

Report Supplementary Material 8

Table 5. Faecal immunochemical test sensitivity, specificity, PPV, and NPV for CRC at various thresholds in participants who completed 1-3 tests and had at least one colonic examination performed, by age at invite

Age at invite (years)	FIT threshold (µg/g)	Test	Completed FIT ^a	Tested +ve		CRCs		Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)	NPV (95% CI)
						Total cases	FIT +ve cases				
			n	n	%	n	n	%	%	%	%
≤ 65	40	1 st	2532	136	5.4	12	2	16.7 (2.1 to 48.4)	94.7 (93.7 to 95.5)	1.5 (0.2 to 5.2)	99.6 (99.2 to 99.8)
		2 nd ^b	2376	107	4.5	9	3	33.3 (7.5 to 70.1)	95.6 (94.7 to 96.4)	2.8 (0.6 to 8.0)	99.7 (99.4 to 99.9)
		3 rd ^c	2173	84	3.9	4	2	50.0 (6.8 to 93.2)	96.2 (95.3 to 97.0)	2.4 (0.3 to 8.3)	99.9 (99.7 to 100.0)
		Cumulative 2 tests ^d	2512	243	9.7	11	5	45.5 (16.7 to 76.6)	90.5 (89.3 to 91.6)	2.1 (0.7 to 4.7)	99.7 (99.4 to 99.9)
		test analysis 3 tests ^e	2416	327	13.5	9	7	77.8 (40.0 to 97.2)	86.7 (85.3 to 88.0)	2.1 (0.9 to 4.4)	99.9 (99.7 to 100.0)
		Programme 2 tests ^f	2532	243	9.6	12	5	41.7 (15.2 to 72.3)	90.6 (89.3 to 91.7)	2.1 (0.7 to 4.7)	99.7 (99.4 to 99.9)
		analysis 3 tests ^g	2532	327	12.9	12	7	58.3 (27.7 to 84.8)	87.3 (85.9 to 88.6)	2.1 (0.9 to 4.4)	99.8 (99.5 to 99.9)
	30	1 st	2532	160	6.3	12	3	25.0 (5.5 to 57.2)	93.8 (92.8 to 94.7)	1.9 (0.4 to 5.4)	99.6 (99.3 to 99.8)
		2 nd ^b	2353	119	5.1	8	2	25.0 (3.2 to 65.1)	95.0 (94.1 to 95.9)	1.7 (0.2 to 5.9)	99.7 (99.4 to 99.9)
		3 rd ^c	2139	105	4.9	4	3	75.0 (19.4 to 99.4)	95.2 (94.2 to 96.1)	2.9 (0.6 to 8.1)	100.0 (99.7 to 100.0)
		Cumulative 2 tests ^d	2513	279	11.1	11	5	45.5 (16.7 to 76.6)	89.0 (87.8 to 90.2)	1.8 (0.6 to 4.1)	99.7 (99.4 to 99.9)
		test analysis 3 tests ^e	2418	384	15.9	9	8	88.9 (51.8 to 99.7)	84.4 (82.9 to 85.8)	2.1 (0.9 to 4.1)	100.0 (99.7 to 100.0)
		Programme 2 tests ^f	2532	279	11.0	12	5	41.7 (15.2 to 72.3)	89.1 (87.8 to 90.3)	1.8 (0.6 to 4.1)	99.7 (99.4 to 99.9)
	20	1 st	2532	206	8.1	12	3	25.0 (5.5 to 57.2)	91.9 (90.8 to 93.0)	1.5 (0.3 to 4.2)	99.6 (99.3 to 99.8)
2 nd ^b		2310	154	6.7	8	2	25.0 (3.2 to 65.1)	93.4 (92.3 to 94.4)	1.3 (0.2 to 4.6)	99.7 (99.4 to 99.9)	

		3 rd c	2067	129	6.2	4	3	75.0 (19.4 to 99.4)	93.9 (92.8 to 94.9)	2.3 (0.5 to 6.6)	99.9 (99.7 to 100.0)
		Cumulative 2 tests d	2516	360	14.3	11	5	45.5 (16.7 to 76.6)	85.8 (84.4 to 87.2)	1.4 (0.5 to 3.2)	99.7 (99.4 to 99.9)
		test analysis 3 tests e	2427	489	20.1	9	8	88.9 (51.8 to 99.7)	80.1 (78.5 to 81.7)	1.6 (0.7 to 3.2)	99.9 (99.7 to 100.0)
		Programme 2 tests f	2532	360	14.2	12	5	41.7 (15.2 to 72.3)	85.9 (84.5 to 87.2)	1.4 (0.5 to 3.2)	99.7 (99.3 to 99.9)
		analysis 3 tests g	2532	489	19.3	12	8	66.7 (34.9 to 90.1)	80.9 (79.3 to 82.4)	1.6 (0.7 to 3.2)	99.8 (99.5 to 99.9)
	10	1 st	2532	321	12.7	12	5	41.7 (15.2 to 72.3)	87.5 (86.1 to 88.7)	1.6 (0.5 to 3.6)	99.7 (99.3 to 99.9)
		2 nd b	2197	212	9.6	7	3	42.9 (9.9 to 81.6)	90.5 (89.1 to 91.7)	1.4 (0.3 to 4.1)	99.8 (99.5 to 99.9)
		3 rd c	1904	177	9.3	2	1	50.0 (1.3 to 98.7)	90.7 (89.4 to 92.0)	0.6 (0.0 to 3.1)	99.9 (99.7 to 100.0)
		Cumulative 2 tests d	2518	533	21.2	12	8	66.7 (34.9 to 90.1)	79.1 (77.4 to 80.6)	1.5 (0.7 to 2.9)	99.8 (99.5 to 99.9)
		test analysis 3 tests e	2437	710	29.1	10	9	90.0 (55.5 to 99.7)	71.1 (69.3 to 72.9)	1.3 (0.6 to 2.4)	99.9 (99.7 to 100.0)
		Programme 2 tests f	2532	533	21.1	12	8	66.7 (34.9 to 90.1)	79.2 (77.5 to 80.7)	1.5 (0.7 to 2.9)	99.8 (99.5 to 99.9)
		analysis 3 tests g	2532	710	28.0	12	9	75.0 (42.8 to 94.5)	72.2 (70.4 to 73.9)	1.3 (0.6 to 2.4)	99.8 (99.5 to 100.0)
> 65	40	1 st	2667	190	7.1	14	6	42.9 (17.7 to 71.1)	93.1 (92.0 to 94.0)	3.2 (1.2 to 6.7)	99.7 (99.4 to 99.9)
		2 nd b	2461	126	5.1	7	5	71.4 (29.0 to 96.3)	95.1 (94.1 to 95.9)	4.0 (1.3 to 9.0)	99.9 (99.7 to 100.0)
		3 rd c	2256	98	4.3	2	0	0.0 (0.0 to 84.2)	95.7 (94.7 to 96.5)	0.0 (0.0 to 3.7)	99.9 (99.7 to 100.0)
		Cumulative 2 tests d	2651	316	11.9	13	11	84.6 (54.6 to 98.1)	88.4 (87.2 to 89.6)	3.5 (1.8 to 6.1)	99.9 (99.7 to 100.0)
		test analysis 3 tests e	2572	414	16.1	13	11	84.6 (54.6 to 98.1)	84.3 (82.8 to 85.6)	2.7 (1.3 to 4.7)	99.9 (99.7 to 100.0)
		Programme 2 tests f	2667	316	11.8	14	11	78.6 (49.2 to 95.3)	88.5 (87.2 to 89.7)	3.5 (1.8 to 6.1)	99.9 (99.6 to 100.0)
		analysis 3 tests g	2667	414	15.5	14	11	78.6 (49.2 to 95.3)	84.8 (83.4 to 86.2)	2.7 (1.3 to 4.7)	99.9 (99.6 to 100.0)
	30	1 st	2667	226	8.5	14	7	50.0 (23.0 to 77.0)	91.7 (90.6 to 92.8)	3.1 (1.3 to 6.3)	99.7 (99.4 to 99.9)
		2 nd b	2425	157	6.5	6	4	66.7 (22.3 to 95.7)	93.7 (92.6 to 94.6)	2.5 (0.7 to 6.4)	99.9 (99.7 to 100.0)
		3 rd c	2191	115	5.2	2	0	0.0 (0.0 to 84.2)	94.7 (93.7 to 95.6)	0.0 (0.0 to 3.2)	99.9 (99.7 to 100.0)
		Cumulative 2 tests d	2651	383	14.4	13	11	84.6 (54.6 to 98.1)	85.9 (84.5 to 87.2)	2.9 (1.4 to 5.1)	99.9 (99.7 to 100.0)
		test analysis 3 tests e	2574	498	19.3	13	11	84.6 (54.6 to 98.1)	81.0 (79.4 to 82.5)	2.2 (1.1 to 3.9)	99.9 (99.7 to 100.0)
		Programme 2 tests f	2667	383	14.4	14	11	78.6 (49.2 to 95.3)	86.0 (84.6 to 87.3)	2.9 (1.4 to 5.1)	99.9 (99.6 to 100.0)

	analysis	3 tests ^g	2667	498	18.7	14	11	78.6 (49.2 to 95.3)	81.6 (80.1 to 83.1)	2.2 (1.1 to 3.9)	99.9 (99.6 to 100.0)	
20		1st	2667	286	10.7	14	9	64.3 (35.1 to 87.2)	89.6 (88.3 to 90.7)	3.1 (1.4 to 5.9)	99.8 (99.5 to 99.9)	
		2nd ^b	2367	177	7.5	5	4	80.0 (28.4 to 92.9)	92.7 (91.5 to 93.7)	2.3 (0.6 to 5.7)	100.0 (99.7 to 100.0)	
		3rd ^c	2115	138	6.5	1	0	0.0 (0.0 to 97.5)	93.5 (92.3 to 94.5)	0.0 (0.0 to 2.6)	99.9 (99.7 to 100.0)	
		Cumulative	2 tests ^d	2653	463	17.5	14	13	92.9 (66.1 to 99.8)	82.9 (81.5 to 84.4)	2.8 (1.5 to 4.8)	100.0 (99.7 to 100.0)
		test analysis	3 tests ^e	2578	601	23.3	14	13	92.9 (66.1 to 99.8)	77.1 (75.4 to 78.7)	2.2 (1.2 to 3.7)	99.9 (99.7 to 100.0)
		Programme	2 tests ^f	2667	463	17.4	14	13	92.9 (66.1 to 99.8)	83.0 (81.6 to 84.4)	2.8 (1.5 to 4.8)	100.0 (99.7 to 100.0)
		analysis	3 tests ^g	2667	601	22.5	14	13	92.9 (66.1 to 99.8)	77.8 (76.2 to 79.4)	2.2 (1.2 to 3.7)	100.0 (99.7 to 100.0)
10		1st	2667	421	15.8	14	11	78.6 (49.2 to 95.3)	84.5 (83.1 to 85.9)	2.6 (1.3 to 4.6)	99.9 (99.6 to 100.0)	
		2nd ^b	2232	229	10.3	3	2	66.7 (9.4 to 99.2)	89.8 (88.5 to 91.0)	0.9 (0.1 to 3.1)	100.0 (99.7 to 100.0)	
		3rd ^c	1933	170	8.8	1	0	0.0 (0.0 to 97.5)	91.2 (89.8 to 92.4)	0.0 (0.0 to 2.1)	99.9 (99.7 to 100.0)	
		Cumulative	2 tests ^d	2653	650	24.5	14	13	92.9 (66.1 to 99.8)	75.9 (74.2 to 77.5)	2.0 (1.1 to 3.4)	100.0 (99.7 to 100.0)
		test analysis	3 tests ^e	2583	820	31.7	14	13	92.9 (66.1 to 99.8)	68.6 (66.8 to 70.4)	1.6 (0.8 to 2.7)	99.9 (99.7 to 100.0)
		Programme	2 tests ^f	2667	650	24.4	14	13	92.9 (66.1 to 99.8)	76.0 (74.3 to 77.6)	2.0 (1.1 to 3.4)	100.0 (99.7 to 100.0)
		analysis	3 tests ^g	2667	820	30.7	14	13	92.9 (66.1 to 99.8)	69.6 (67.8 to 71.3)	1.6 (0.8 to 2.7)	99.9 (99.7 to 100.0)

PPV, positive predictive value; NPV, negative predictive value; CRC, colorectal cancer; FIT, faecal immunochemical test; +ve, positive; CI, confidence interval.

- a. Participants were not included as invited to any subsequent tests following a FIT positive test at the specified threshold.
- b. The round at which a participant completed their second FIT; for a particular participant this could be round 2 or round 3.
- c. The round at which a participant completed their third FIT; equivalent to round 3 in participants who completed FIT at both prior rounds.
- d. 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.
- e. 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.
- f. 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.
- g. 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.