OMED COLORECTAL CANCER SCREENING COMMITTEE MEETING
Saturday, May 30, DDW Chicago, 2009
Presenter: C. Senore

COLORECTAL CANCER SCREENING IN ITALY *FOBT*

CARLO SENORE

GISCoR Gruppo Italiano Screening ColoRettale

CPO CENTRO DI RIFERIMENTO PER L'EPIDEMIOLOGIA E LA PREVENZIONE ONCOLOGICA IN PIEMONTE

COMPARISON BETWEEN TESTS

5.415 people invited for screening — Automation 7.705 subjects

	Guaiac 3 days	1-day RPHA + and +/-	1-day RPHA only +	1-day RPHA + and +/-
Positivity rates	7 %	9,1 %	3,5 %	4.0 %
DR of cancer	2,4‰	3,5‰	2,8‰	2.9‰
DR of adenomas > 9 mm	6,9 ‰	9,3‰	6,6 ‰	5.6‰
PPV for cancer	4,0 %	4,6 %	9,5 %	8.0%
PPV for adenomas > 9 mm	11,4 %	12,3 %	22,3 %	15.6%
Specificity for cancer	93,2%	91,2 %	96,7 %	96.3%

Dati parzialmente tratti da: Castiglione Br. J. Cancer; 74:141-4, 1996

INTERVAL CANCERS WITHIN 2 YEARS FROM NEGATIVE SCREENING (AGE 50-70 YEARS)

PROVINCIA DI FIRENZE (1992-97)

	PERSON-YEARS	EXPECTED CRC	OBSERVED CRC	SENSITIVITY (1 - O/E)
REHYDRATED HEMOCCULT	65.723	93,5	47	50 % (34% - 63%)
RPHA	35.886	51,2	9	82% (61% - 92%)

Zappa, Int J Cancer, 92, 151-154, 2001

RPHA vs LATEX AGGLUTINATION

5.844 subjects (50-70 aa)

	RPHA	Latex 100 ng /ml	Latex 150 ng/ml	Latex 200 ng /ml
Positivity rate	3,3 %	3,5%	2,5 %	2,0 %
Detection rate for CRC	2,9 ‰	2,7 ‰	2,6‰	2,4‰
Detection rate for adenomas > 9 mm	4,8 ‰	5,5 ‰	5,0‰	4,3‰
Specificity CRC	97,0 %	96,7 %	97,7 %	98,2 %
PPV CRC	10,2 %	8,8 %	11,5 %	13,9 %
PPV CRC+adenomas > 9 mm	16,8 %	17,6 %	22,3 %	24,8 %

Castiglione, Journal of Medical Screening; 7:35-37, 2000

IMMUNOCHEMICAL FOBT

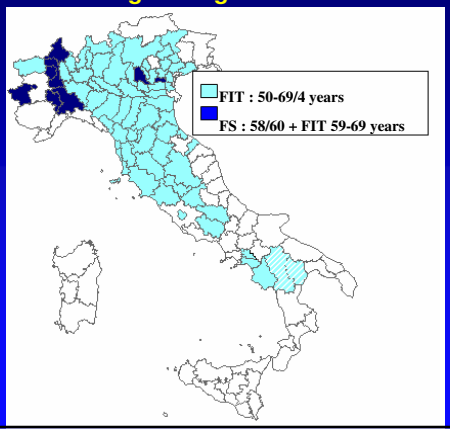
SINGLE SAMPLE WITHOUT DIETARY RESTRICTION

LATEX AGGLUTINATION TEST ASSAY (Eiken)

QUANTITATIVE TEST
Positivity Cut-off: 100 ng/ml

AUTOMATED READING
OC - SENSOR

Screening strategies in ITALY



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COMPARISION BETWEEN TEST
OC-Hemodia vs FOB Gold

Positivity rates	3,4%	3,2%
Dr for cancer	1,88 ‰	1,28 ‰
Dr for cancer and adenomas >9 mm	12,2 ‰	9,7 ‰
V.P.P for cancer	5,5%	4,0%
V.P.P for cancer e for adenomas >9 mm	34,9%	29,8%
Specificity for cancer and adenomas >9 mm	97,7%	97,7%
Sensitivity for cancer	100%	67,9%

CSPO: 4.133 individuals invited at the screening

Rubeca et al. 2006

British Journal of Cancer (2009) 100, 259 – 265

www.bjcancer.com

Immunochemical faecal occult blood test: number of samples and positivity cutoff. What is the best strategy for colorectal cancer screening?

G Grazzini[*,1], CB Visioli[1], M Zorzi[2], S Ciatto[1], F Banovich[3], AG Bonanomi[1], A Bortoli[4], G Castiglione[1], L Cazzola[3], M Confortini[1], P Mantellini[1], T Rubeca[1] and M Zappa[1]

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Comparing 1 day vs. 2 days samling strategy, using different cut-off levels

36616 people invited in the context of 4 Regional screening programmes

20596 people performing two FIT samples

Table 5 Positivity rate (PR), number of screen detected cancers and advanced adenomas, number of colonoscopies, detection rate (DR) of cancers and advanced adenomas (per 1000 screened subjects) and number needed to scope (NTS)[a] to find a cancer or a significant neoplasia[b] by screening strategy

Strategy		PR%	Number (difference %)			DR (‰)		NTS[a]	
Positive samples	Cutoff (ng ml^{-1})		Cancer	Advanced adenomas	Colonoscopies	Cancer	Advanced adenomas	Cancer	Significant neoplasia[b]
At least one	≥80	8.0	69 (+21.1)	165 (+11.1)	1165 (+77.2)	3.4	22.6	21.2	2.7
At least one	≥100	6.7	69 (+21.1)	106 (−26.1)	1221 (+17.6)	3.4	19.7	17.7	2.6
At least one	≥120	5.9	67 (+17.5)	380 (+18.0)	1082 (+30.8)	3.3	18.5	16.2	2.1
One	≥80	5.5	59 (+3.5)	368 (+14.3)	1001 (+21.0)	2.9	17.9	17.0	2.3
One[c] (reference)	≥100[c]	4.5	57	322	827	2.8	15.6	14.5	2.2
One	≥120	4.0	56 (−1.8)	301 (−6.5)	737 (−10.9)	2.7	14.6	13.2	2.1
Both	≥80	2.8	47 (−17.5)	254 (−21.1)	515 (−37.7)	2.3	12.3	11.0	1.7
Both	≥100	2.3	44 (−22.8)	220 (−31.7)	423 (−48.9)	2.1	10.7	9.6	1.6
Both	≥120	2.0	44 (−22.8)	206 (−36.0)	380 (−54.1)	2.1	10.0	8.6	1.5

Differences (%) of number of cancers, advanced adenomas and colonoscopies with reference strategy are given in brackets. [a]NTS number of FOBT+ colonoscopies needed to find a cancer or a significant neoplasia. [b]Significant neoplasia: cancer+advanced adenomas (any adenoma larger than 9 mm, and/or with a villous histological component higher than 20%, and/or with severe dysplasia). [c]Reference strategy: 1 day and cutoff ≥100 ng/ml.

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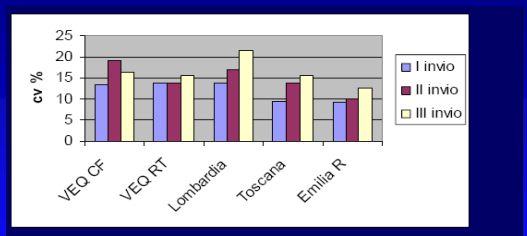
CV Screening laboratory in VEQ programs



CF: Castelfranco Veneto n=16
RT: Regione Toscana n=53

Cspo 2006

External quality assessment (VEQ)

VEQ represents a control strategy of the analytic protocols.

2 VEQ Programmes started in 2006

- C.R.R. Regione Toscana:
  6 rounds for 53 screening laboratories
  (Toscana, Emilia, Lombardia, Veneto, Val d'Aosta, Umbria, Piemonte)
- C. Ricerche Biomediche Castelfranco Veneto:
  4 rounds for 16 screening laboratory
  (Veneto, Lombardia, Toscana)