Quality indicators of screen-detected breast cancer diagnosis and treatment in Italy and impact of specialization

Copenhagen - June 5th, 2008

Antonio Ponti
CPO Piemonte, Torino (Italy)
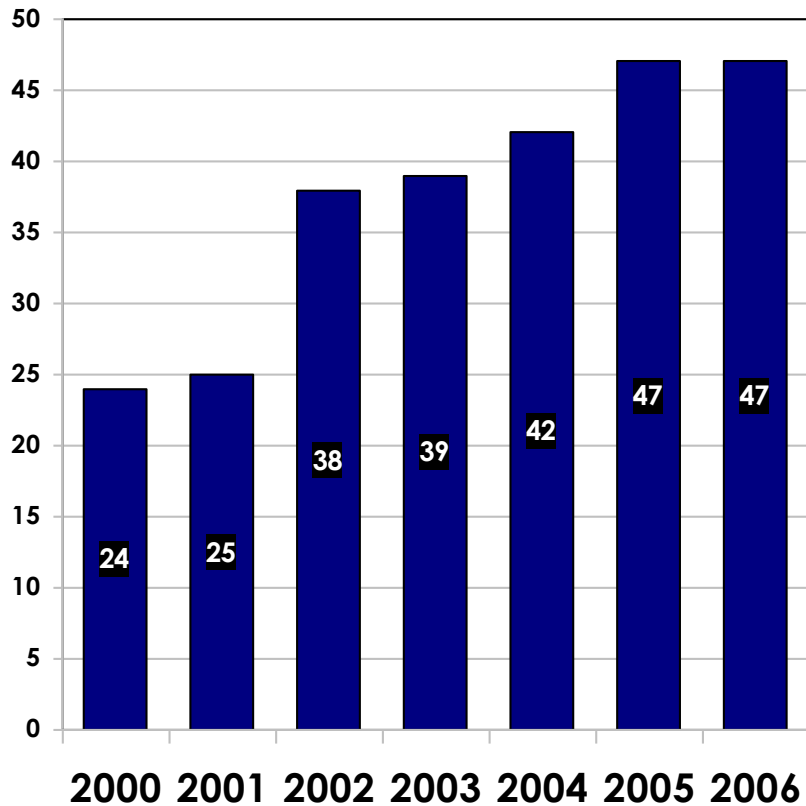
This presentation is dedicated to

Vito Distante, MD
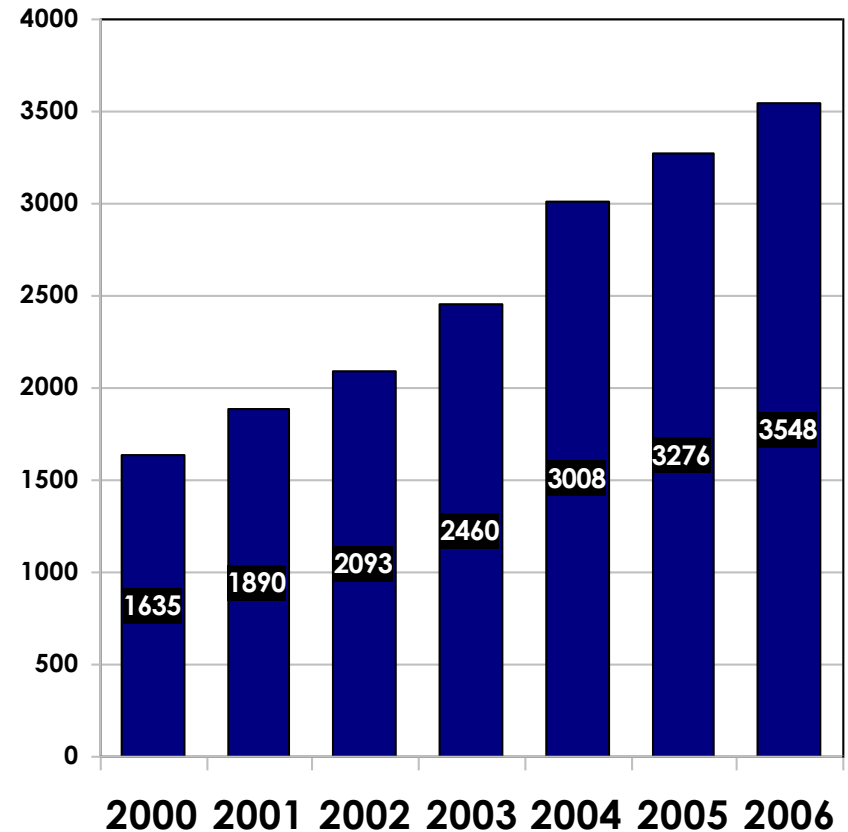## Professor of Surgery, Florence

Leader of QT Survey
President of Italian Screening Network

of screening programs and # of cases

Italian screening programmes, QT Survey

programs

cases (tot. 17910)

Italian screening programmes, QT Survey

National Clinical Audit of Screen-detected Breast Cancer

NHS

Cancer Screening Programmes
NHS

NHS BREAST SCREENING PROGRAMME

&

**ASSOCIATION OF BREAST SURGERY
AT BASO**

**AN AUDIT OF SCREEN DETECTED BREAST CANCERS
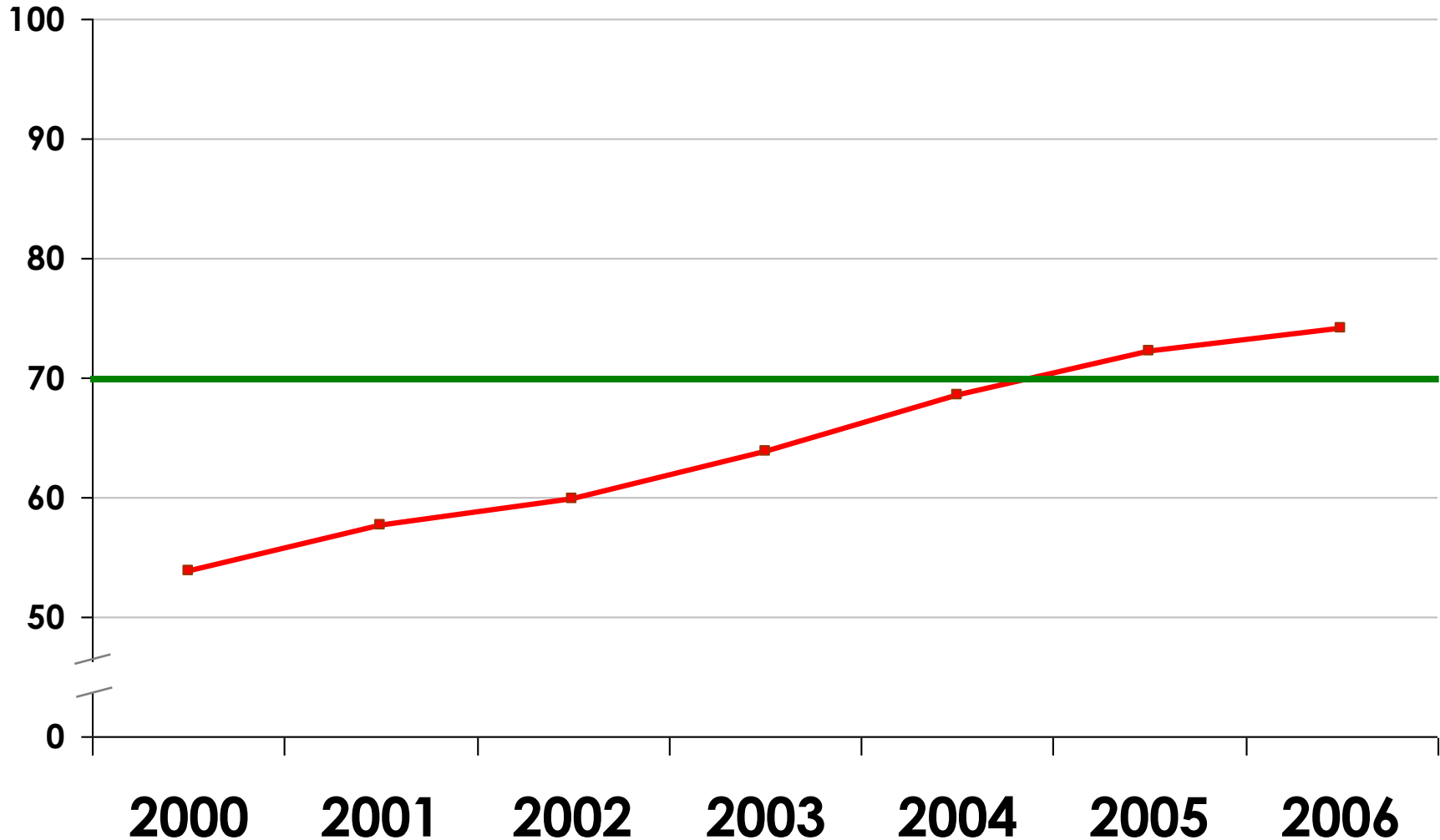FOR THE YEAR OF SCREENING
APRIL 2005 TO MARCH 2006**

*DISTRIBUTED AT THE
ASSOCIATION OF BREAST SURGERY AT BASO CONFERENCE*

23rd MAY 2007

NATIONAL MOTORCYCLE MUSEUM, BIRMINGHAM

West Midlands
Cancer Intelligence Unit

1976 • 2006
e&p
30 anni

**EPIDEMIOLOGIA
& PREVENZIONE**

Rivista dell'Associazione italiana di epidemiologia   ANNO 30 (1) GENNAIO-FEBBRAIO 2006 **SUPPLEMENTO 3**

OSSERVATORIO
NAZIONALE
SCREENING

**The National Centre
for Screening Monitoring
Fifth Report**

ccm
MINISTERO DELLA SALUTE
CENTRO NAZIONALE PER LA PREVENZIONE
E IL CONTROLLO DELLE MALATTIE

CONFERENZA DEI PRESIDENTI DELLE
REGIONI E DELLE PROVINCE AUTONOME

OSSERVATORIO
NAZIONALE
SCREENING

LEGA ITALIANA
PER LA LOTTA
CONTRO I TUMORI

GISCi
GRUPPO ITALIANO
SCREENING
DEL CERVICOCARCINOMA

GISCoR
GRUPPO ITALIANO
SCREENING
COLORETTALE

gisma
GRUPPO ITALIANO
SCREENING
MAMMOGRAFICO

inferenze

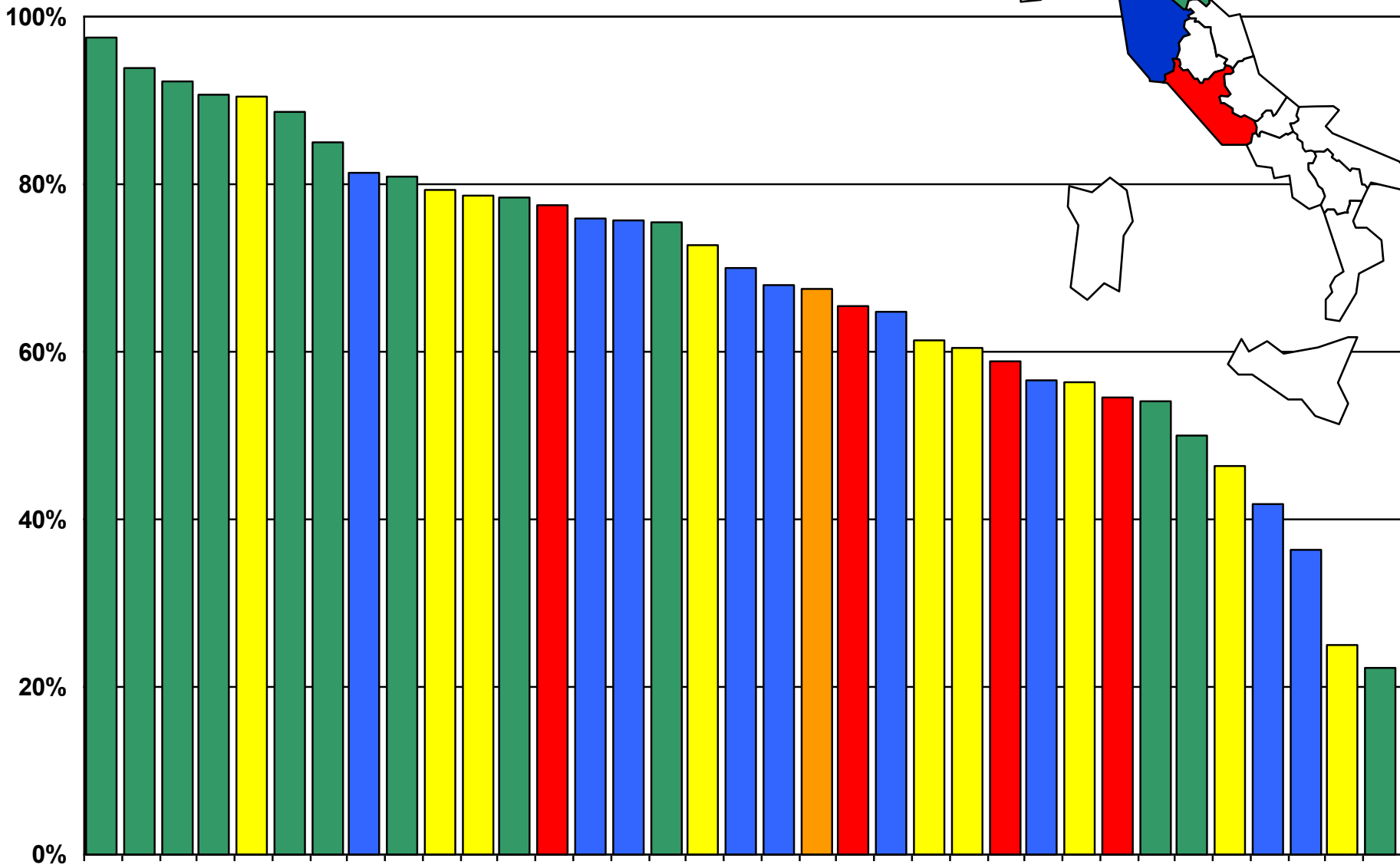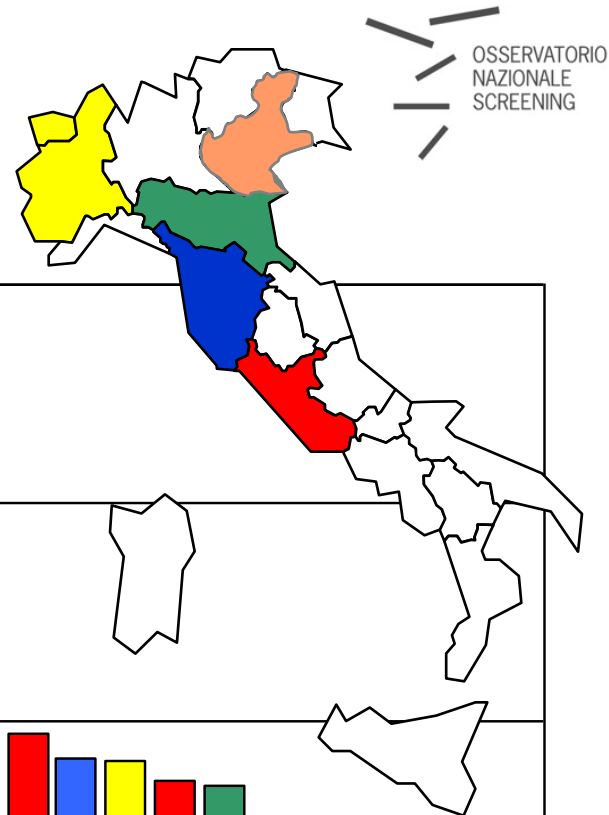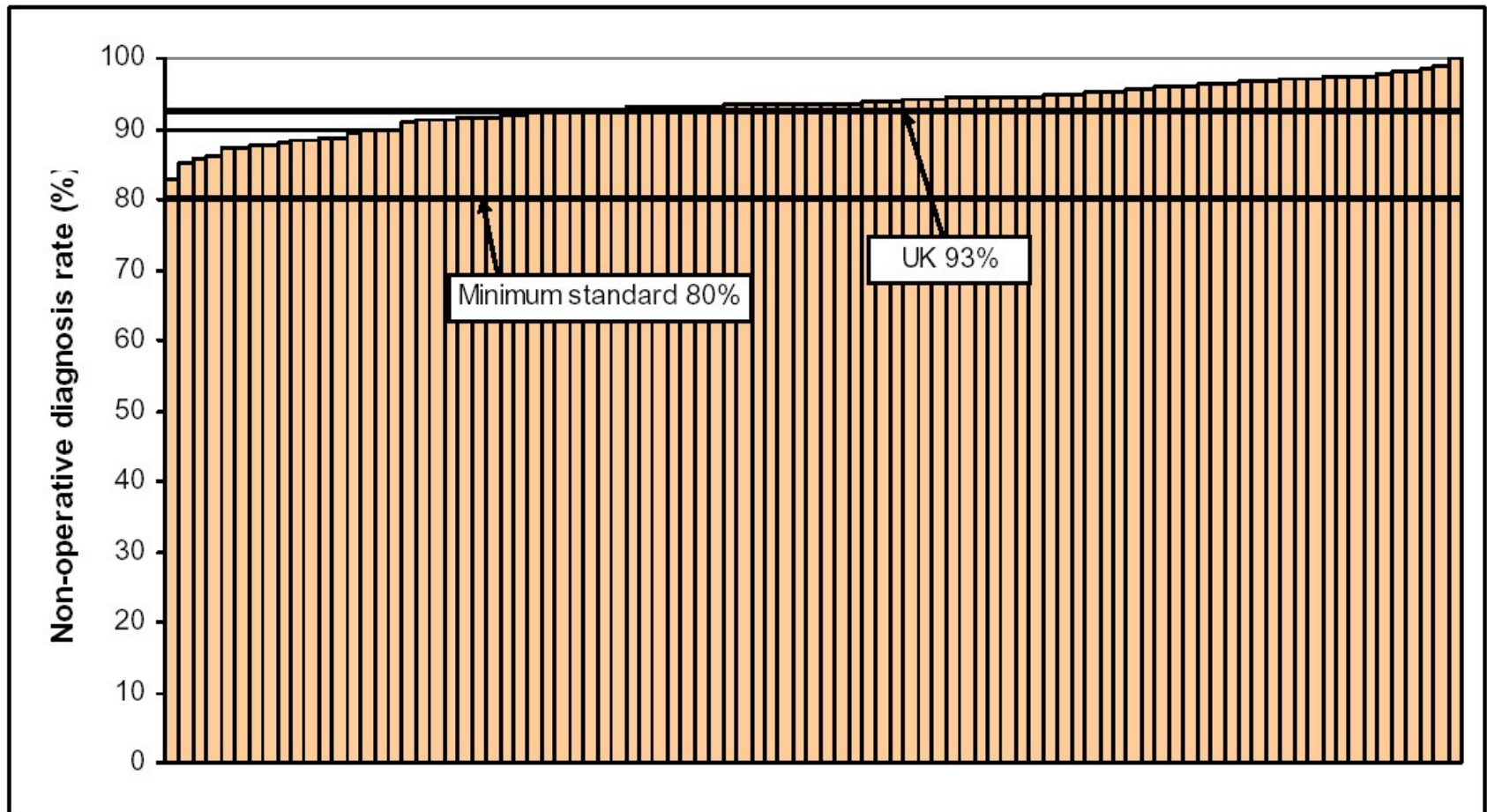|	
Foreword *D. Greco*	3
Introduction *M. Zappa, M. Rosselli Del Turco*	5
Mammography screening in Italy: 2003-2004 survey *D. Giorgi, L. Giordano, L. Ventura, D. Puliti, P. Piccini, E. Paci*	7
Time trends of some indicators of mammography screening programmes in Italy, 1996-2003 *L. Giordano, D. Giorgi, P. Piccini, V. Stefanini, R. Castagno, C. Senore*	17
Activity level and process indicators of organised programmes for cervical cancer screening in Italy *G. Ronco, P. Giubilato, C. Naldoni, M. Zorzi, E. Anghinoni, A. Scalisi, P. Dalla Palma, L. Zanier, A. Federici, C. Angeloni, S. Prandini, R. Maglietta, E. Mancini, R. Pizzuti, A. Iossa, N. Segnan, M. Zappa*	27
Screening for colorectal cancer in Italy: 2004 survey *M. Zorzi, G. Grazzini, C. Senore, M. Vettorazzi*	41
National Survey of the quality of second level screening for cervical cancer *R. Volante, G. Ronco*	51
Audit system on Quality of breast cancer diagnosis and Treatment (QT): results from the survey on screen-detected lesions in Italy, 2003-2004 *A. Ponti, M. P. Mano, V. Distante, M. Taffurelli, C. Naldoni, F. Zangirolami, M. Vettorazzi, M. Zorzi, G. Pagano, A. Federici, D. Baiocchi, R. Bordon, M. Tomatis, P. Mantellini, L. Cataliotti, M. Rosselli Del Turco, N. Segnan*	59

Italian screening programmes, QT Survey

Pre-operative (C5/B5) diagnosis (n=16670)

Pre-operative (B5/C5) diagnosis
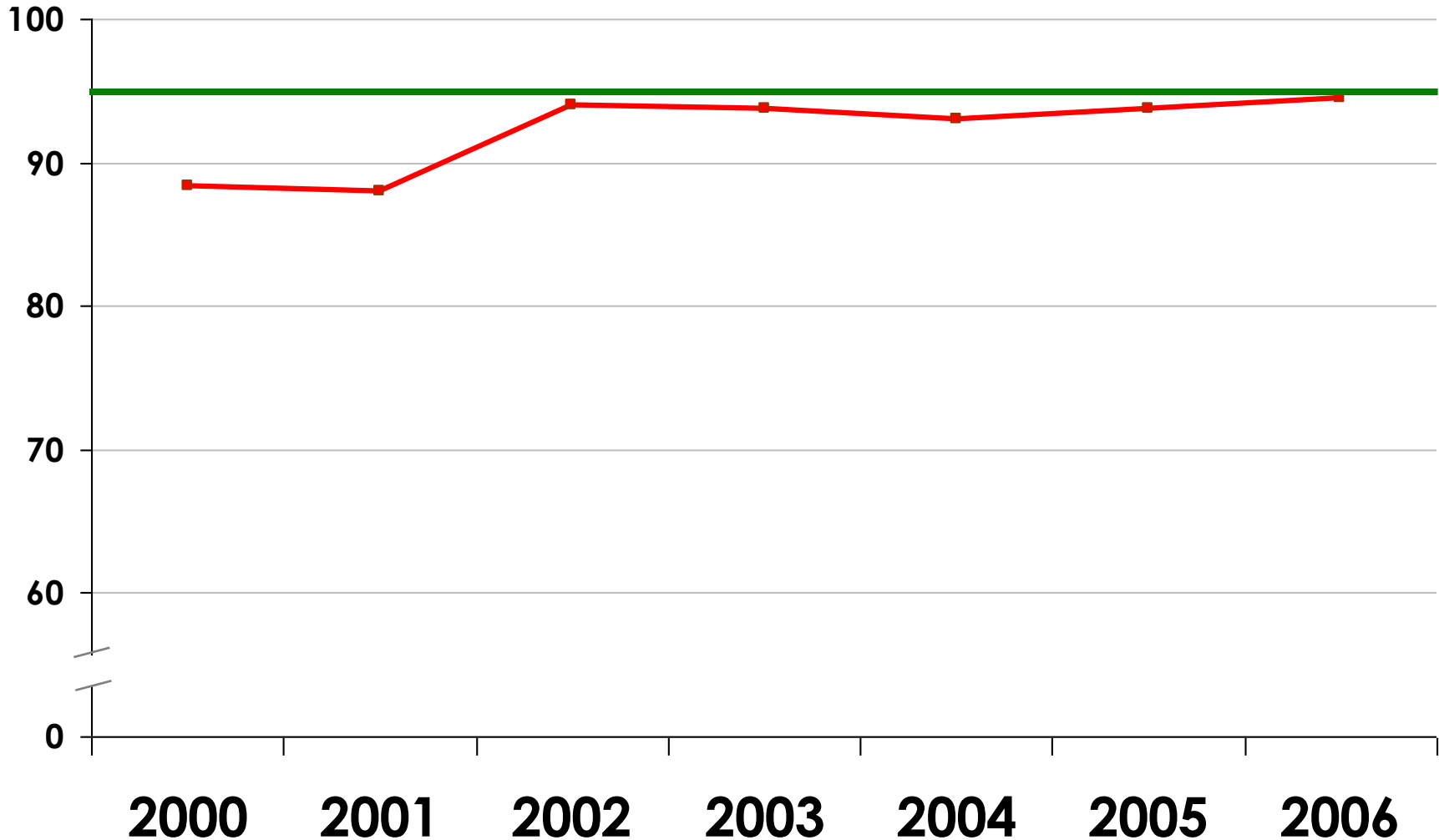## Italian programmes, range: 22,2% - 97,4%

Figure 5: Variation in non-operative diagnosis rate with screening unit, expressed as a proportion of cancers detected in each screening unit
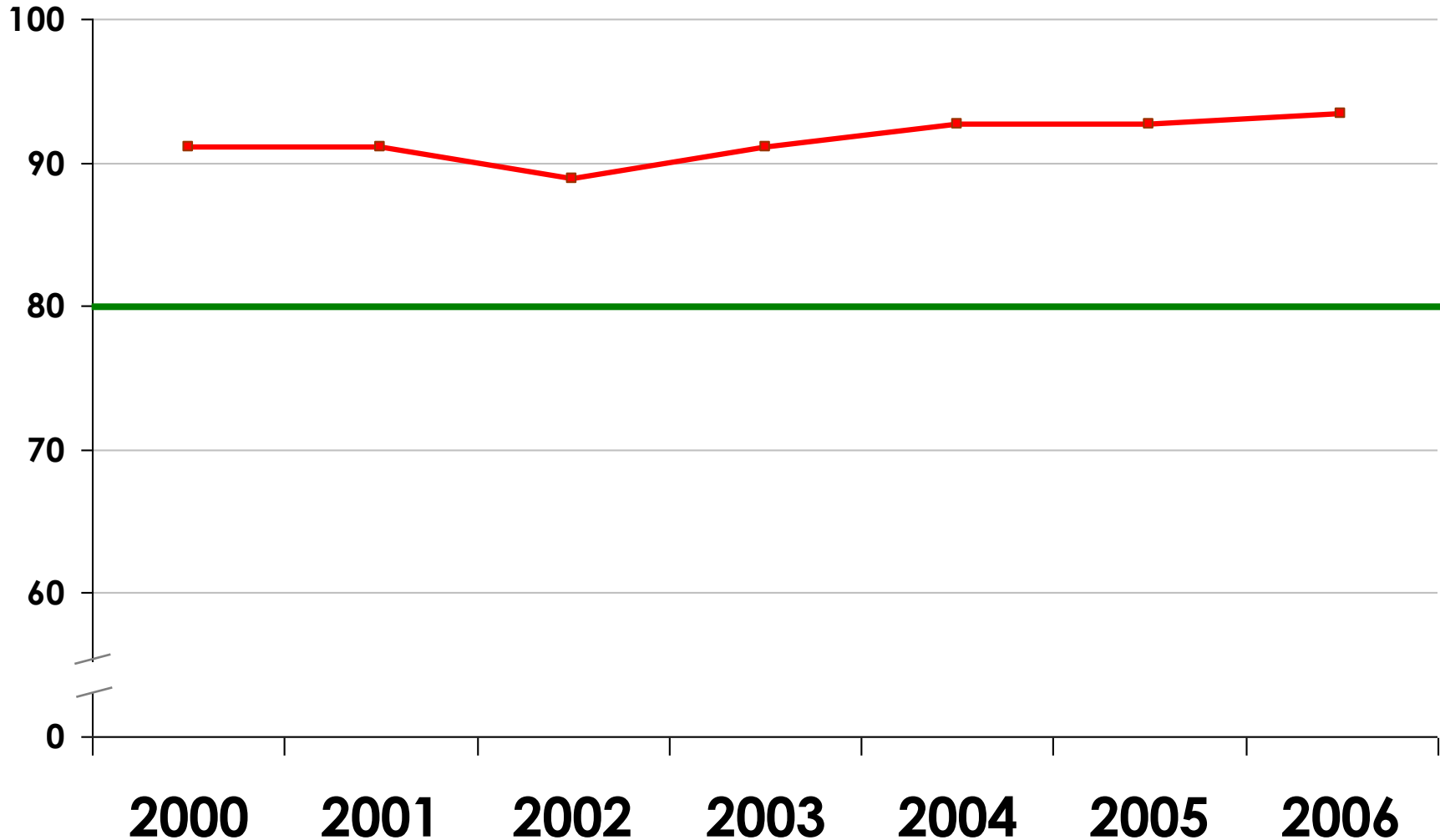
Italian screening programmes, QT Survey

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Clear margins ≤1mm. at final intervention (n=14711)

Italian screening programmes, QT Survey

Breast conservation surgery in pT1 cases (n=10302)

Conservative surgery in pT1 ca (2006, N=1679)

Italian screening programmes, QT Survey

Conservation surgery in DCIS (N=2090)

Italian screening programmes, QT Survey
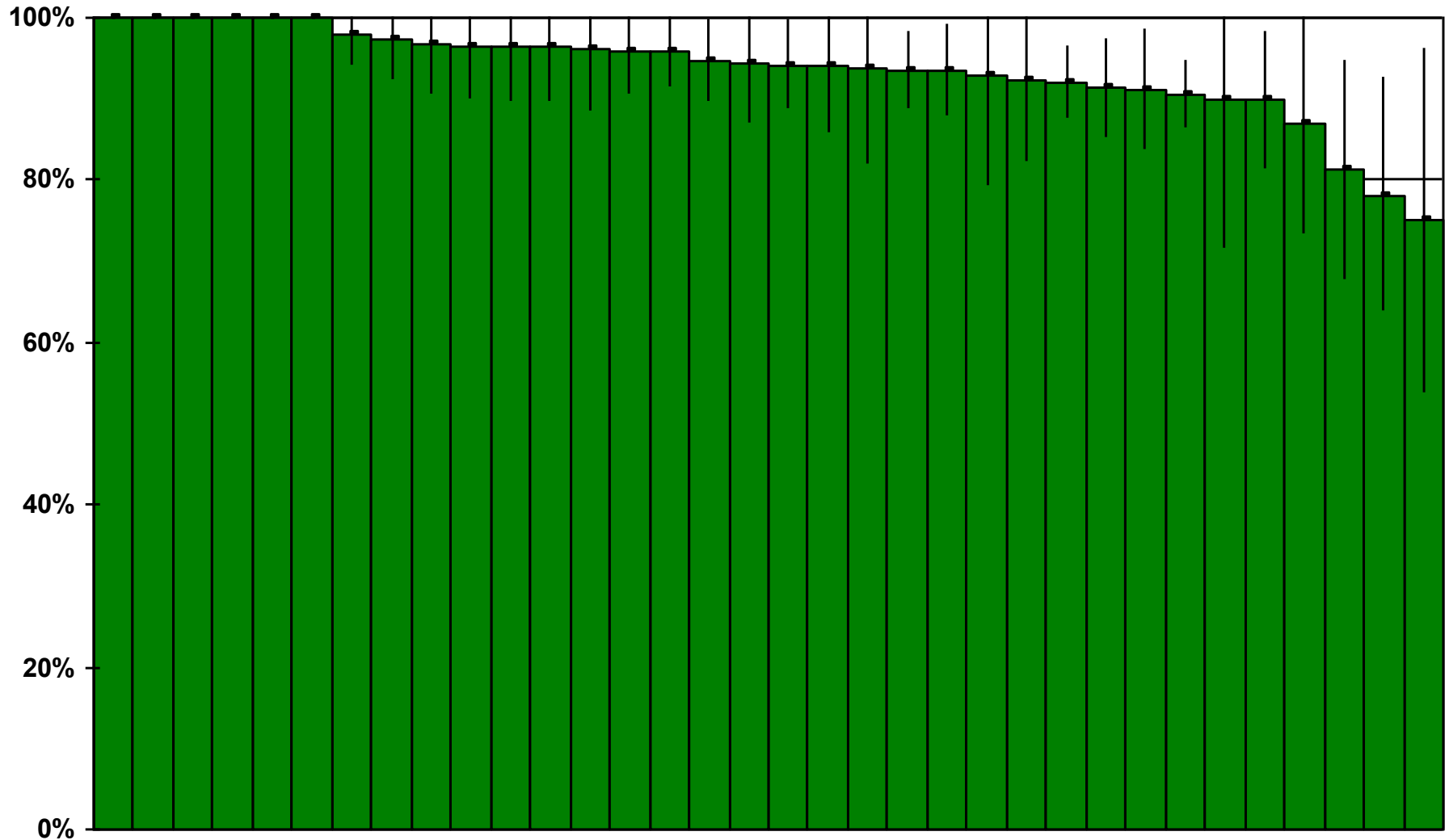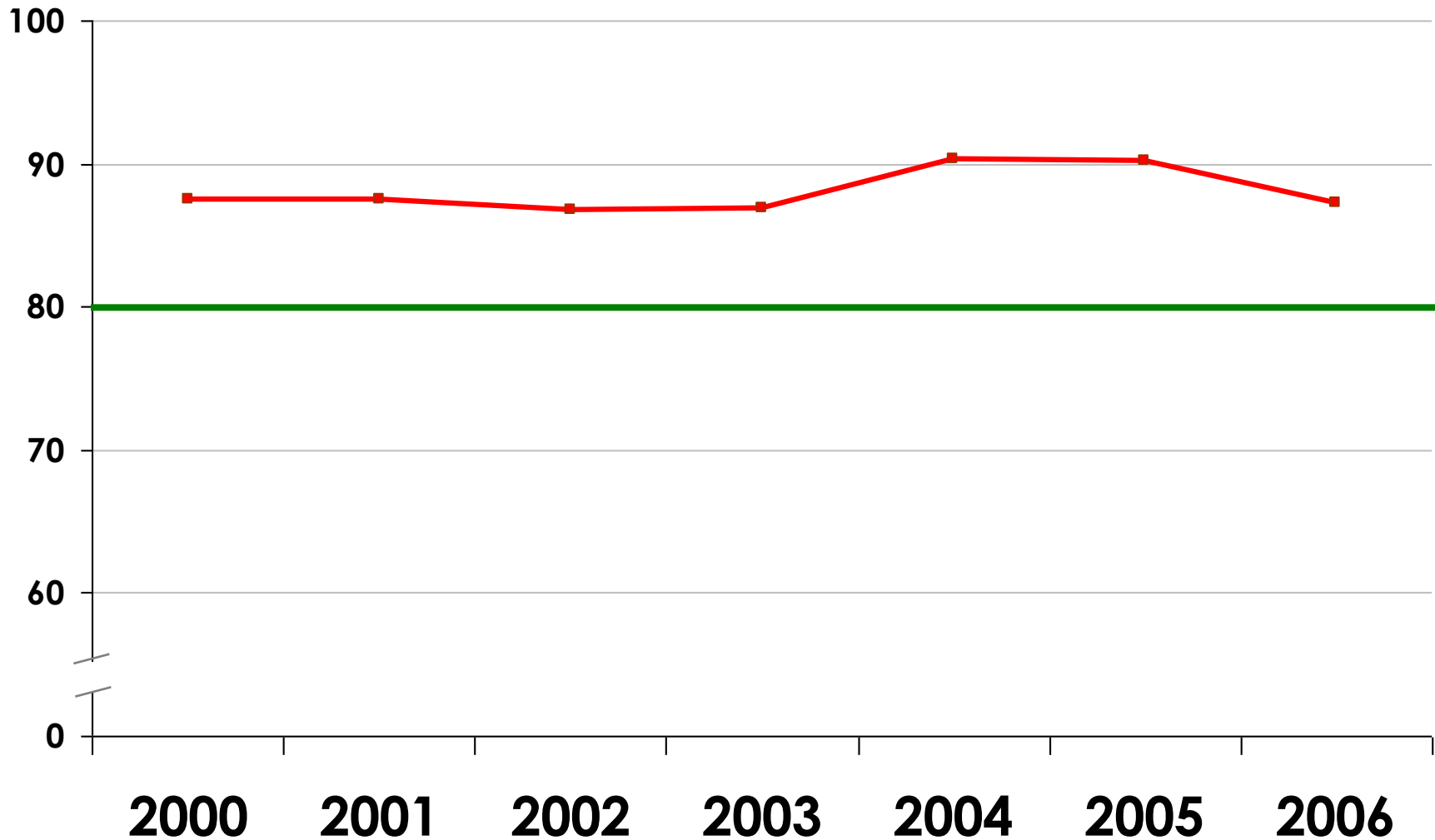
Conservation surgery in DCIS (2006, N=390)
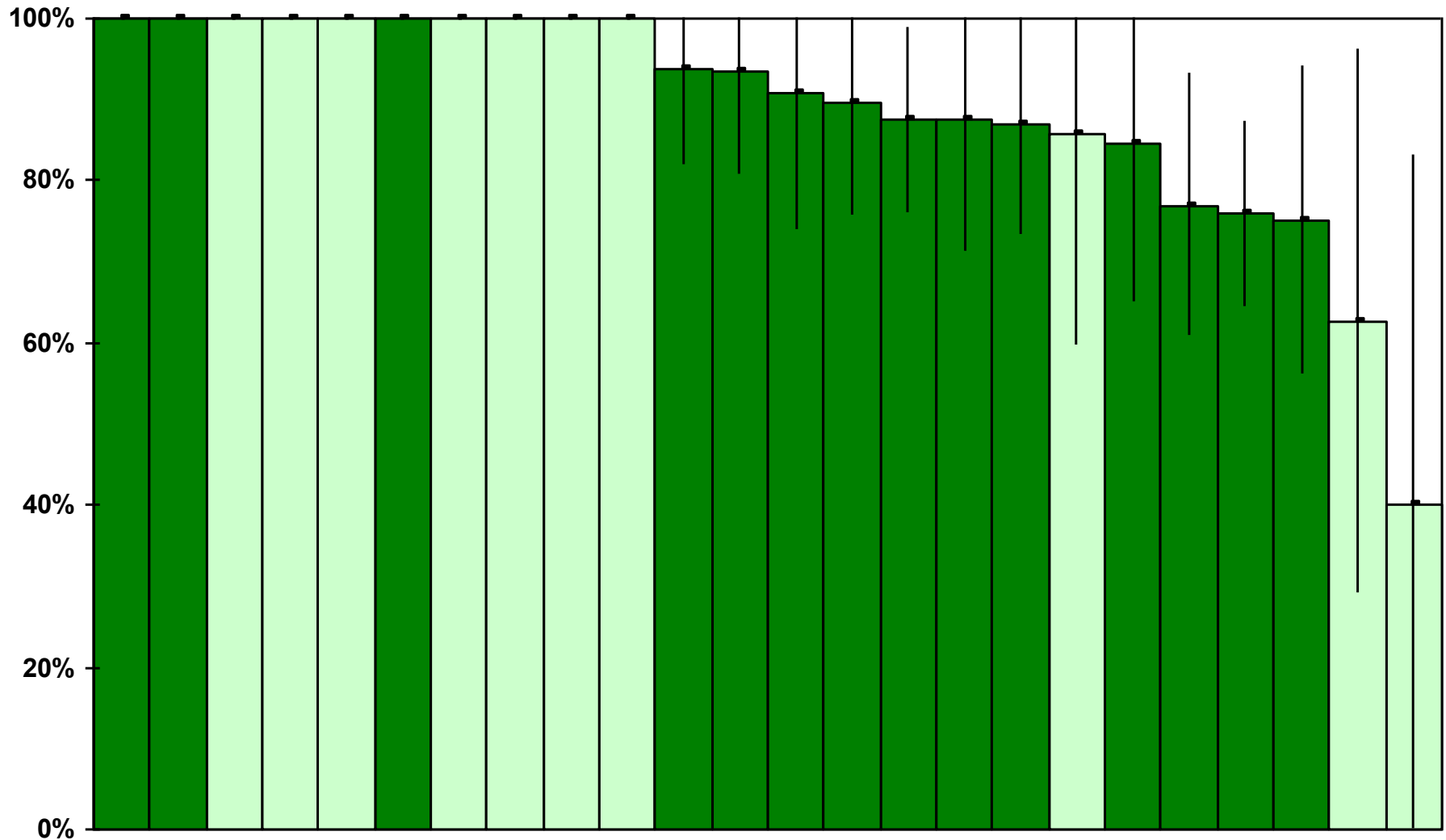
Conservation surgery in DCIS

UK   **2005-2006**
BCS in SD cases   **Ages 50-69**

NHS   **68% (n=3122)**

Australia, **National Breast Screening Audit**   **1998-2004**
BCS, all cases   **Ages 50-69**

50.4% (n=3629)

Italian screening programmes, QT Survey

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Immediate reconstruction (N=2545)

Italian screening programmes, QT Survey

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SCREENING
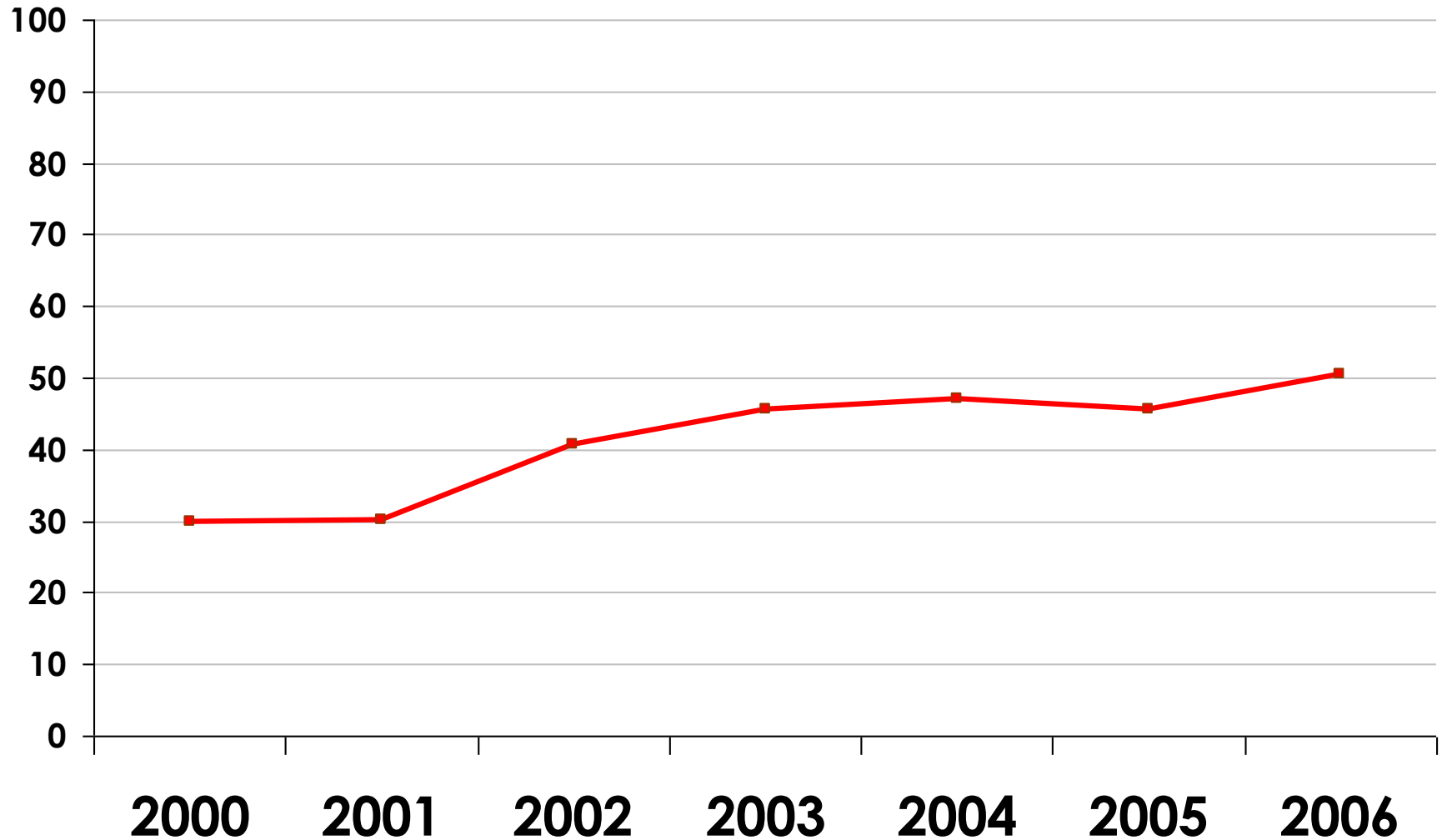
Immediate reconstruction after mastectomy
(2006: N=447, 30% missing)

Italian screening programmes, QT Survey
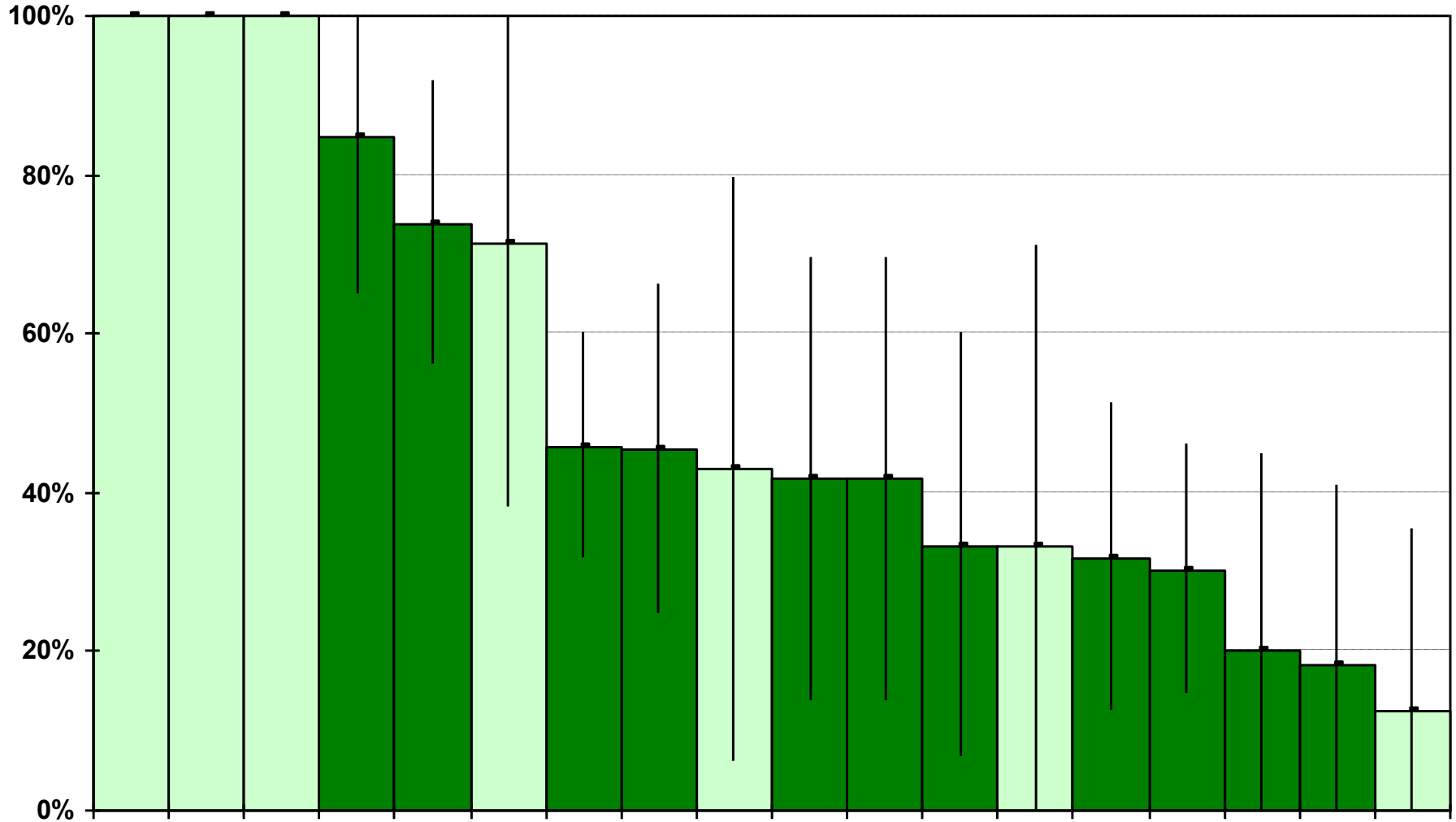
Use of sentinel lymphnode (SLN) technique
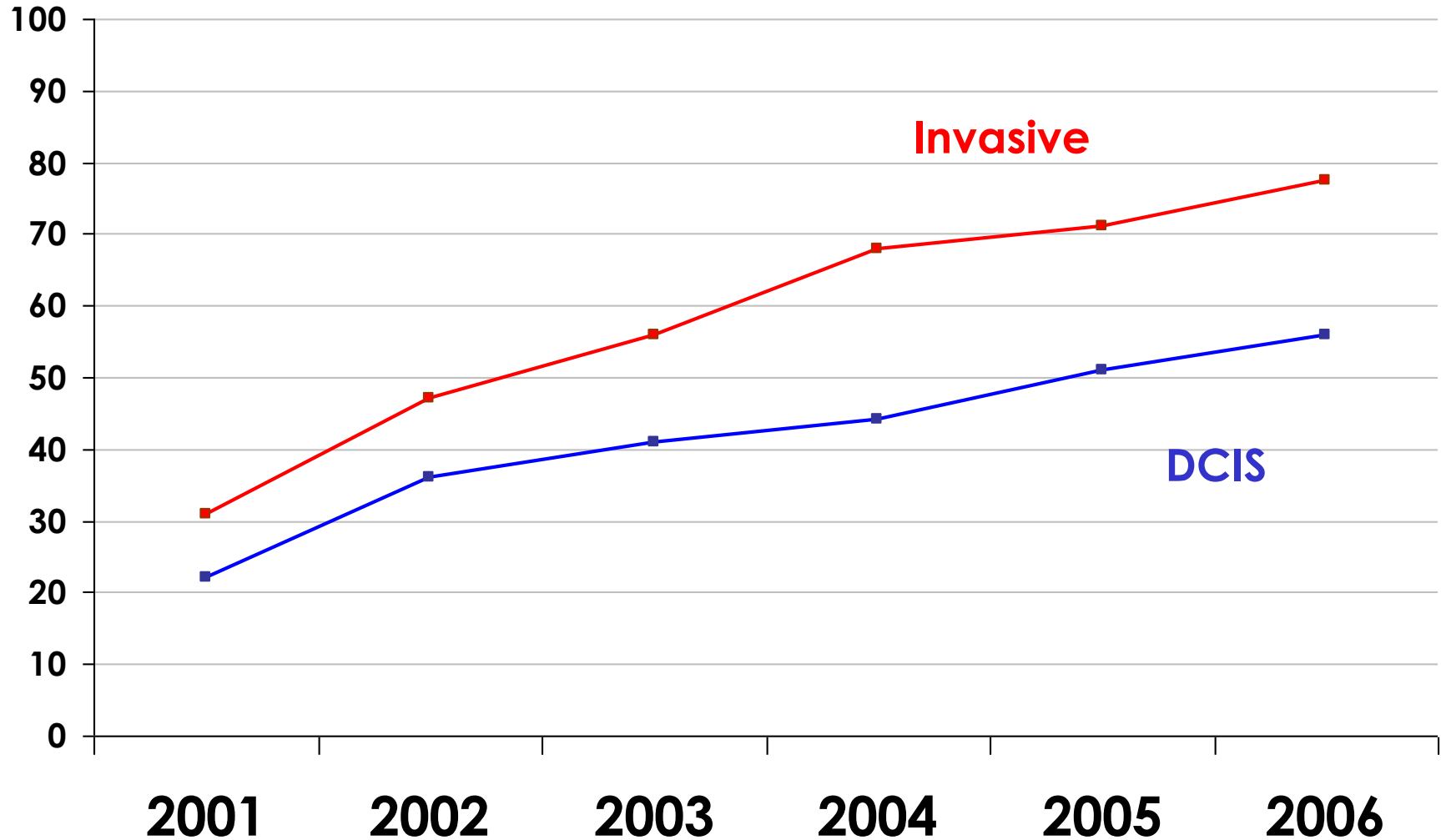
Italian screening programmes, QT Survey
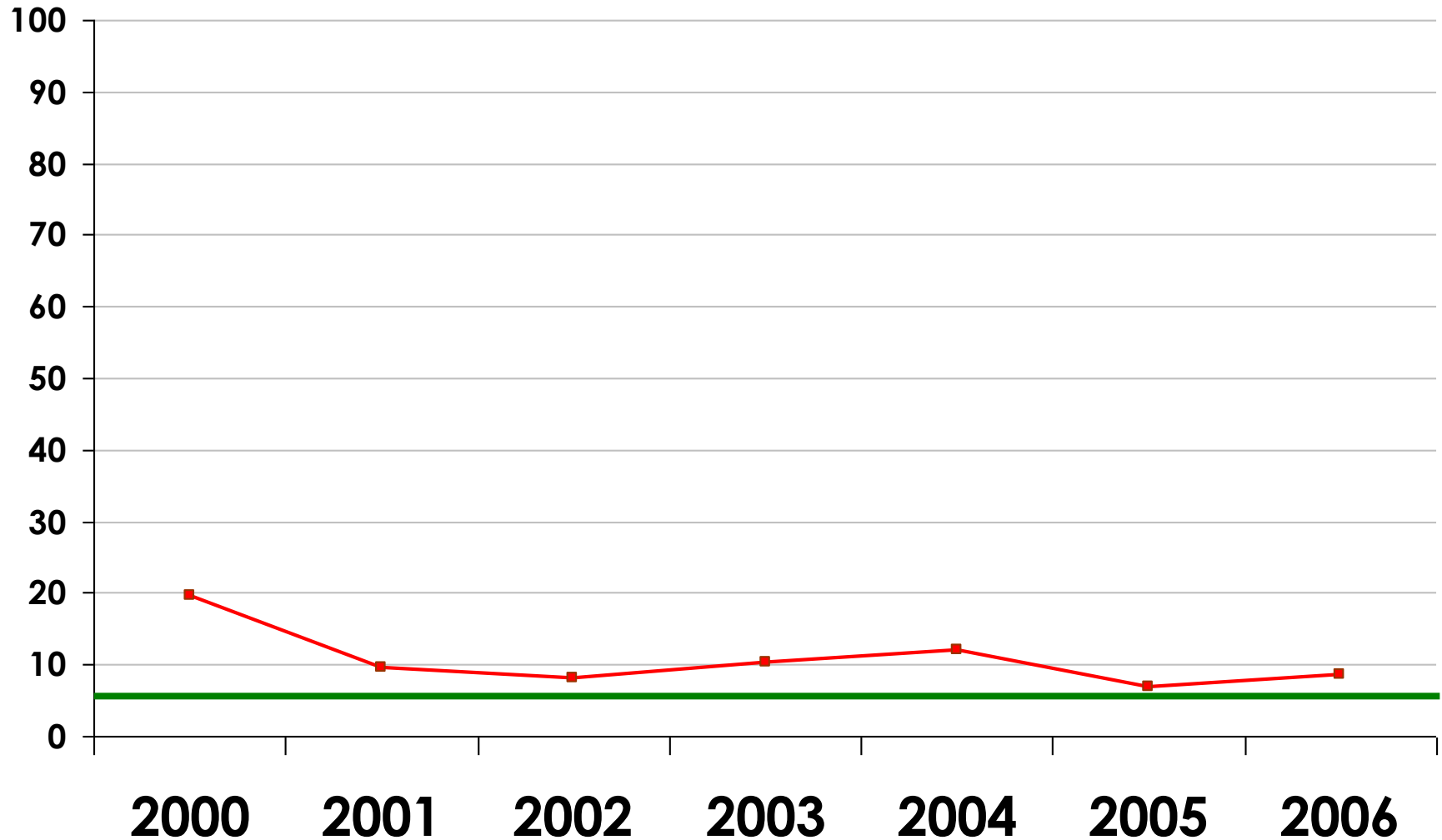
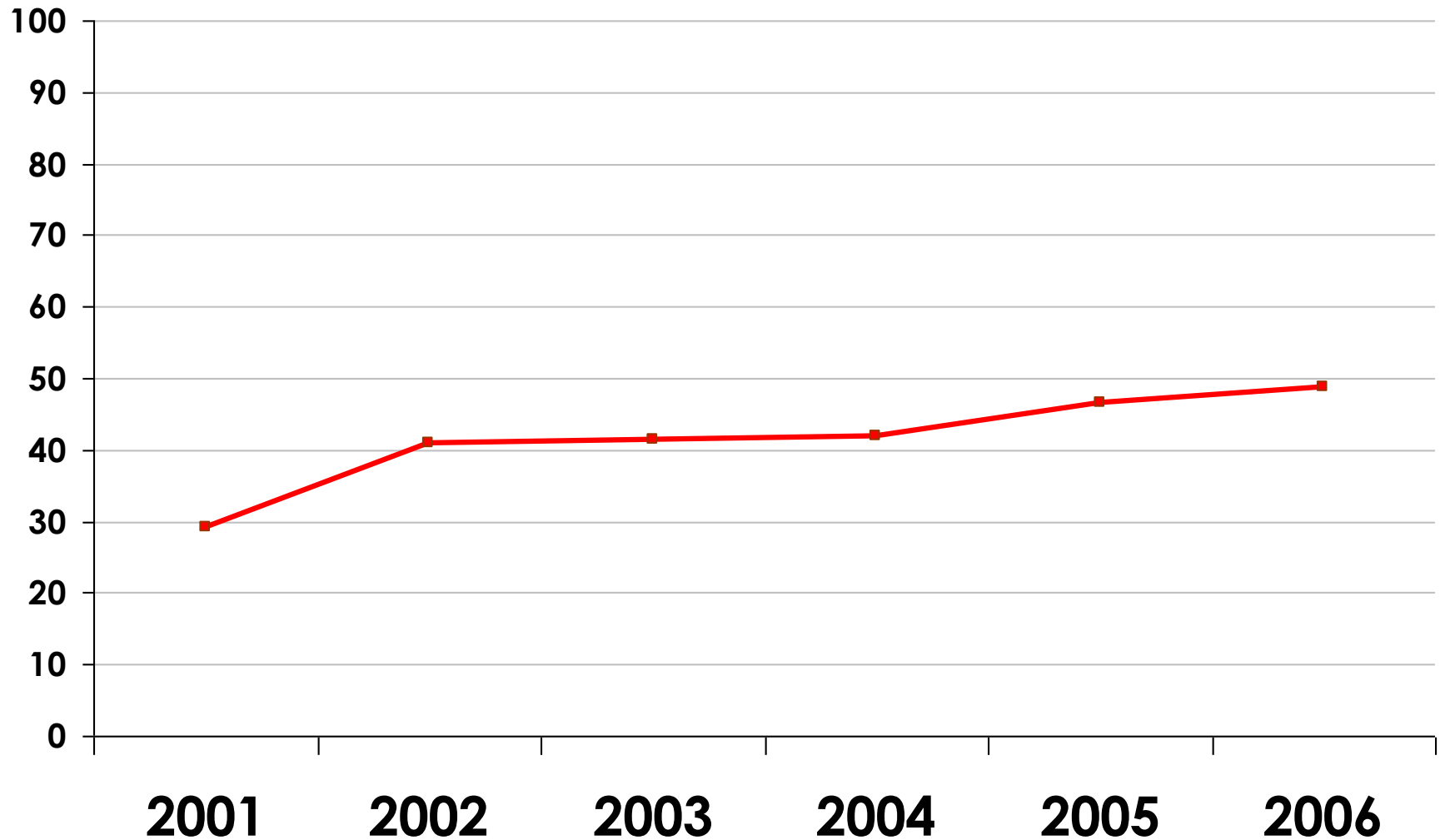## pN0 (inv.) with SLN only (N=1539)
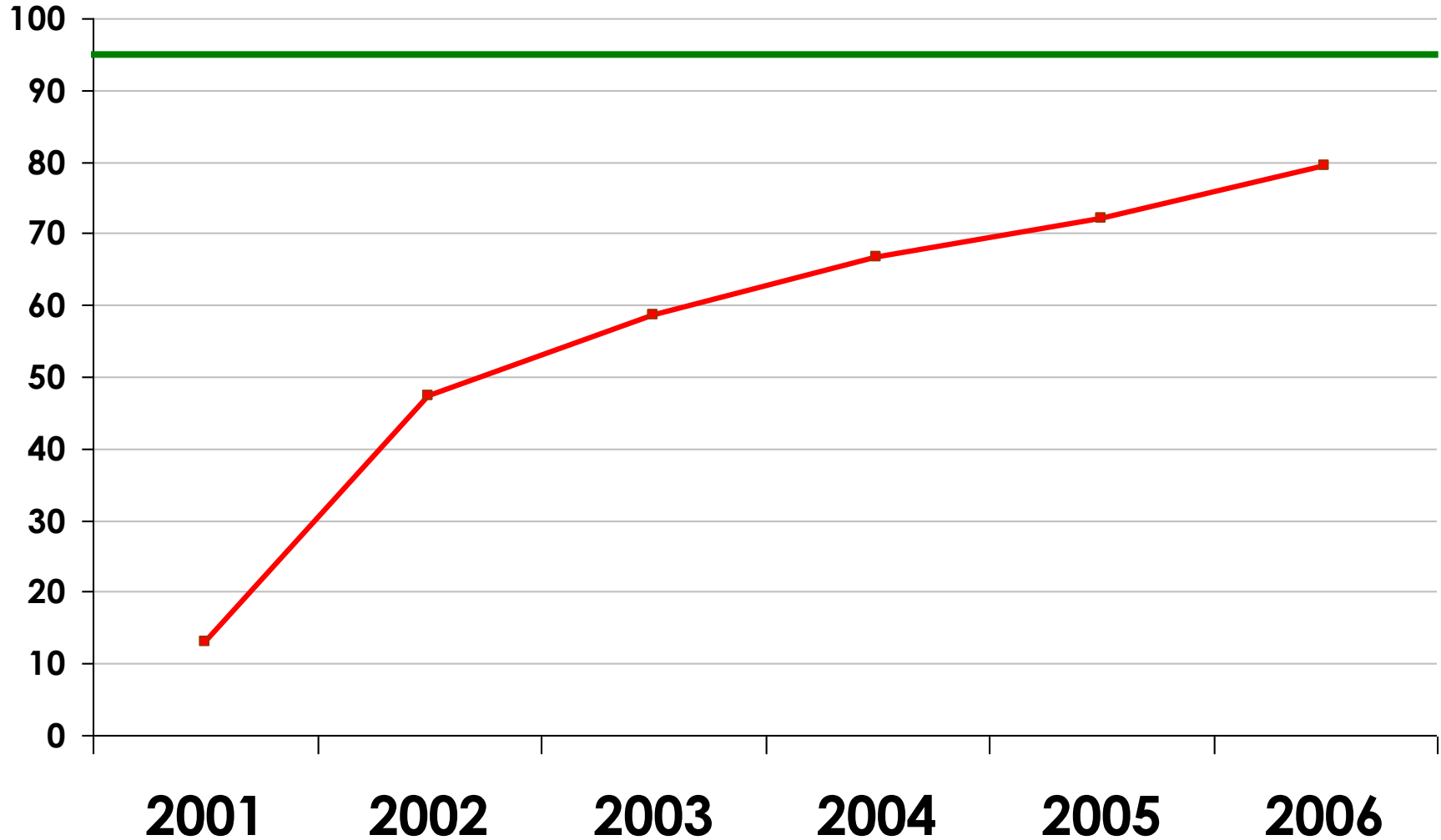
Italian screening programmes, QT Survey
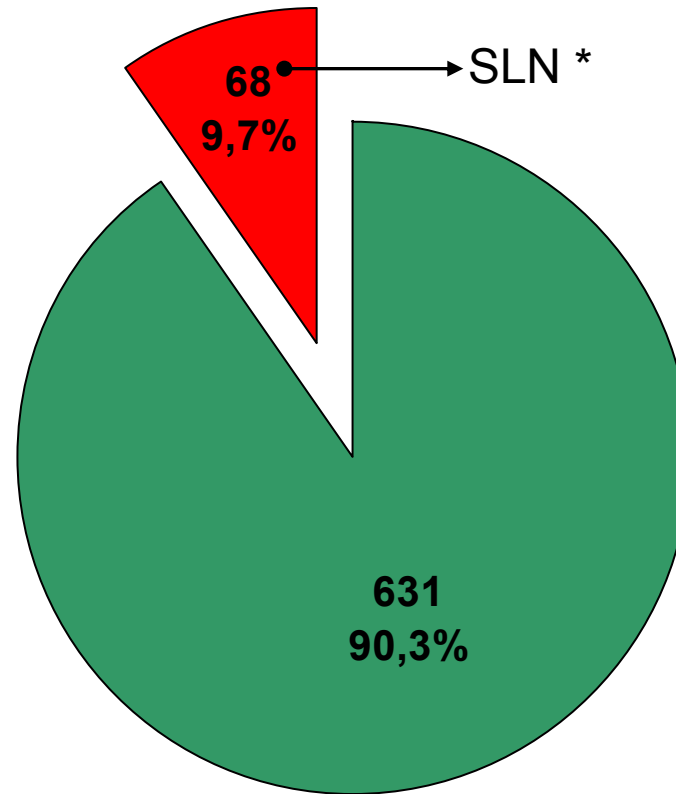
pN0 with SLN only (N=1539)

Italian screening programmes, QT Survey
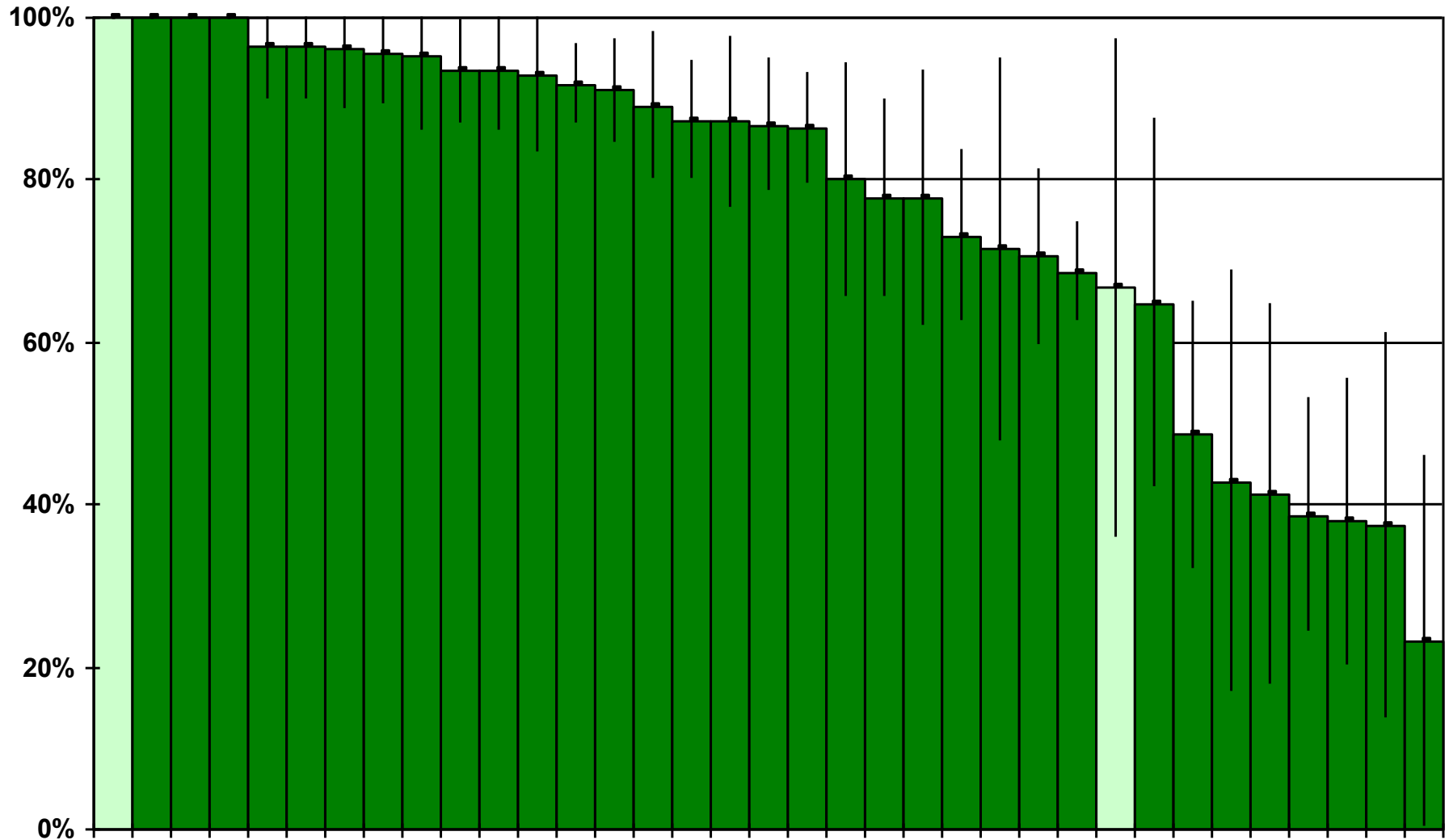
Axillary clearance in DCIS (N=2090)

Italian screening programmes, QT Survey

SLN in DCIS grade I,II (N=1210)

Italian screening programmes, QT Survey
Sentinel lymphnode in benign lesions

68
9,7%

SLN *

631
90,3%

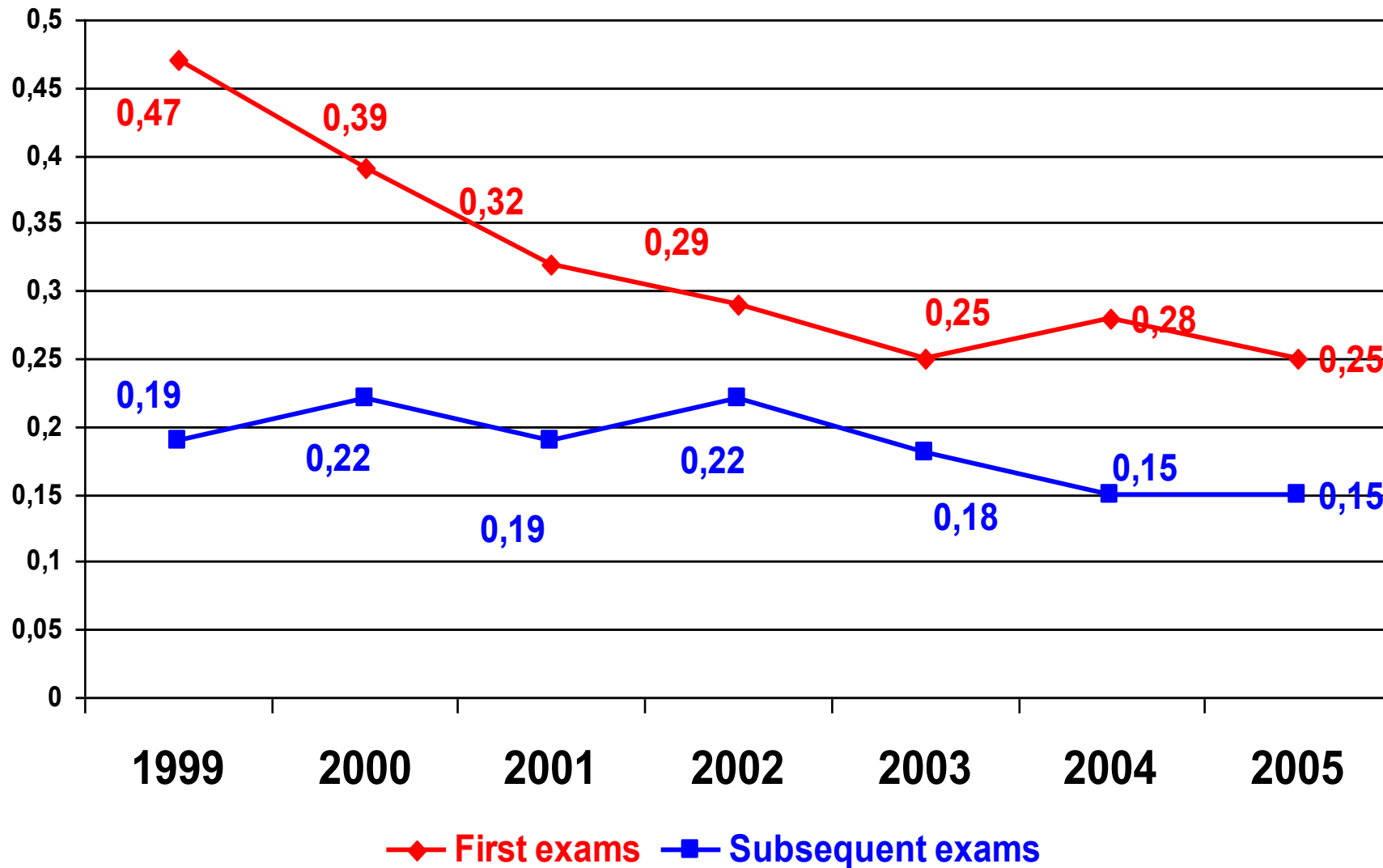Missing: 132 (15,9%)

* 16 benign lesions excluded because B5

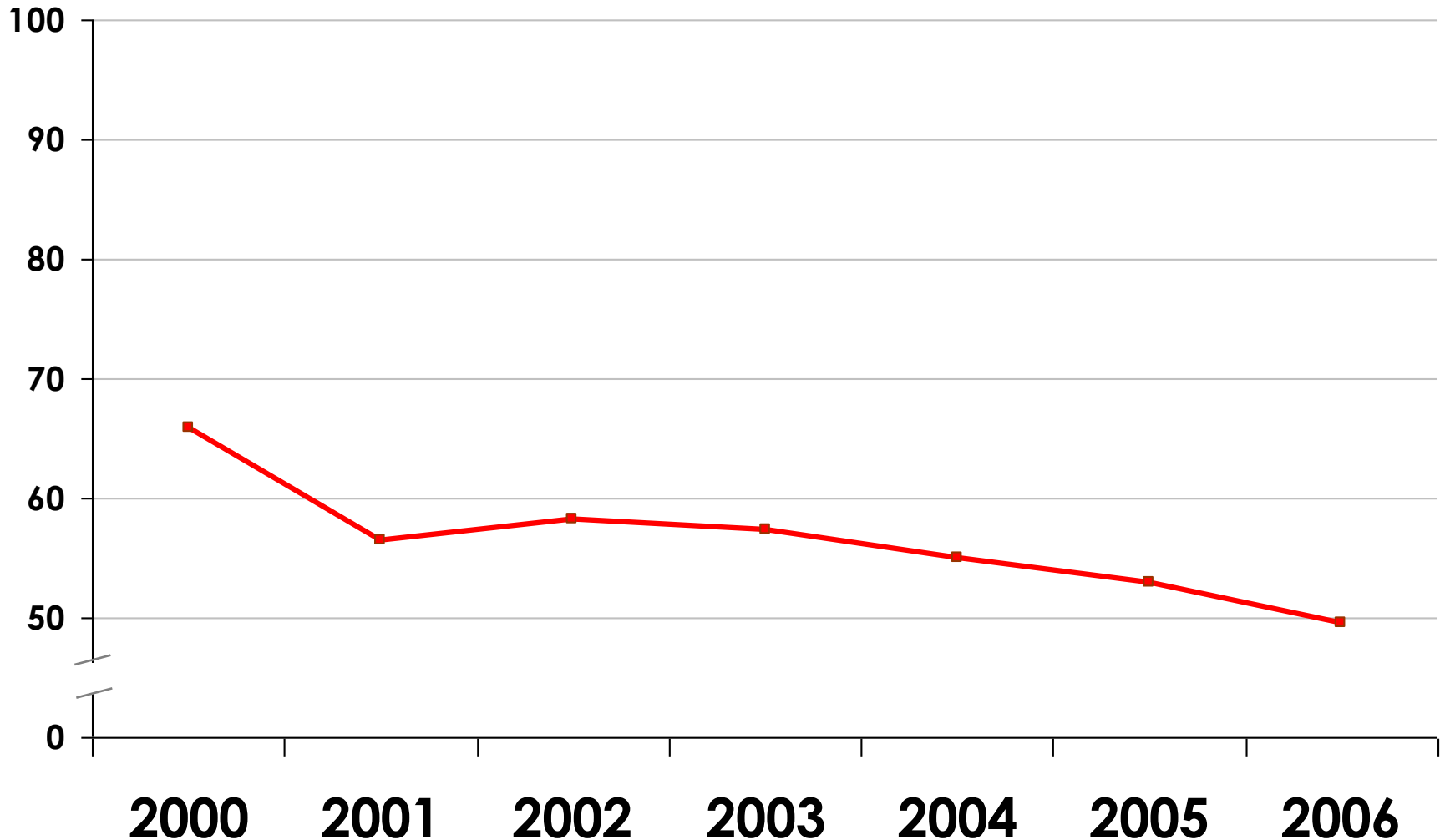Italy, Screening Network – QT Survey 2005-2006

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Italian screening programmes
B/M ratio time trend

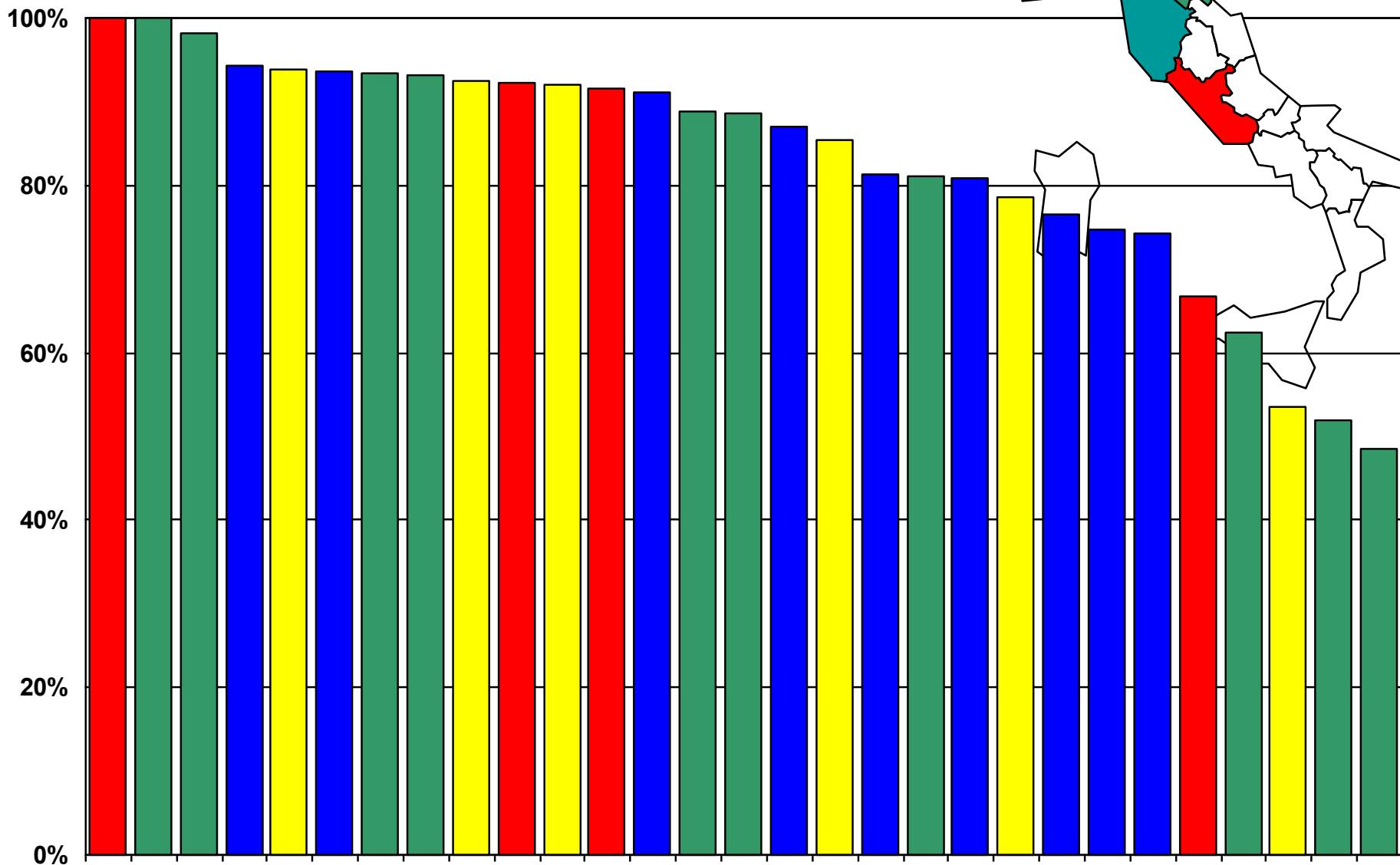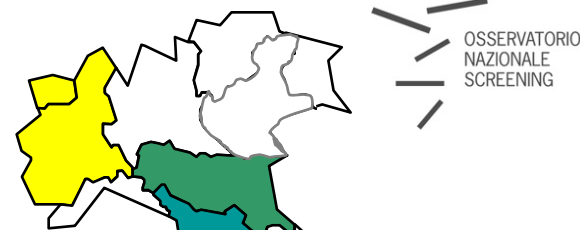# Italian screening programmes, QT Survey
Operation within 60 days after screening mammogram (n=15129)

Surgery within 90 days from screening
Range: 48,4% - 100%

Is Mode of Breast Cancer Detection Associated With Cancer Treatment in the United States?

K. Robin Yabroff, PhD, MBA[1]
Linda C. Harlan, PhD, MPH[1]
Limin X. Clegg, PhD[1,2]
Rachel Ballard-Barbash, MD, MPH[1]
Jennifer Stevens, BS[3]
Donald L. Weaver, MD[4]

[1] Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, Maryland.

[2] Office of Healthcare Inspections, Office of Inspector General, U.S. Department of Veterans Affairs, Washington, District of Columbia.

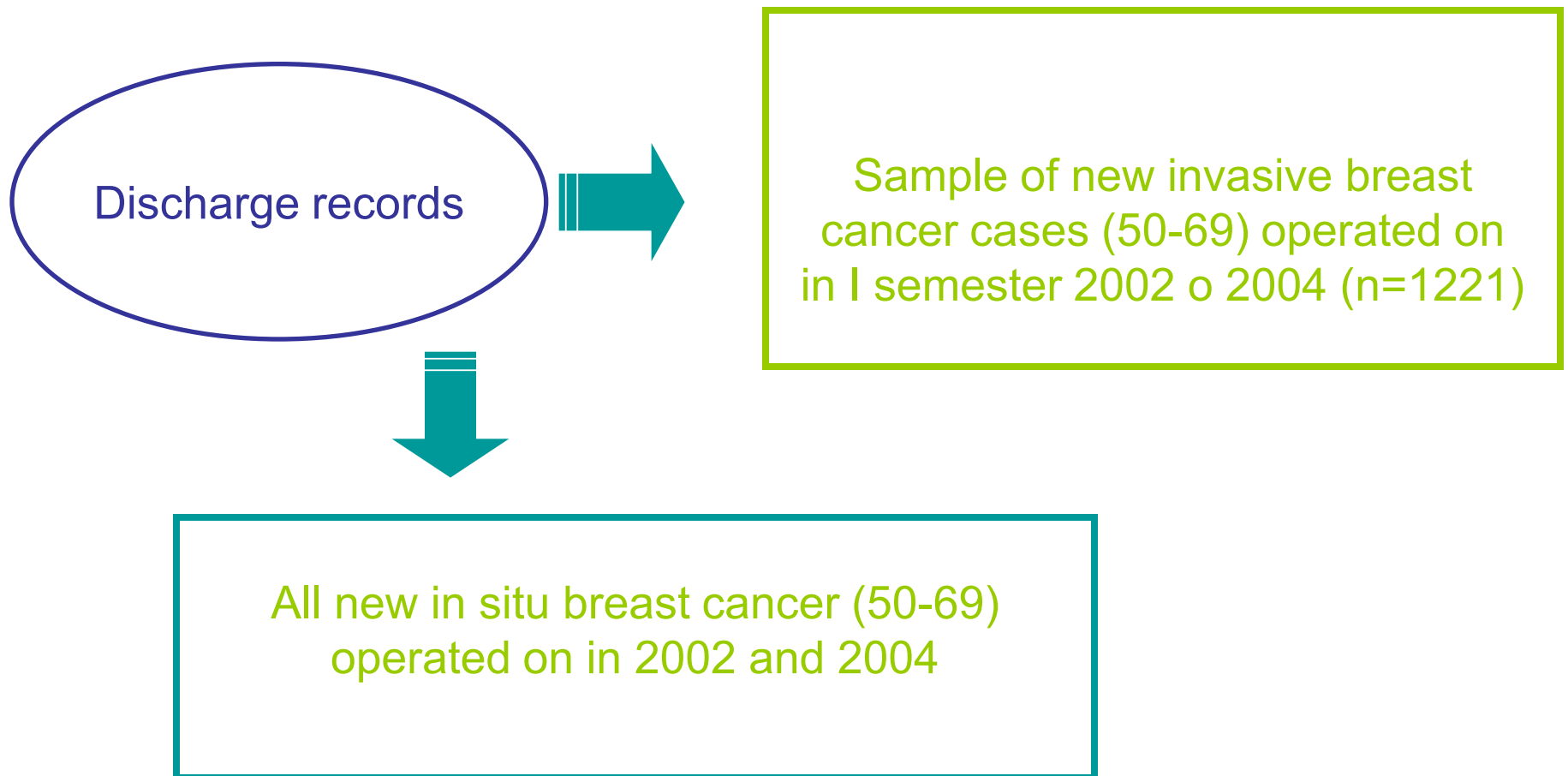[3] Information Management Services, Inc., Silver Spring, Maryland.

[4] Department of Pathology, University of Vermont College of Medicine, Burlington, Vermont.

TABLE 2
Treatment by Mode of Breast Cancer Detection

| Variable | Mode of detection* | | | | Chi-square (*P*) |
| | Mammography | | Other | | |
	No.	%	No.	%	
Receipt of guideline-consistent primary and adjuvant treatment[†]					
Yes	229	48.7	250	56.8	6.0 (.015)
No	241	51.3	178	43.2	

# Population study in Piedmont on impact of mode of detection and specialization on breast cancer care

Discharge records

Sample of new invasive breast cancer cases (50-69) operated on in I semester 2002 o 2004 (n=1221)

All new in situ breast cancer (50-69) operated on in 2002 and 2004

Mode of detection

Screening program mammography	444 (40.7%)
Spontaneous mammography	222 (20.3%)
Signs or symptoms	380 (34.8%)
Missing	46 (4.2%)
TOTAL	1082 (100.0%)

Distribution by mode of detection and volume of cases of treating Unit
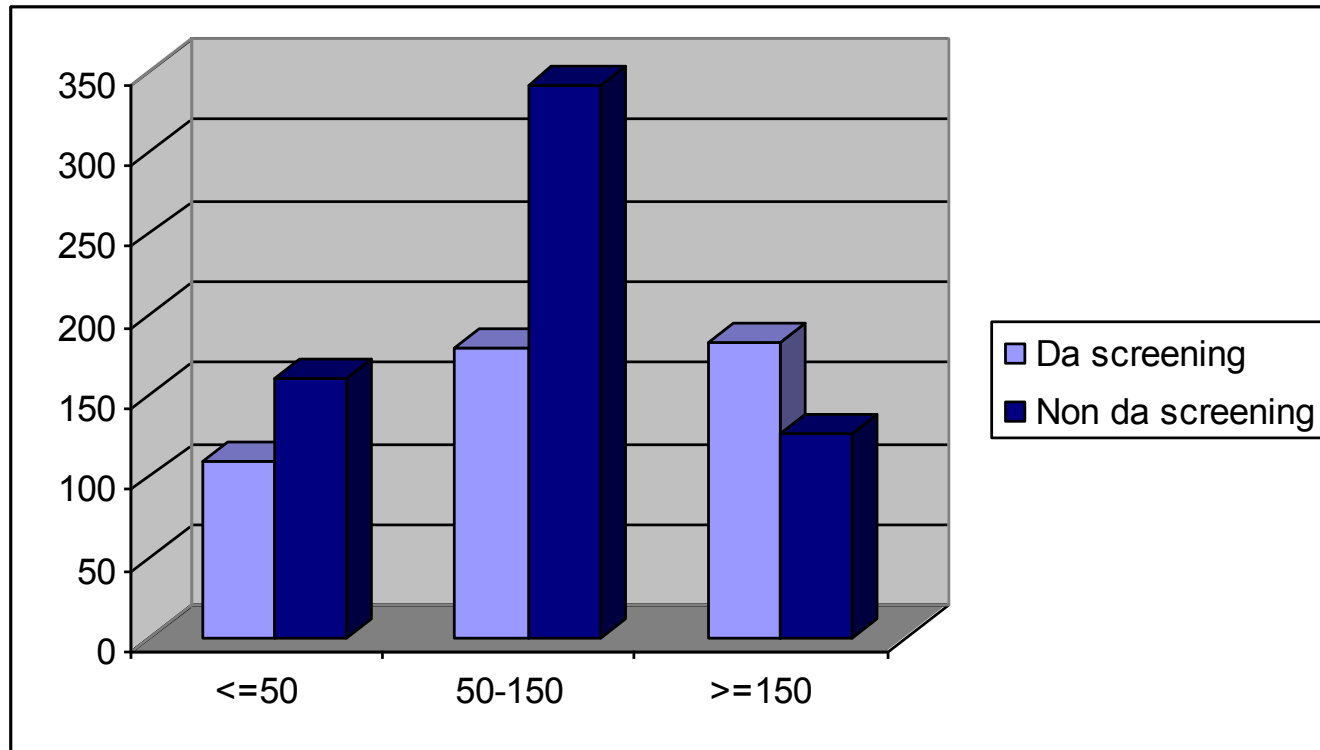
Piedmont, population sample 2002/2004

Pre-operative diagnosis B5/C5

(missing 10.1%)

Volume	N.Tot.	%	OR	C.I. 95%
< 50	**237**	**53,6**	**1**	-
50 - 149	**441**	**59,0**	**1,28**	0,93 – 1,76
≥ 150	**306**	**72,2**	**2,26**	1,57 – 3,25

Adjusted by age, education, screening detection.

Piedmont, population sample 2002/2004

Pre-operative diagnosis B5/C5

(missing 10.1%)

Mode of detection	N.Tot.	%	OR	C.I. 95%
Other	541	61,0	1	-
Screen Detected	440	63,4	1,16	0,88-1,54

Adjusted by age, education, volume of treating hospital.

Piedmont, population sample 2002/2004

Conservation surgery in pT1 cases

(missing 0%)

Volume	N.Tot.	%	OR	C.I. 95%
< 50	**132**	**90,9**	**1**	-
50 - 149	**249**	**90,4**	**1,01**	0,49 – 2,09
≥ 150	**150**	**87,3**	**0,73**	0,34 – 1,58

Adjusted by age, education, screening detection.

Piedmont, population sample 2002/2004

Conservation surgery in pT1 cases

(missing 0%)

Mode of detection	N.Tot.	%	OR	C.I. 95%
Other	265	88.6	1	
Screen Detected	250	90.8	1.29	0.72-2.34

Adjusted by age, education, volume of treating hospital.

Piedmont, population sample 2002/2004

Sentinel lymphnode in invasive cases

(missing 2.1%)

Volume	N.Tot.	%	OR	C.I. 95%
< 50	234	30,3	1	-
50 - 149	437	37,9	1,31	0,92 – 1,87
≥ 150	254	53,5	2,40	1,61 – 3,55

Adjusted by age, education, screening detection.

Piedmont, population sample 2002/2004

Sentinel lymphnode in invasive cases

(missing 2.1%)

Mode of detection	N.Tot.	%	OR	C.I. 95%
Other	551	32.8	1	
Screen Detected	355	52.9	1.79	1.33-2.43

Adjusted by age, education, volume of treating hospital.

Piedmont, population sample 2002/2004

DCIS (grade I,II) with sentinel lymphnode

(missing 0.8%)

Volume	N.Tot.	%	OR	C.I. 95%
< 50	16	12,5	1	-
50 - 149	46	20,4	1,44	0,34 – 6,15
≥ 150	58	32,1	2,32	0,59 – 9,16

Adjusted by age, education, screening detection.

Piedmont, population sample 2002/2004

DCIS (grade I,II) with sentinel lymphnode

(missing 0.8%)

Mode of detection	N.Tot.	%	OR	C.I. 95%
Other	46	30.4	1	
Screen Detected	73	17.3	0.45	0.17-1.16

Adjusted by age, education, volume of treating hospital.
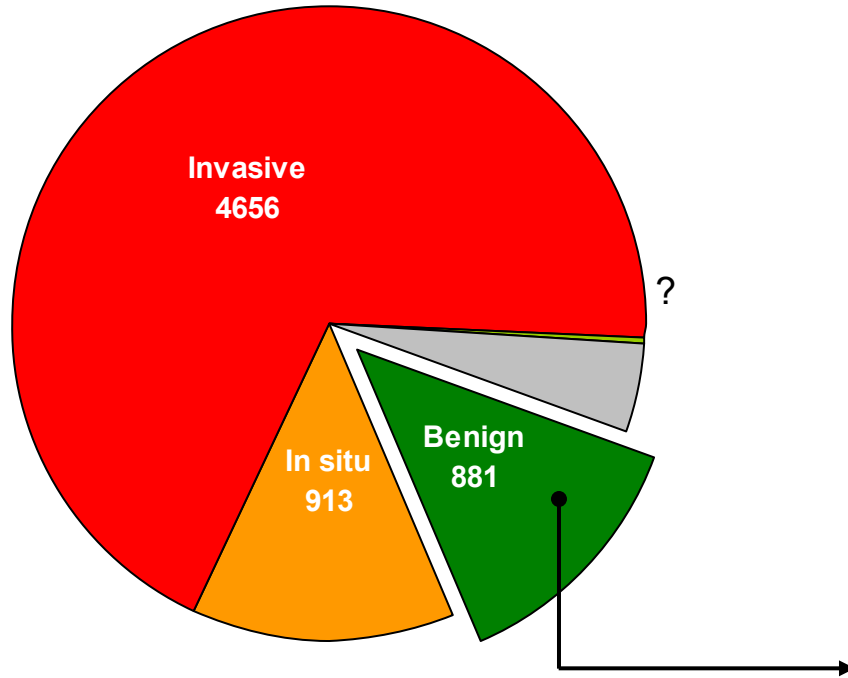
Conclusions

Screening may positively influence quality of breast cancer care, by

- **Referral of SD cases to specialist Breast Units**

- **Encouraging monitoring of performance parameters and Clinical Audit.**

Italian screening programmes, QT Survey
Histological diagnosis of SD lesions

Invasive
4656

?

In situ
913

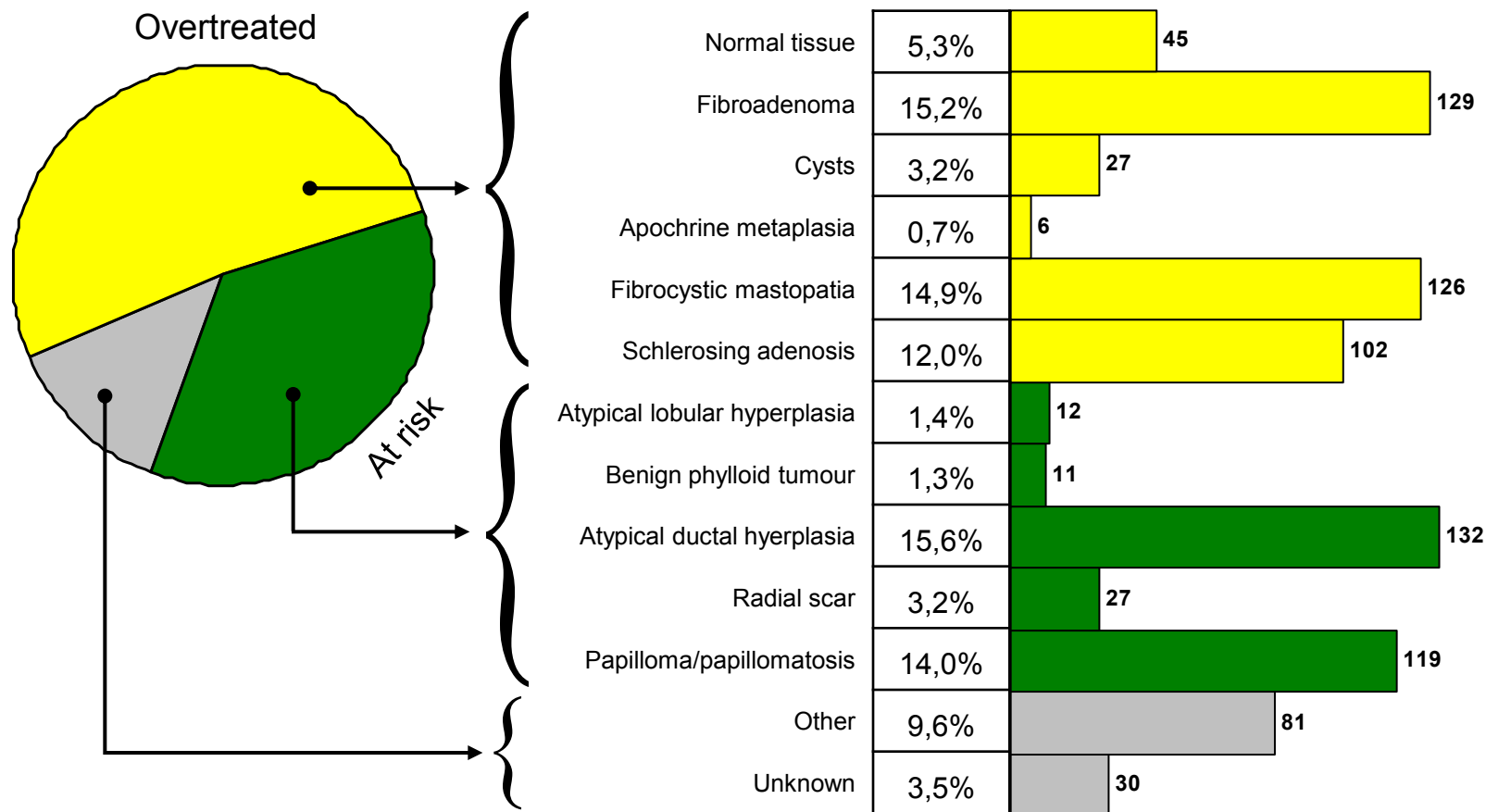Benign
881

Overtreated *

435
51%

301
36%

111
13% ?

Benign at risk *

B/M = 0.16
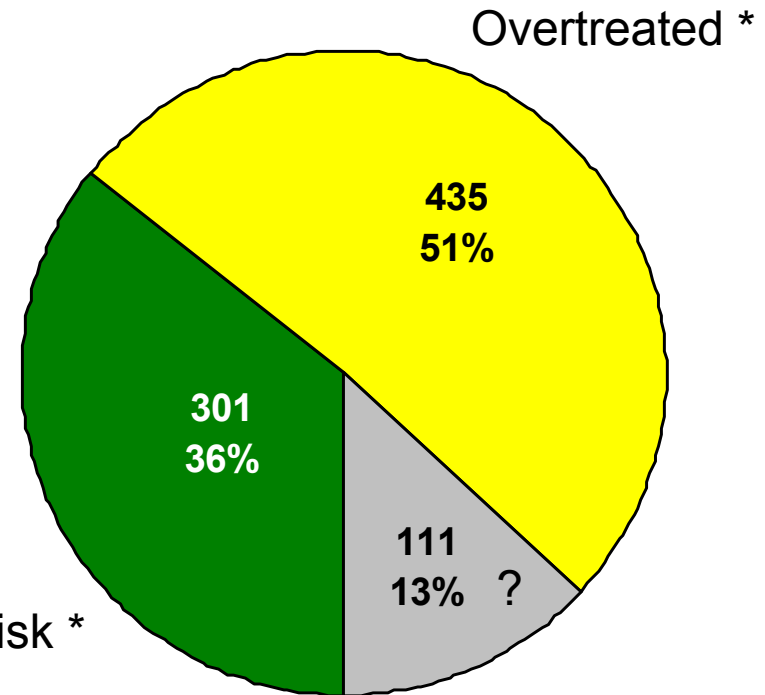
* Sum is less than 881 because synchronous
  lesions have been excluded from the pie

Italy, Screening Network – QT Survey 2005-2006

Italian screening programmes, QT Survey
Benign histological type

Normal tissue	5,3%	45
Fibroadenoma	15,2%	129
Cysts	3,2%	27
Apochrine metaplasia	0,7%	6
Fibrocystic mastopatia	14,9%	126
Schlerosing adenosis	12,0%	102
Atypical lobular hyperplasia	1,4%	12
Benign phylloid tumour	1,3%	11
Atypical ductal hyerplasia	15,6%	132
Radial scar	3,2%	27
Papilloma/papillomatosis	14,0%	119
Other	9,6%	81
Unknown	3,5%	30

Overtreated

At risk

Italy, Screening Network – QT Survey 2005-2006

OSSERVATORIO NAZIONALE SCREENING
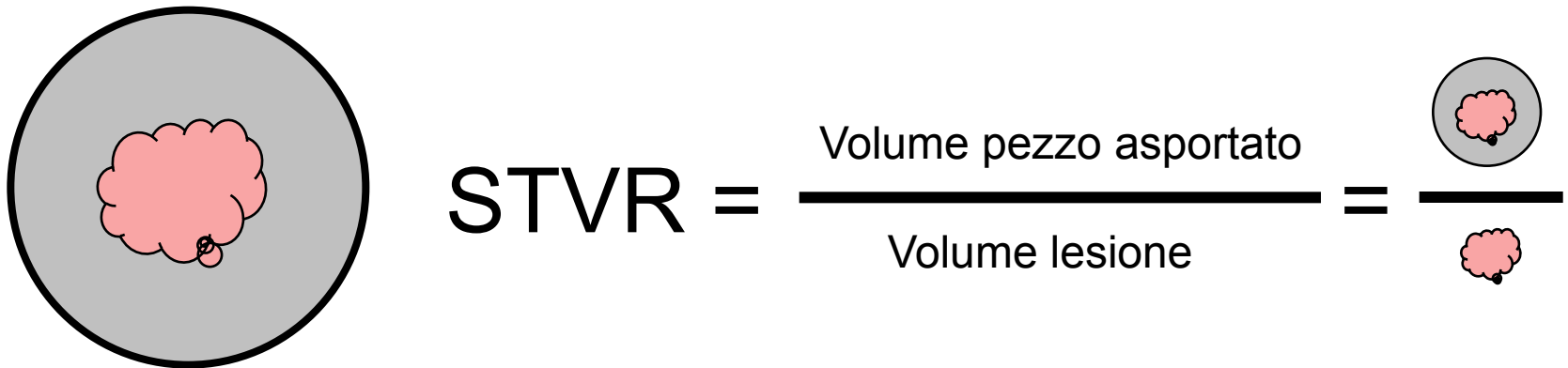
Specimen to Tumour Volume Ratio

Factors Influencing Outcomes for Breast Conservation Therapy of Mammographically Detected Malignancies

Valerie L Staradub, MD, Alfred W Rademaker, PhD, Monica Morrow, MD, FACS

$$\text{STVR} = \frac{\text{Volume pezzo asportato}}{\text{Volume lesione}} =$$

Mean log(STVR) by histological type
243 screening benign lesions 2005-2006

Mean STVR=117.4

Mean STVR=48.5

At risk

Overtreated

p=0.02