		3 rd ^e	2815	158	5.6	191	29	15.2 (10.4 to 21.1)	95.1 (94.2 to 95.9)	18.4 (12.7 to 25.3)	93.9 (92.9 to 94.8)
		Cumulative 2 tests ^f	3431	494	14.4	319	113	35.4 (30.2 to 40.9)	87.8 (86.6 to 88.9)	22.9 (19.2 to 26.8)	93.0 (92.0 to 93.9)
		test analysis 3 tests ^g	3309	652	19.7	304	142	46.7 (41.0 to 52.5)	83.0 (81.6 to 84.4)	21.8 (18.7 to 25.1)	93.9 (92.9 to 94.8)
		Programme 2 tests ^h	3454	494	14.3	321	113	35.2 (30.0 to 40.7)	87.8 (86.6 to 89.0)	22.9 (19.2 to 26.8)	93.0 (92.0 to 93.9)
	analysis 3 tests ⁱ	3454	652	18.9	321	142	44.2 (38.7 to 49.9)	83.7 (82.4 to 85.0)	21.8 (18.7 to 25.1)	93.6 (92.6 to 94.5)	
	20	1 st	3454	366	10.6	321	92	28.7 (23.8 to 33.9)	91.3 (90.2 to 92.2)	25.1 (20.8 to 29.9)	92.6 (91.6 to 93.5)

		2nd ^d	3067	236	7.7	227	41	18.1 (13.3 to 23.7)	93.1 (92.1 to 94.0)	17.4 (12.8 to 22.8)	93.4 (92.5 to 94.3)
		3rd ^e	2714	197	7.3	171	25	14.6 (9.7 to 20.8)	93.2 (92.2 to 94.2)	12.7 (8.4 to 18.2)	94.2 (93.2 to 95.1)
		Cumulative									
		2 tests ^f	3433	602	17.5	319	133	41.7 (36.2 to 47.3)	84.9 (83.6 to 86.2)	22.1 (18.8 to 25.6)	93.4 (92.5 to 94.3)
		test analysis									
		3 tests ^g	3316	799	24.1	304	158	52.0 (46.2 to 57.7)	78.7 (77.2 to 80.2)	19.8 (17.1 to 22.7)	94.2 (93.2 to 95.1)
		Programme									
		2 tests ^h	3454	602	17.4	321	133	41.4 (36.0 to 47.0)	85.0 (83.7 to 86.3)	22.1 (18.8 to 25.6)	93.4 (92.4 to 94.3)
		analysis									
		3 tests ⁱ	3454	799	23.1	321	158	49.2 (43.6 to 54.8)	79.5 (78.1 to 80.9)	19.8 (17.1 to 22.7)	93.9 (92.9 to 94.7)
	10	1st	3454	536	15.5	321	117	36.4 (31.2 to 42.0)	86.6 (85.4 to 87.8)	21.8 (18.4 to 25.6)	93.0 (92.0 to 93.9)
		2nd ^d	2898	310	10.7	203	48	23.6 (18.0 to 30.1)	90.3 (89.1 to 91.4)	15.5 (11.6 to 20.0)	94.0 (93.0 to 94.9)
		3rd ^e	2479	246	9.9	143	27	18.9 (12.8 to 26.3)	90.6 (89.4 to 91.8)	11.0 (7.4 to 15.6)	94.8 (93.8 to 95.7)
		Cumulative									
		2 tests ^f	3434	846	24.6	320	165	51.6 (45.9 to 57.2)	78.1 (76.6 to 79.6)	19.5 (16.9 to 22.3)	94.0 (93.0 to 94.9)
		test analysis									
		3 tests ^g	3325	1092	32.8	308	192	62.3 (56.7 to 67.8)	70.2 (68.5 to 71.8)	17.6 (15.4 to 20.0)	94.8 (93.8 to 95.7)
		Programme									
		2 tests ^h	3454	846	24.5	321	165	51.4 (45.8 to 57.0)	78.3 (76.8 to 79.7)	19.5 (16.9 to 22.3)	94.0 (93.0 to 94.9)
		analysis									
		3 tests ⁱ	3454	1092	31.6	321	192	59.8 (54.2 to 65.2)	71.3 (69.7 to 72.9)	17.6 (15.4 to 20.0)	94.5 (93.5 to 95.4)
Women	40	1st	1745	80	4.6	142 ^c	20	14.1 (8.8 to 20.9)	96.3 (95.2 to 97.1)	25.0 (16.0 to 35.9)	92.7 (91.3 to 93.9)
		2nd ^d	1653	65	3.9	120	11	9.2 (4.7 to 15.8)	96.5 (95.4 to 97.3)	16.9 (8.8 to 28.3)	93.1 (91.8 to 94.3)
		3rd ^e	1537	49	3.2	105	15	14.3 (8.2 to 22.5)	97.6 (96.7 to 98.4)	30.6 (18.3 to 45.4)	94.0 (92.6 to 95.1)
		Cumulative									
		2 tests ^f	1733	145	8.4	140	31	22.1 (15.6 to 29.9)	92.8 (91.5 to 94.1)	21.4 (15.0 to 29.0)	93.1 (91.8 to 94.3)
		test analysis									
		3 tests ^g	1682	194	11.5	136	46	33.8 (25.9 to 42.4)	90.4 (88.9 to 91.8)	23.7 (17.9 to 30.3)	94.0 (92.6 to 95.1)
		Programme									
		2 tests ^h	1745	145	8.3	142	31	21.8 (15.3 to 29.5)	92.9 (91.5 to 94.1)	21.4 (15.0 to 29.0)	93.1 (91.7 to 94.3)
		analysis									
		3 tests ⁱ	1745	194	11.1	142	46	32.4 (24.8 to 40.8)	90.8 (89.2 to 92.1)	23.7 (17.9 to 30.3)	93.8 (92.5 to 95.0)
	30	1st	1745	94	5.4	142	21	14.8 (9.4 to 21.7)	95.4 (94.3 to 96.4)	22.3 (14.4 to 32.1)	92.7 (91.3 to 93.9)
		2nd ^d	1639	74	4.5	119	15	12.6 (7.2 to 19.9)	96.1 (95.0 to 97.0)	20.3 (11.8 to 31.2)	93.4 (92.0 to 94.5)
		3rd ^e	1515	62	4.1	101	17	16.8 (10.1 to 25.6)	96.8 (95.8 to 97.7)	27.4 (16.9 to 40.2)	94.2 (92.9 to 95.4)
		Cumulative									
		2 tests ^f	1733	168	9.7	140	36	25.7 (18.7 to 33.8)	91.7 (90.3 to 93.0)	21.4 (15.5 to 28.4)	93.4 (92.0 to 94.5)
		test analysis									
		3 tests ^g	1683	230	13.7	137	53	38.7 (30.5 to 47.4)	88.6 (86.9 to 90.1)	23.0 (17.8 to 29.0)	94.2 (92.9 to 95.4)

	Programme analysis	2 tests^h	1745	168	9.6	142	36	25.4 (18.4 to 33.3)	91.8 (90.3 to 93.1)	21.4 (15.5 to 28.4)	93.3 (91.9 to 94.5)	
	analysis	3 testsⁱ	1745	230	13.2	142	53	37.3 (29.4 to 45.8)	89.0 (87.3 to 90.5)	23.0 (17.8 to 29.0)	94.1 (92.8 to 95.3)	
20		1st	1745	126	7.2	142	27	19.0 (12.9 to 26.4)	93.8 (92.5 to 95.0)	21.4 (14.6 to 29.6)	92.9 (91.5 to 94.1)	
		2nd^d	1610	95	5.9	114	18	15.8 (9.6 to 23.8)	94.9 (93.6 to 95.9)	18.9 (11.6 to 28.3)	93.7 (92.3 to 94.8)	
		3rd^e	1468	70	4.8	93	17	18.3 (11.0 to 27.6)	96.1 (95.0 to 97.1)	24.3 (14.8 to 36.0)	94.6 (93.2 to 95.7)	
		Cumulative test analysis	2 tests^f	1736	221	12.7	141	45	31.9 (24.3 to 40.3)	89.0 (87.3 to 90.5)	20.4 (15.3 to 26.3)	93.7 (92.3 to 94.8)
		test analysis	3 tests^g	1689	291	17.2	138	62	44.9 (36.5 to 53.6)	85.2 (83.4 to 87.0)	21.3 (16.7 to 26.5)	94.6 (93.2 to 95.7)
		Programme analysis	2 tests^h	1745	221	12.7	142	45	31.7 (24.1 to 40.0)	89.0 (87.4 to 90.5)	20.4 (15.3 to 26.3)	93.6 (92.3 to 94.8)
		analysis	3 testsⁱ	1745	291	16.7	142	62	43.7 (35.4 to 52.2)	85.7 (83.9 to 87.4)	21.3 (16.7 to 26.5)	94.5 (93.2 to 95.6)
10		1st	1745	206	11.8	142	42	29.6 (22.2 to 37.8)	89.8 (88.2 to 91.2)	20.4 (15.1 to 26.5)	93.5 (92.2 to 94.7)	
		2nd^d	1531	131	8.6	99	20	20.2 (12.8 to 29.5)	92.2 (90.7 to 93.6)	15.3 (9.6 to 22.6)	94.4 (93.0 to 95.5)	
		3rd^e	1358	101	7.4	76	16	21.1 (12.5 to 31.9)	93.4 (91.9 to 94.7)	15.8 (9.3 to 24.4)	95.2 (93.9 to 96.3)	
		Cumulative test analysis	2 tests^f	1737	337	19.4	141	62	44.0 (35.6 to 52.6)	82.8 (80.8 to 84.6)	18.4 (14.4 to 23.0)	94.4 (93.0 to 95.5)
		test analysis	3 tests^g	1695	438	25.8	138	78	56.5 (47.8 to 64.9)	76.9 (74.7 to 79.0)	17.8 (14.3 to 21.7)	95.2 (93.9 to 96.3)
		Programme analysis	2 tests^h	1745	337	19.3	142	62	43.7 (35.4 to 52.2)	82.8 (80.9 to 84.7)	18.4 (14.4 to 23.0)	94.3 (93.0 to 95.5)
		analysis	3 testsⁱ	1745	438	25.1	142	78	54.9 (46.4 to 63.3)	77.5 (75.4 to 79.6)	17.8 (14.3 to 21.7)	95.1 (93.8 to 96.2)

PPV, positive predictive value; NPV, negative predictive value; ACN, advanced colorectal neoplasia; FIT, faecal immunochemical test; +ve, positive; CI, confidence interval.

- Participants were not included as invited to any subsequent tests following a FIT positive test at the specified threshold.
- ACN was defined as CRC or AA. AAs were defined as adenomas (namely an adenoma, serrated adenoma, or mixed hyperplastic/dysplastic adenoma) which satisfied at least one of the following criteria: (1) ≥ 10 mm in size or (2) tubulovillous or villous histology or (3) high grade dysplasia.
- A total of 463 participants had advanced neoplasia: 20 participants had CRC but no AAs, 437 participants had AAs but not CRC, and six participants had both CRC and AAs.
- The round at which a participant completed their second FIT; for a particular participant this could be round 2 or round 3.
- The round at which a participant completes their third FIT; equivalent to round 3 in participants who completed FIT at both prior rounds.

- f. Includes participants who completed at least two rounds of FIT or who were FIT positive at round 1; participants were classed as positive if FIT was positive at either of the first two rounds at which they completed FIT.
- g. Includes participants who completed all three rounds of FIT or who were FIT positive at any round; participants were classed as positive if FIT was positive at any of the three rounds.
- h. Includes participants who completed at least one round of FIT; participants were classed as positive if FIT was positive at either of the first two rounds at which they completed FIT.
- i. Includes participants who completed at least one round of FIT; participants were classed as positive if FIT was positive at any of the three rounds.