



LONG-TERM PROGRAMMATIC PARTICIPATION PATTERNS, POSITIVITY RATES, AND YIELDS FOR NEOPLASIA IN CATALONIA'S ORGANIZED FECAL IMMUNOCHEMICAL (FIT)-BASED COLORECTAL CANCER (CRC) SCREENING PROGRAM

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Resumen

Introduction: The emergence of blood-based biomarkers intensifies the demand for data on the real-world long-term uptake and yield of FIT.

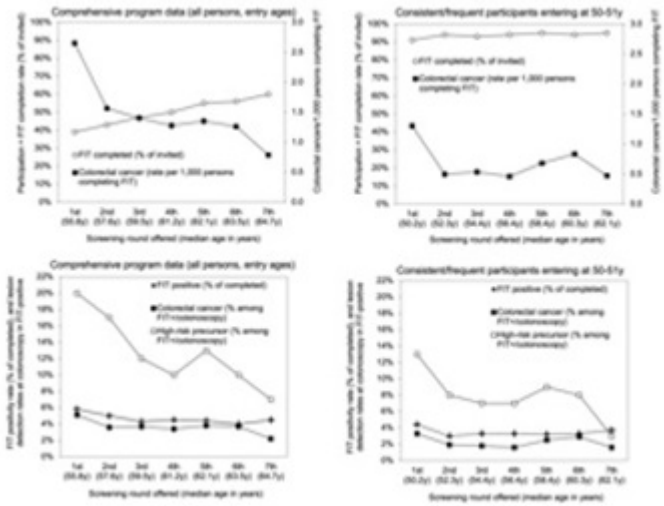
Objectives: To characterize long-term participation patterns, FIT positivity rates and yields for neoplasia in the Catalan FIT-based CRC screening program since 2010.

Methods: Participation, FIT positivity and yield (CRC; high-risk precursors = advanced adenoma/sessile serrated lesion or 5+ non-advanced ones) were determined with 2 perspectives: 1) Program (all persons regardless of age at entry); 2) Adherent cohort (entry at 50-51 yo with longitudinal consistent/frequent [100%/66-99% of rounds offered] participation).

Results: Participation patterns: Among 2.81M persons with 1-9 rounds offered/person, participation patterns were: 29.2% consistent, 8.6% frequent, 16.0% occasional [1-65%], and 46.2% never. FIT participation & positivity: Per-round FIT completed/offered ranged 39-60% for the Program, and 91-98% for the Adherent Cohort. FIT-positivity was highest in round 1 and settled at a steady state in rounds 2+ in both scenarios. Neoplasia yield: CRC/1,000 persons completing FIT was substantially higher in round 1 vs. rounds 2+ in both scenarios. Similarly, high-risk precursor and CRC detection were highest in round 1, with CRC detection settling at a steady state and high-risk precursor detection remaining substantial in rounds 2+. Adherent Cohort vs. Program: FIT-positivity and neoplasia yield were higher at a given round in the Program vs. Adherent cohort.

Participation and FIT positivity				Neoplasia yield at colonoscopy		
Round	Invited, n (median age)	FIT completed, n (% of invited)	FIT positive, n (% of completed)	CRCs, n (% of FIT+ with colonoscopy)	High-risk CRC precursor*, n (% of FIT+ with colonoscopy)	CRC detection rate per 1,000 participants completing FIT
Comprehensive programmatic data (all persons)						
1st	2,807,580 (55.6y)	1,085,854 (39%)	63,380 (5.8%)	2,874 (5.3%)	11,475 (20%)	2.7
2nd	2,153,501 (57.6y)	932,890 (43%)	56,317 (6.0%)	1,461 (3.6%)	6,809 (12%)	1.6
3rd	1,648,638 (58.5y)	772,858 (47%)	33,091 (4.3%)	1,084 (3.3%)	3,572 (12%)	1.4
4th	1,105,809 (61.2y)	555,218 (50%)	24,812 (4.5%)	709 (3.4%)	2,058 (13%)	1.3
5th	294,405 (62.3y)	160,101 (55%)	7,106 (4.4%)	217 (3.8%)	729 (23%)	1.4
6th	138,979 (63.3y)	77,662 (56%)	3,181 (4.1%)	89 (0.7%)	287 (10%)	1.3
7th	45,574 (64.7y)	36,910 (81%)	1,671 (4.5%)	29 (0.2%)	94 (7%)	0.8
8th	1,854 (65.6y)	891 (54%)	41 (4.6%)	0 (0%)	2 (7%)	0.0
9th	13 (66.3y)	1 (8%)	1 (100%)	0 (0%)	0 (0%)	0.0
Consistent/frequent participants with age of entry 50-53						
1st	403,176 (50.3y)	354,360 (88%)	18,048 (5.1%)	474 (3.3%)	1,950 (10%)	1.30
2nd	288,131 (52.3y)	269,811 (94%)	8,147 (3.0%)	134 (1.9%)	560 (9%)	0.50
3rd	215,132 (54.4y)	195,147 (91%)	6,488 (3.3%)	104 (1.8%)	409 (7%)	0.53
4th	115,812 (56.4y)	100,074 (86%)	3,500 (3.5%)	50 (1.6%)	212 (7%)	0.48
5th	41,880 (58.4y)	39,744 (95%)	1,254 (3.2%)	27 (1.5%)	95 (9%)	0.68
6th	21,761 (60.3y)	20,431 (94%)	683 (3.3%)	17 (1.9%)	44 (8%)	0.63
7th	8,939 (62.3y)	8,478 (95%)	212 (2.5%)	6 (1.6%)	8 (3%)	0.47
8th	137 (63.3y)	134 (98%)	4 (3.0%)	0 (0%)	0 (0%)	0.00

* High-risk CRC precursor = advanced adenoma or advanced serrated serrated lesion, or 3+ nonadvanced adenoma/serrated serrated lesions



Conclusions: With current program design, 46% of eligible persons do not participate, and among participants, 70% are consistent/frequent. Yield is highest at round 1, as expected due to detection of prevalent neoplasia, but yield at rounds 2+ remains substantial. The Program vs. Adherent cohort results across rounds with similar ages suggest that consistent/frequent participation may decrease CRC incidence, presumably by removal of CRC precursors.