

COLORECTAL CANCER SCREENING POLICY IN PIEDMONT AND IN VERONA

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

Screening strategies in ITALY

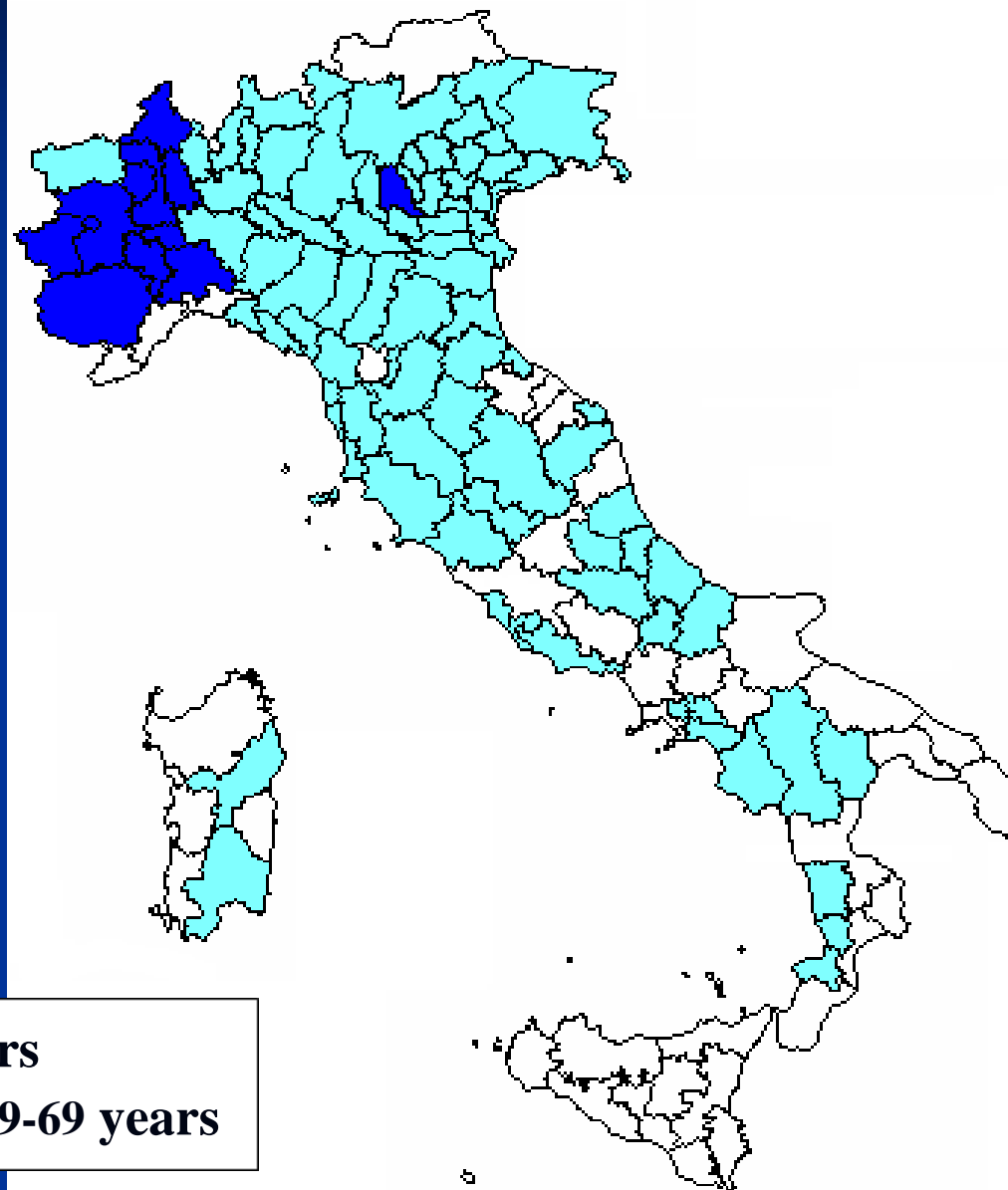


screening oncologici

Raccomandazioni per la pianificazione e l'esecuzione
degli screening di popolazione per la prevenzione del cancro
della mammella, del cancro della cervice uterina e del cancro del colon retto

AMONG AVAILABLE
METHODS FOR CRC
SCREENING FIT AND
SIGMOIDOSCOPY (FS)
HAVE BEEN
IMPLEMENTED FOR
POPULATION
SCREENING

-  FIT : 50-69/74 years
-  FS : 58/60 + FIT 59-69 years



SCREENING POPULATION PIEDMONT AND VERONA

ALL SUBJECTS

MEN AND WOMEN, AVERAGE RISK FOR CRC
AGED 58 (Turin)
60 (Verona)

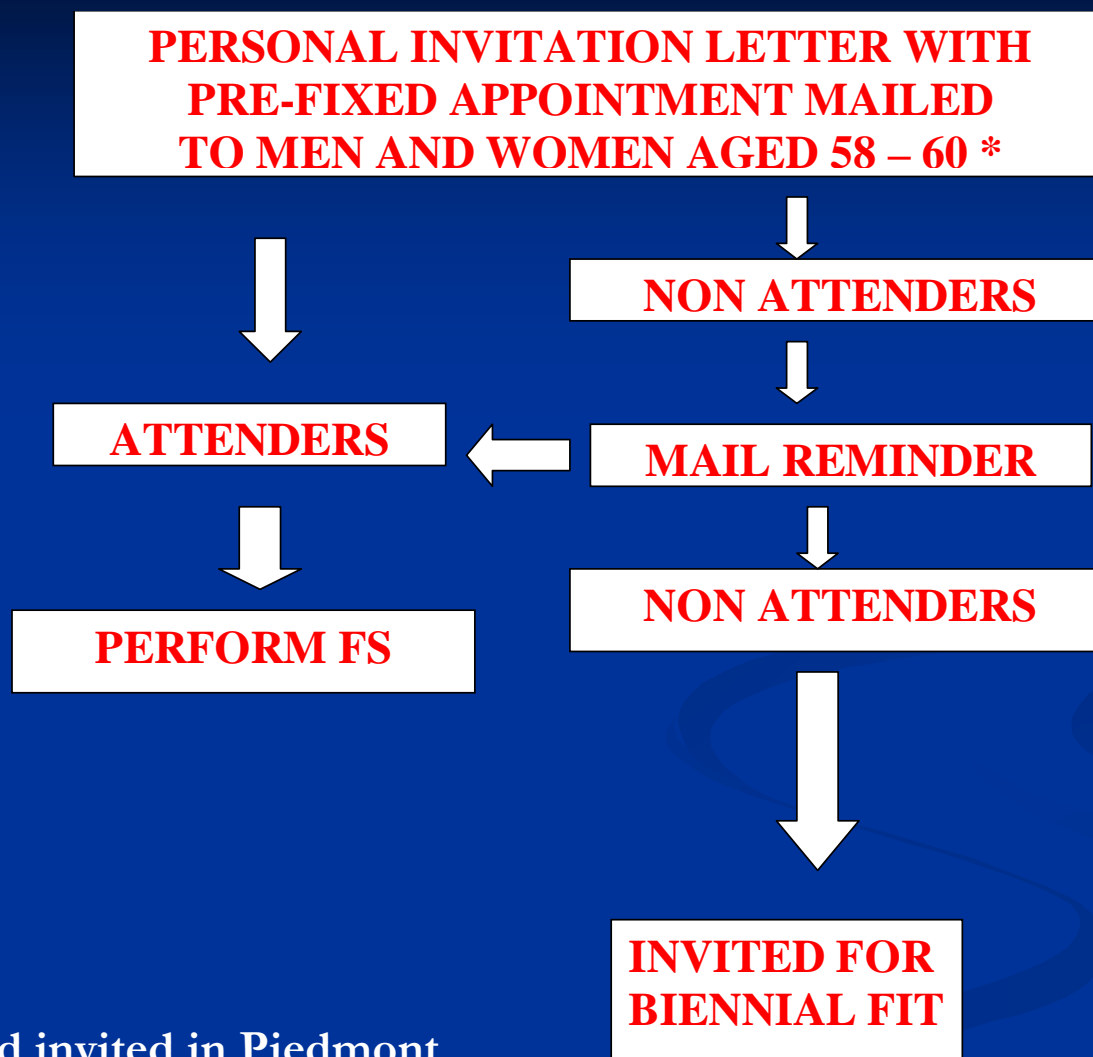
ARE INVITED TO PERFORM A FS IN THE REGIONAL
CRC SCREENING PROGRAMS

EXCLUSIONS

Subjects reporting a family (2 first degree relatives) or personal history of colorectal cancer, colorectal polyps or inflammatory bowel disease, colonoscopy within the previous 5 years or a medical condition that would preclude a benefit from screening are excluded from invitation.

SCREENING FLOW

FS



* 58 years old invited in Piedmont

60 years old invited in Verona

One birth cohort targeted every year

SIGMOIDOSCOPY - FS

- FS are performed by a gastroenterologists in hospital endoscopy units with flexible endoscopes.
- Bowel preparation is limited to a single enema self-administered at home.

People can get the enema at the nearest pharmacy

SIGMOIDOSCOPY - FS

- Subjects detected at FS with
 - one distal polyp > 5 mm or at least one adenoma (VR)
 - one distal polyp ≥ 10 mm or one advanced adenoma or > 2 adenomas (TO)
- are referred for colonoscopy

IMMUNOCHEMICAL FOBT - FIT

- **SINGLE SAMPLE**
- **WITHOUT DIETARY RESTRICTIONS**
- **AUTOMATED READING**

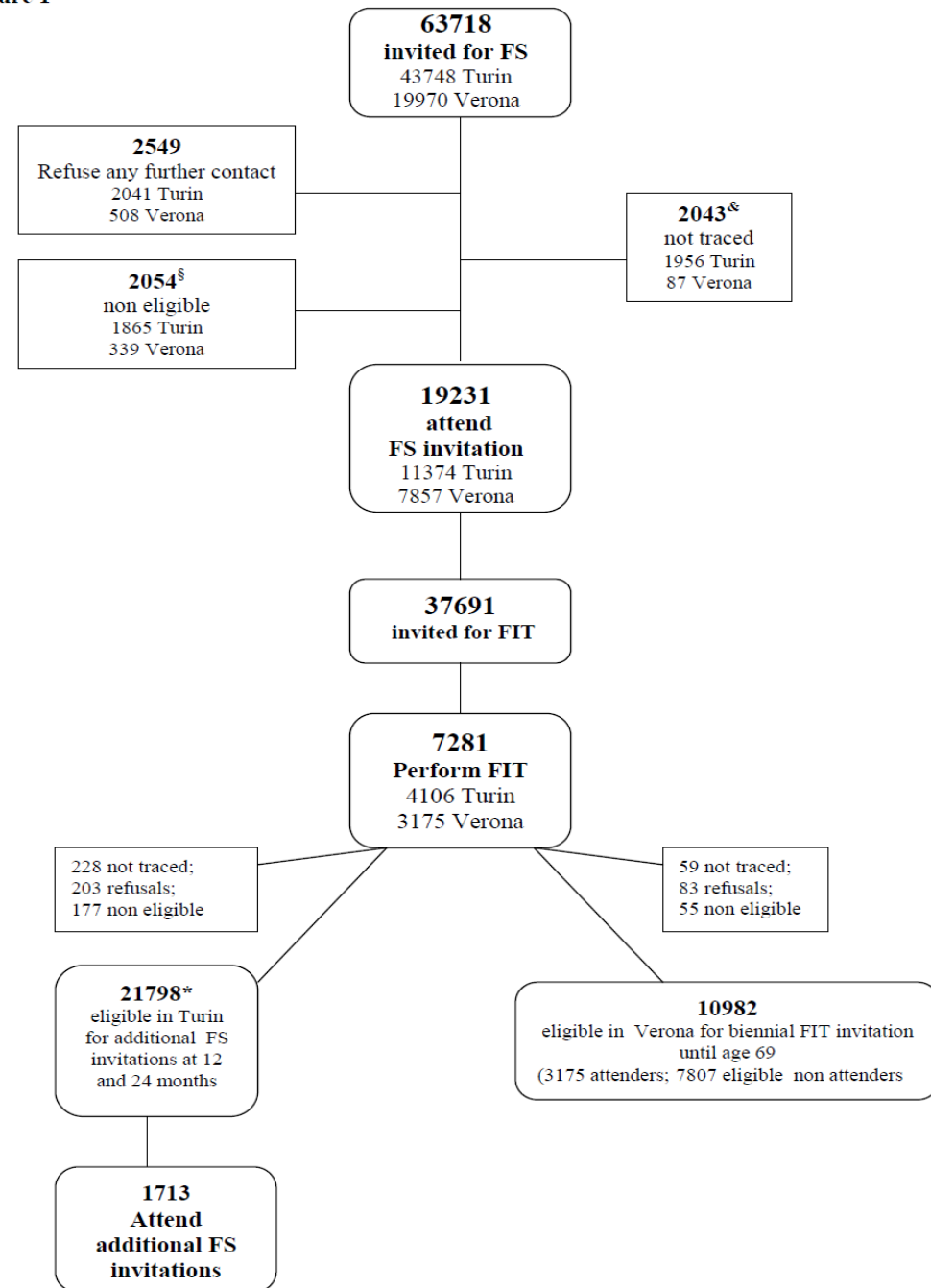
LATEX AGGLUTINATION TEST

QUANTITATIVE TEST

Positivity Cut-off: 100 ng/ml

Screening process and uptake rate 4 birth cohorts Turin - Verona

Figure 1



ATTENDANCE RATE

		Invited	FS performed	Attendance rate	Invited to FIT	FIT performed	Attendance rate	Overall coverage
Verona	MEN	9662	4152	43.0%	5040	1201	23.8%	55,4%
	WOMEN	10308	3705	35.9%	6139	1974	32.2%	55,1%
Torino	MEN	20947	7019	33.5%	12183	1518	12.5%	40.8%
	WOMEN	22801	6068	26.6%	14329	2588	18.1%	38.0%

UPTAKE

The overall coverage is higher in Verona than in Turin, the difference in participation rate being similar for FS and FIT.

Among non-attenders to FS screening about 20% respond to an invitation to perform FIT.

As in both programmes men show a higher attendance rate to FS, while women show a higher attendance to FIT, this strategy allows for achieving a similar coverage in both genders.

DETECTION RATE

		FS performed	Advanced adenomas		Cancers		FIT returned	Advanced adenomas		Cancers	
Verona	MEN	4152	358	8.6%	24	0.6%	1201	28	2.3%	5	0,4%
	WOMEN	3705	129	3.5%	12	0.3%	1974	17	0.9%	3	0,2%
Torino	MEN	6723	476	7.0%	35	0.5%	1518	39	2.6%	9	0.6%
	WOMEN	5806	228	3.9%	15	0.3%	2558	24	0.9%	6	0.2%
Total	MEN	10829	834	7.7%	59	0.5%	2719	67	2.5%	13	0.5%
	WOMEN	9467	357	3.8%	27	0.3%	4562	41	0.9%	9	0.2%

DETECTION RATE

FIT screening of non-attenders to FS increases the yield of neoplasia, by detecting an additional number of neoplasms, making up about 8% of all advanced adenomas and 20% of all CRCs detected in the screened cohorts

NNS

		MEN		WOMEN	
		Number of screening exams	Number of CT *	Number of screening exams	Number of CT *
FS	ADVANCED ADENOMA	13	5,4	27	11,3
		12-14		24-29	
	CRC	184	77,0	351	146,8
		143-244		238-526	
FIT	ADVANCED ADENOMA	41	2,7	111	3,5
		32-55		81-154	
	CRC	209	13,9	507	15,8
		119-385		256-1042	

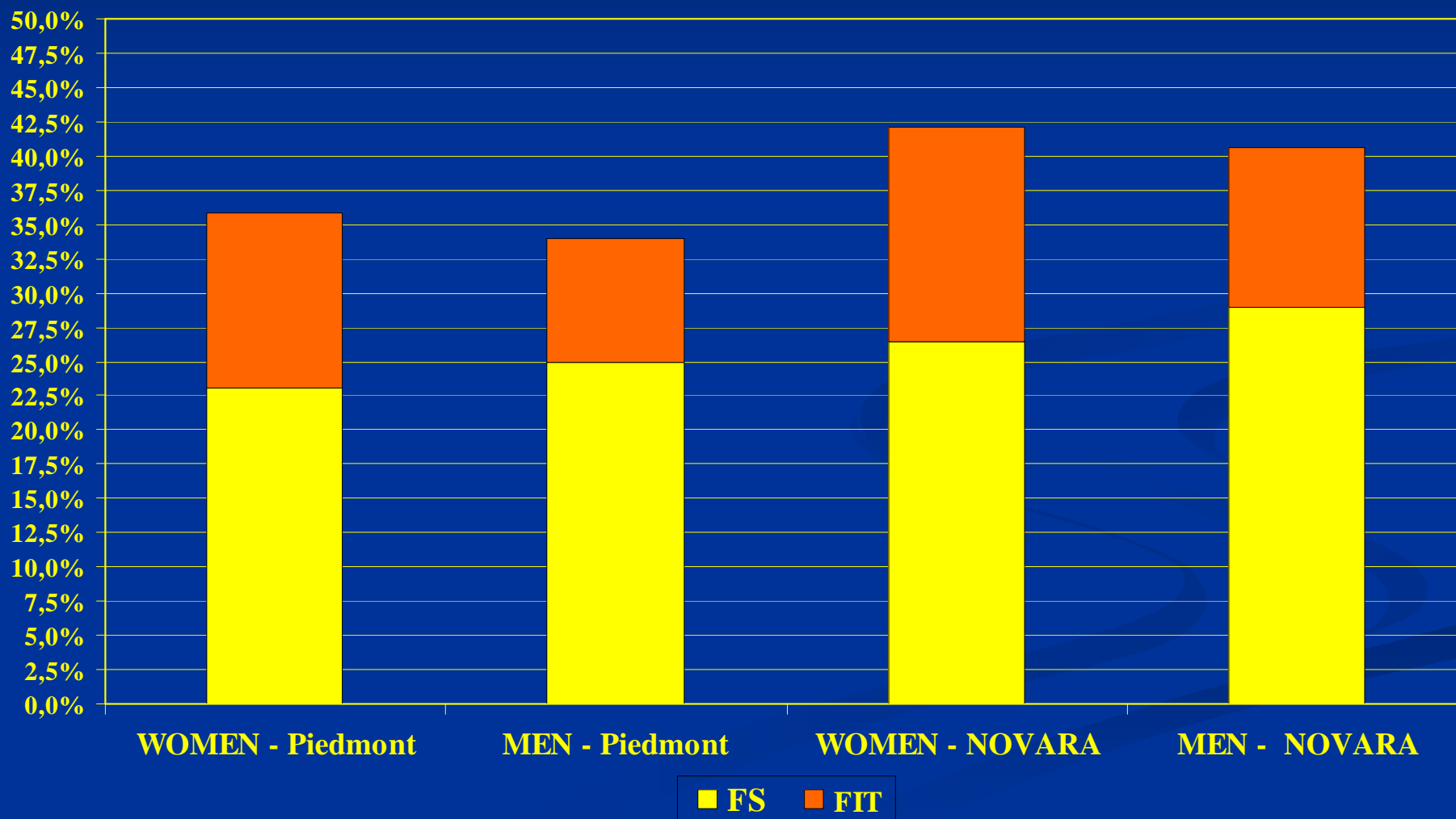
* 3 FS corresponding to 1 TC

To detect one advanced neoplasm (CRC or advanced adenoma)

51 PEOPLE HAD TO BE INVITED FOR FS

209 PEOPLE HAD TO BE INVITED FOR FIT

COVERAGE ACHIEVED OFFERING FIT TO FS REFUSERS birth cohort - 1951



CPO
Centro di Riferimento per l'Epidemiologia e la Prevenzione Oncologica
in Piemonte

SCREENING DEL
CANCRO COLORETTALE

VALUTAZIONE DEI COSTI

Francesca Vanara, Carlo Senore, Nereo Segnan

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QUADERNI

COST ANALYSIS

www.cpo.it

Cost analysis

- definition of a reference scenario
(organisation and response)
- costs from invitation to assessment
- NHS costs
- estimate and range
- Cost indexes
- alternative scenarios (% compliance, tcc.)

Cost components

- personnel
 - instruments
 - consumable
 - general costs (es.: cleaning)
 - general services (administration, etc.)
- (dm 15.4.1994)

Cost per person examined

FS: 110 euro

Including costs incurred by NHS for
Screening
Assessment
Recruitment / organisation

FS EXAMINATION



- 1 DEDICATED ENDOSCOPY ROOM
- 4 EXAMS/HOUR – 5 DAYS A WEEK –
3950 PEOPLE CAN BE EXAMINED EVERY YEAR
- POLIPECTOMY FOR POLYPS < 10 MM

MANAGEMENT OF INADEQUATE PREPARATION

- REPEAT ENEMA
- NEW APPOINTMENT SCHEDULED WITH TC PREPARATION



CLEANING AND DISINFECTION OF ENDOSCOPES

- ONE NURSE
- 5 COLONOSCOPES



BACKGROUND

SEVERAL STUDIES INVESTIGATING

PATENTS PREFERENCES FOR SCREENING

(Pignone et al. 1999; Frew EJ 2005; Wolf RL et al. 2006)

**PREDICTORS OF PARTICIPATION AND REASONS
FOR COMPLYING WITH SCREENING**

INVITATION (Senore et al. 2009)

**SHOWED THAT PREFERENCE FOR FOBT WAS BASED
ON THE SIMPLE AND NON-INVASIVE CHARACTER
OF THE TEST WHILE HIGHER ACCURACY OF THE
TEST WAS THE REASON SUPPORTING THE CHOICE
OF FS**

Predictors of participation by screening modality

	n	OR* (95% CI)
FOBT ARMS		
FOBT by GP or screening facility	5893	1.00 (referent)
FOBT by mail	2266	1.11 (0.99-1.23)
55-59 yrs	3530	1.00 (referent)
60-64 yrs	4629	1.01 (0.92-1.11)
Women	4297	1.00 (referent)
Men	3862	0.82 (0.74-0.90)
SIGMOIDOSCOPY ARMS		
Sigmoidoscopy + biennial FOBT	10867	1.00 (referent)
Once-only sigmoidoscopy	3650	1.00 (0.92-1.09)
55-59 yrs	6433	1.00 (referent)
60-64 yrs	8084	0.89 (0.82-0.95)
Women	7794	1.00 (referent)
Men	6723	1.22 (1.14-1.32)

* Multivariable ORs adjusted for screening center and for all the other variables in the table

Participation rate by gender, age, and screening arm

	55-64 yrs	
SCREENING ARM	Invited	Attended (%)
FOBT by mail	2266	682 (30.1)
FOBT by GP or screening facility	5893	1654 (28.1)
Once-only sigmoidoscopy	3650	1026 (28.1)
Sigmoidoscopy + biennial FOBT	10867	3049 (28.1)
Patient's choice	3579	
FOBT		522 (14.6)
Sigmoidoscopy		448 (12.5)
Total		970 (27.1)
TOTAL	26255	7381 (28.1)



Cost of colonoscopy

Tabella 11 - Persone esaminate e polipi trovati con la CT nei tre scenari.

	CT da FS	CT da FOBT	CT di screening
persone esaminate	1.525	1.525	1.525
prevalenza polipi	0,94	0,5	0,35
numero medio polipi	2,5	1,9	1,9
numero polipi	3.565	1.449	1.014