

Report Supplementary Material 9

Table 6. Faecal immunochemical test sensitivity, specificity, PPV, and NPV for AAs at various thresholds in participants who completed 1-3 tests and had at least one colonic examination performed, by sex

Age at invite (years)	FIT threshold (µg/g)	Test	Completed FIT ^a	Tested +ve		AAs ^b		Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)	NPV (95% CI)
						Total cases	FIT +ve cases				
Men	40	1 st	n 3454	n 246	% 7.1	n 311	n 59	% 19.0 (14.8 to 23.8)	% 94.1 (93.2 to 94.9)	% 24.0 (18.8 to 29.8)	% 92.1 (91.2 to 93.1)
		2 nd ^c	3184	168	5.3	251	30	12.0 (8.2 to 16.6)	95.3 (94.5 to 96.0)	17.9 (12.4 to 24.5)	92.7 (91.7 to 93.6)
		3 rd ^d	2892	133	4.6	207	23	11.1 (7.2 to 16.2)	95.9 (95.1 to 96.6)	17.3 (11.3 to 24.8)	93.3 (92.3 to 94.2)
		Cumulative 2 tests ^e	3430	414	12.1	310	89	28.7 (23.7 to 34.1)	89.6 (88.5 to 90.6)	21.5 (17.6 to 25.8)	92.7 (91.7 to 93.6)
		test analysis 3 tests ^f	3306	547	16.5	296	112	37.8 (32.3 to 43.6)	85.5 (84.2 to 86.8)	20.5 (17.2 to 24.1)	93.3 (92.3 to 94.2)
		Programme 2 tests ^g	3454	414	12.0	311	89	28.6 (23.7 to 34.0)	89.7 (88.5 to 90.7)	21.5 (17.6 to 25.8)	92.7 (91.7 to 93.6)
	analysis 3 tests ^h	3454	547	15.8	311	112	36.0 (30.7 to 41.6)	86.2 (84.9 to 87.3)	20.5 (17.2 to 24.1)	93.2 (92.2 to 94.0)	
	30	1 st	3454	292	8.5	311	68	21.9 (17.4 to 26.9)	92.9 (91.9 to 93.7)	23.3 (18.6 to 28.6)	92.3 (91.3 to 93.2)
		2 nd ^c	3139	202	6.4	242	38	15.7 (11.4 to 20.9)	94.3 (93.4 to 95.2)	18.8 (13.7 to 24.9)	93.1 (92.1 to 93.9)
		3 rd ^d	2815	158	5.6	190	29	15.3 (10.5 to 21.2)	95.1 (94.2 to 95.9)	18.4 (12.7 to 25.3)	93.9 (93.0 to 94.8)
		Cumulative 2 tests ^e	3431	494	14.4	310	106	34.2 (28.9 to 39.8)	87.6 (86.4 to 88.7)	21.5 (17.9 to 25.3)	93.1 (92.1 to 93.9)
		test analysis 3 tests ^f	3309	652	19.7	296	135	45.6 (39.8 to 51.5)	82.8 (81.4 to 84.2)	20.7 (17.7 to 24.0)	93.9 (93.0 to 94.8)
		Programme 2 tests ^g	3454	494	14.3	311	106	34.1 (28.8 to 39.6)	87.7 (86.5 to 88.8)	21.5 (17.9 to 25.3)	93.1 (92.1 to 94.0)
	analysis 3 tests ^h	3454	652	18.9	311	135	43.4 (37.8 to 49.1)	83.6 (82.2 to 84.8)	20.7 (17.7 to 24.0)	93.7 (92.8 to 94.6)	
	20	1 st	3454	366	10.6	311	86	27.7 (22.8 to 33.0)	91.1 (90.0 to 92.1)	23.5 (19.2 to 28.2)	92.7 (91.7 to 93.6)

		2nd ^c	3067	236	7.7	224	40	17.9 (13.1 to 23.5)	93.1 (92.1 to 94.0)	16.9 (12.4 to 22.4)	93.5 (92.5 to 94.4)
		3rd ^d	2714	197	7.3	170	25	14.7 (9.7 to 20.9)	93.2 (92.2 to 94.2)	12.7 (8.4 to 18.2)	94.2 (93.3 to 95.1)
		Cumulative									
		2 tests ^e	3433	602	17.5	310	126	40.6 (35.1 to 46.3)	84.8 (83.4 to 86.0)	20.9 (17.7 to 24.4)	93.5 (92.5 to 94.4)
		test analysis									
		3 tests ^f	3316	799	24.1	296	151	51.0 (45.2 to 56.8)	78.5 (77.0 to 80.0)	18.9 (16.2 to 21.8)	94.2 (93.3 to 95.1)
		Programme									
		2 tests ^g	3454	602	17.4	311	126	40.5 (35.0 to 46.2)	84.9 (83.6 to 86.1)	20.9 (17.7 to 24.4)	93.5 (92.5 to 94.4)
		analysis									
		3 tests ^h	3454	799	23.1	311	151	48.6 (42.9 to 54.3)	79.4 (77.9 to 80.8)	18.9 (16.2 to 21.8)	94.0 (93.0 to 94.8)
	10	1st	3454	536	15.5	311	110	35.4 (30.1 to 41.0)	86.4 (85.2 to 87.6)	20.5 (17.2 to 24.2)	93.1 (92.1 to 94.0)
		2nd ^c	2898	310	10.7	200	47	23.5 (17.8 to 30.0)	90.3 (89.1 to 91.3)	15.2 (11.4 to 19.6)	94.1 (93.1 to 95.0)
		3rd ^d	2479	246	9.9	142	27	19.0 (12.9 to 26.4)	90.6 (89.4 to 91.8)	11.0 (7.4 to 15.6)	94.8 (93.9 to 95.7)
		Cumulative									
		2 tests ^e	3434	846	24.6	310	157	50.6 (44.9 to 56.3)	77.9 (76.4 to 79.4)	18.6 (16.0 to 21.3)	94.1 (93.1 to 95.0)
		test analysis									
		3 tests ^f	3325	1092	32.8	299	184	61.5 (55.8 to 67.1)	70.0 (68.3 to 71.6)	16.8 (14.7 to 19.2)	94.8 (93.9 to 95.7)
		Programme									
		2 tests ^g	3454	846	24.5	311	157	50.5 (44.8 to 56.2)	78.1 (76.6 to 79.5)	18.6 (16.0 to 21.3)	94.1 (93.1 to 95.0)
		analysis									
		3 tests ^h	3454	1092	31.6	311	184	59.2 (53.5 to 64.7)	71.1 (69.5 to 72.7)	16.8 (14.7 to 19.2)	94.6 (93.6 to 95.5)
Women	40	1st	1745	80	4.6	132	19	14.4 (8.9 to 21.6)	96.2 (95.2 to 97.1)	23.8 (14.9 to 34.6)	93.2 (91.9 to 94.4)
		2nd ^c	1653	65	3.9	112	8	7.1 (3.1 to 13.6)	96.3 (95.2 to 97.2)	12.3 (5.5 to 22.8)	93.5 (92.1 to 94.6)
		3rd ^d	1537	49	3.2	101	13	12.9 (7.0 to 21.0)	97.5 (96.5 to 98.2)	26.5 (14.9 to 41.1)	94.1 (92.8 to 95.2)
		Cumulative									
		2 tests ^e	1733	145	8.4	131	27	20.6 (14.0 to 28.6)	92.6 (91.2 to 93.9)	18.6 (12.6 to 25.9)	93.5 (92.1 to 94.6)
		test analysis									
		3 tests ^f	1682	194	11.5	128	40	31.3 (23.4 to 40.0)	90.1 (88.5 to 91.5)	20.6 (15.2 to 27.0)	94.1 (92.8 to 95.2)
		Programme									
		2 tests ^g	1745	145	8.3	132	27	20.5 (13.9 to 28.3)	92.7 (91.3 to 93.9)	18.6 (12.6 to 25.9)	93.4 (92.1 to 94.6)
		analysis									
		3 tests ^h	1745	194	11.1	132	40	30.3 (22.6 to 38.9)	90.5 (88.9 to 91.8)	20.6 (15.2 to 27.0)	94.1 (92.8 to 95.2)
	30	1st	1745	94	5.4	132	20	15.2 (9.5 to 22.4)	95.4 (94.3 to 96.4)	21.3 (13.5 to 30.9)	93.2 (91.9 to 94.4)
		2nd ^c	1639	74	4.5	111	12	10.8 (5.7 to 18.1)	95.9 (94.8 to 96.9)	16.2 (8.7 to 26.6)	93.7 (92.4 to 94.8)
		3rd ^d	1515	62	4.1	97	15	15.5 (8.9 to 24.2)	96.7 (95.6 to 97.6)	24.2 (14.2 to 36.7)	94.4 (93.0 to 95.5)
		Cumulative									
		2 tests ^e	1733	168	9.7	131	32	24.4 (17.3 to 32.7)	91.5 (90.0 to 92.8)	19.0 (13.4 to 25.8)	93.7 (92.4 to 94.8)
		test analysis									
		3 tests ^f	1683	230	13.7	129	47	36.4 (28.1 to 45.4)	88.2 (86.5 to 89.8)	20.4 (15.4 to 26.2)	94.4 (93.0 to 95.5)

	Programme analysis	2 tests^g	1745	168	9.6	132	32	24.2 (17.2 to 32.5)	91.6 (90.1 to 92.9)	19.0 (13.4 to 25.8)	93.7 (92.3 to 94.8)	
	analysis	3 tests^h	1745	230	13.2	132	47	35.6 (27.5 to 44.4)	88.7 (87.0 to 90.2)	20.4 (15.4 to 26.2)	94.4 (93.1 to 95.5)	
20		1st	1745	126	7.2	132	25	18.9 (12.6 to 26.7)	93.7 (92.4 to 94.9)	19.8 (13.3 to 27.9)	93.4 (92.1 to 94.6)	
		2nd^c	1610	95	5.9	106	14	13.2 (7.4 to 21.2)	94.6 (93.4 to 95.7)	14.7 (8.3 to 23.5)	93.9 (92.6 to 95.1)	
		3rd^d	1468	70	4.8	90	15	16.7 (9.6 to 26.0)	96.0 (94.8 to 97.0)	21.4 (12.5 to 32.9)	94.6 (93.3 to 95.8)	
		Cumulative test analysis	2 tests^e	1736	221	12.7	131	39	29.8 (22.1 to 38.4)	88.7 (87.0 to 90.2)	17.6 (12.9 to 23.3)	93.9 (92.6 to 95.1)
		test analysis	3 tests^f	1689	291	17.2	129	54	41.9 (33.2 to 50.9)	84.8 (82.9 to 86.6)	18.6 (14.3 to 23.5)	94.6 (93.3 to 95.8)
		Programme analysis	2 tests^g	1745	221	12.7	132	39	29.5 (21.9 to 38.1)	88.7 (87.1 to 90.2)	17.6 (12.9 to 23.3)	93.9 (92.6 to 95.0)
	analysis	3 tests^h	1745	291	16.7	132	54	40.9 (32.4 to 49.8)	85.3 (83.5 to 87.0)	18.6 (14.3 to 23.5)	94.6 (93.3 to 95.7)	
10		1st	1745	206	11.8	132	37	28.0 (20.6 to 36.5)	89.5 (87.9 to 91.0)	18.0 (13.0 to 23.9)	93.8 (92.5 to 95.0)	
		2nd^c	1531	131	8.6	94	18	19.1 (11.8 to 28.6)	92.1 (90.6 to 93.5)	13.7 (8.4 to 20.8)	94.6 (93.3 to 95.7)	
		3rd^d	1358	101	7.4	74	15	20.3 (11.8 to 31.2)	93.3 (91.8 to 94.6)	14.9 (8.6 to 23.3)	95.3 (94.0 to 96.4)	
		Cumulative test analysis	2 tests^e	1737	337	19.4	131	55	42.0 (33.4 to 50.9)	82.4 (80.5 to 84.3)	16.3 (12.5 to 20.7)	94.6 (93.3 to 95.7)
		test analysis	3 tests^f	1695	438	25.8	129	70	54.3 (45.3 to 63.1)	76.5 (74.3 to 78.6)	16.0 (12.7 to 19.8)	95.3 (94.0 to 96.4)
		Programme analysis	2 tests^g	1745	337	19.3	132	55	41.7 (33.2 to 50.6)	82.5 (80.6 to 84.3)	16.3 (12.5 to 20.7)	94.5 (93.2 to 95.7)
	analysis	3 tests^h	1745	438	25.1	132	70	53.0 (44.2 to 61.8)	77.2 (75.1 to 79.2)	16.0 (12.7 to 19.8)	95.3 (94.0 to 96.3)	

PPV, positive predictive value; NPV, negative predictive value; AA, advanced adenoma; 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.
- Advanced adenomas 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.
- 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 completed their third FIT; equivalent to round 3 in participants who completed FIT at both prior rounds.
- 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.
- 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.

- g. 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.
- h. 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.