

Epidemiologia del cancro del seno in Ticino

Andrea Bordoni

*Registro Tumori Canton Ticino
Istituto Cantonale di Patologia*

Formazione interna ICP

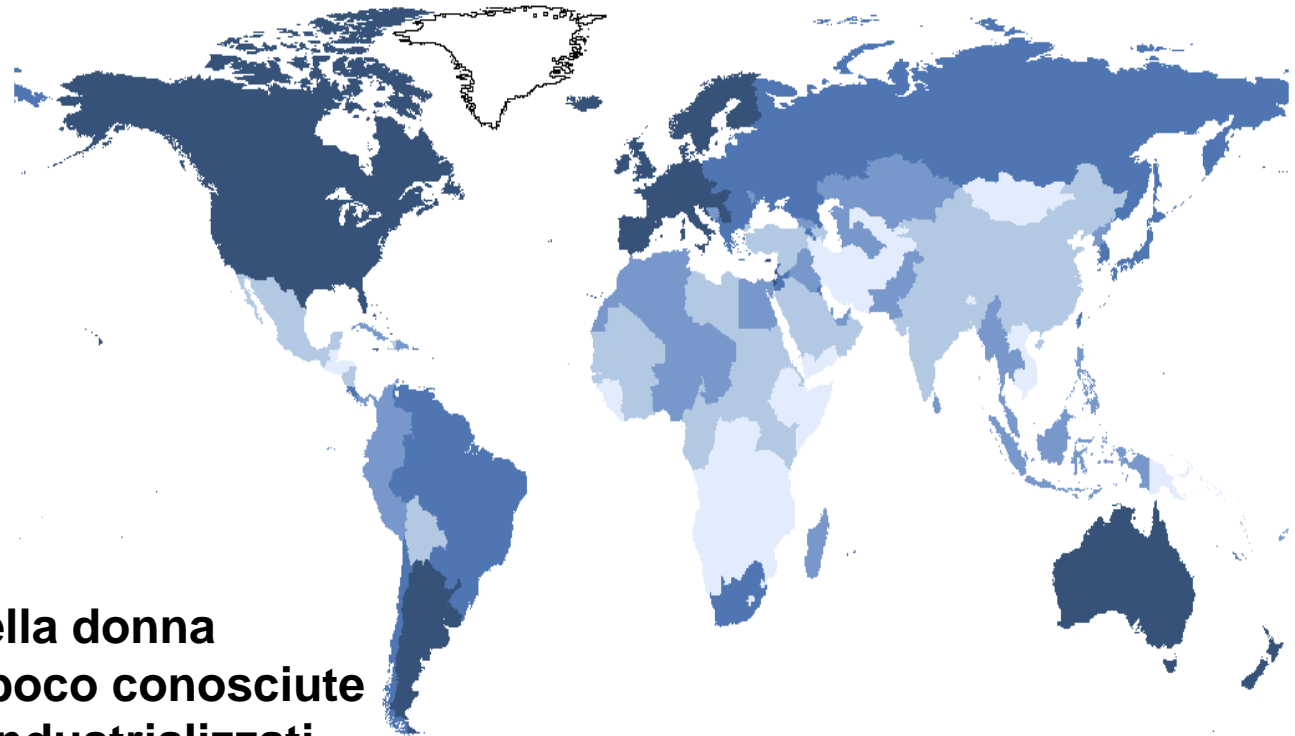
12.04.2011



Epidemiologia del cancro del seno

International Agency for Research on Cancer

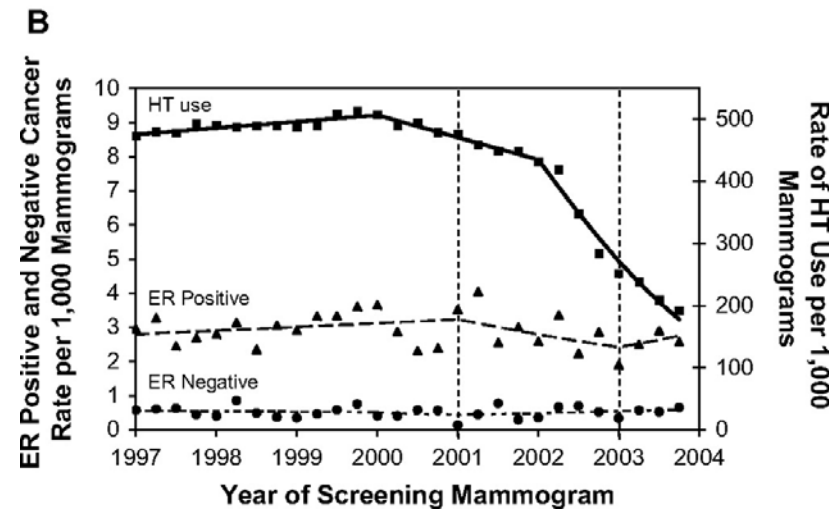
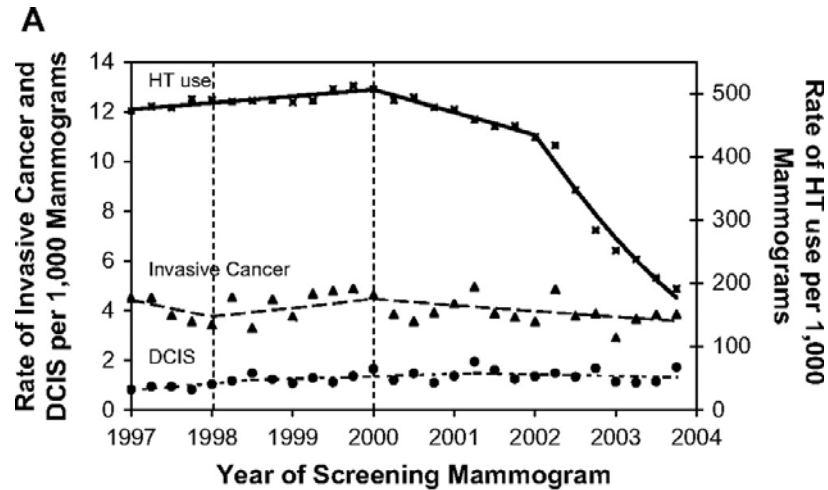
Estimated age-standardised incidence rate per 100,000
Breast, all ages



- Tumore più frequente della donna
- Le cause relativamente poco conosciute
- Più frequente nei paesi industrializzati
- L'incidenza è ovunque in aumento, anche se vi sono segnali di stabilizzazione in US

< 21.3 < 28.6 < 38.7 < 56.5 < 109.2

Current postmenopausal hormone therapy (HT) use and breast cancer in the Breast Cancer Surveillance Consortium. 2007



Kerlikowske K et al. JNCI J Natl Cancer Inst 2007;99:1335-1339

JNCI

Breast cancer incidence rates in US women

Cancer Epidemiol Biomarkers Prev. 2011 Feb 28. [Epub ahead of print]

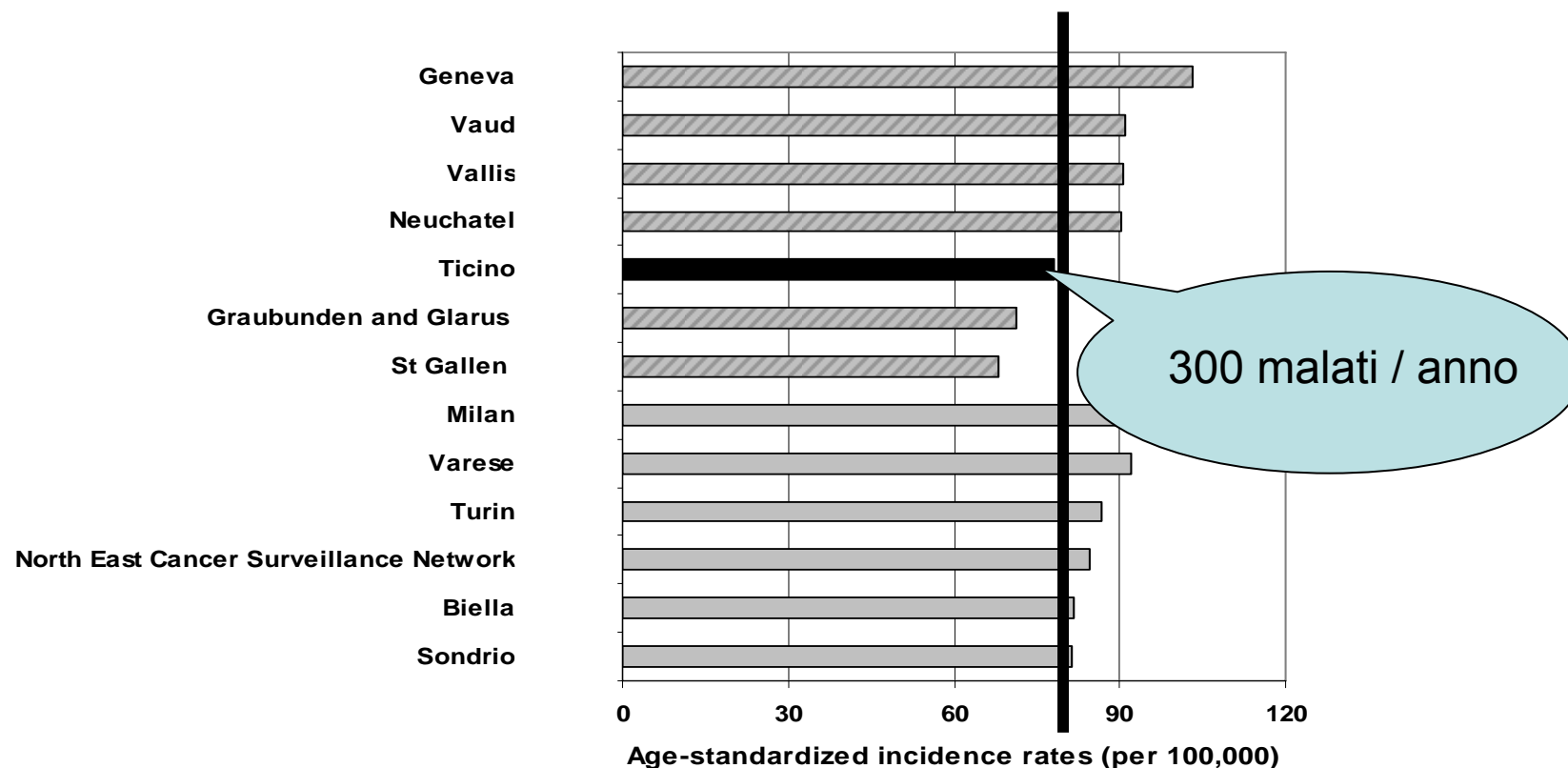
Breast cancer incidence rates in US women are no longer declining.

[Desantis C](#), [Howlader N](#), [Cronin KA](#), [Jemal A](#).

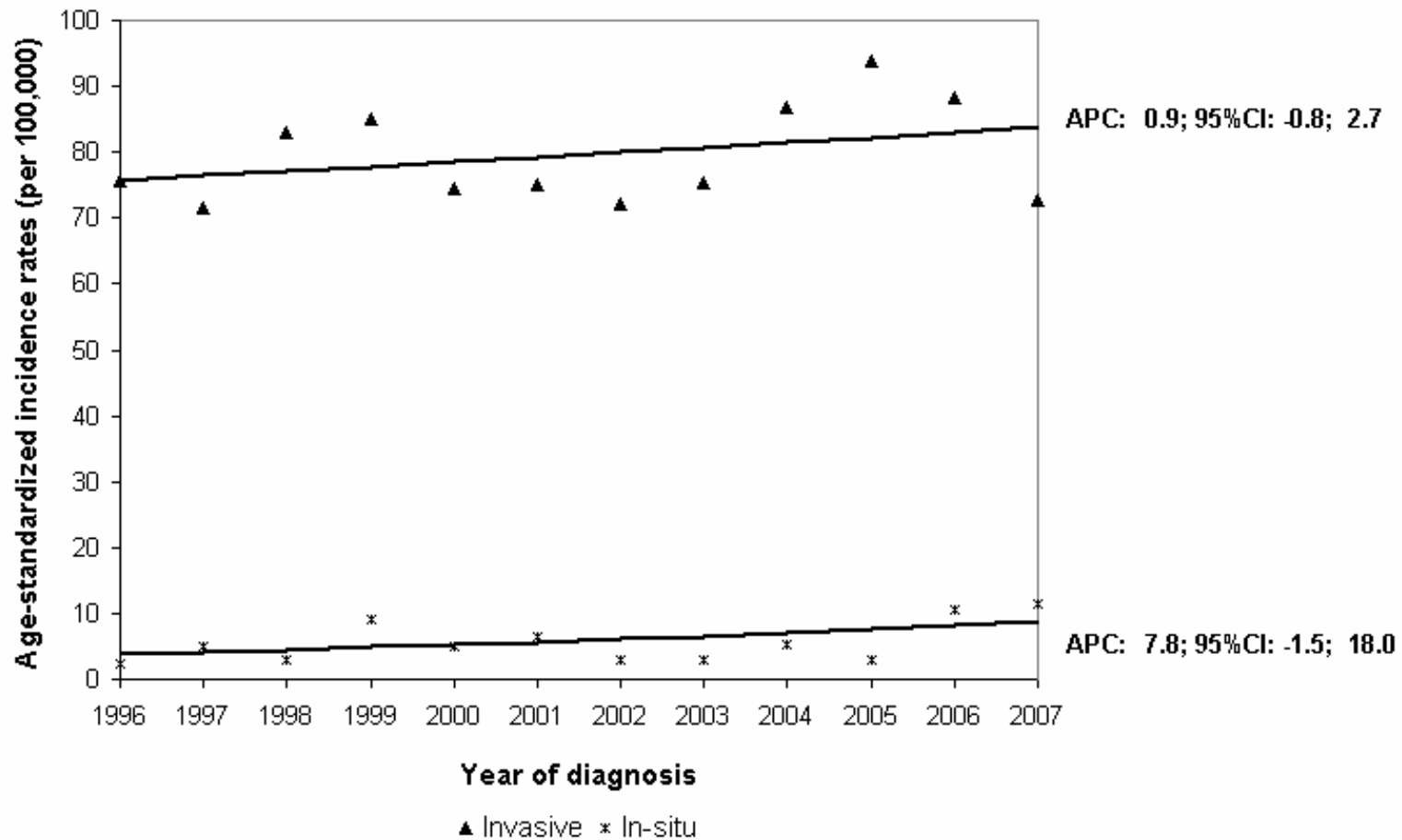
¹Surveillance Research, American Cancer Society.

CONCLUSIONS: The sharp decline in breast cancer incidence rates that occurred from 2002-2003 among NH white women did not continue through 2007.

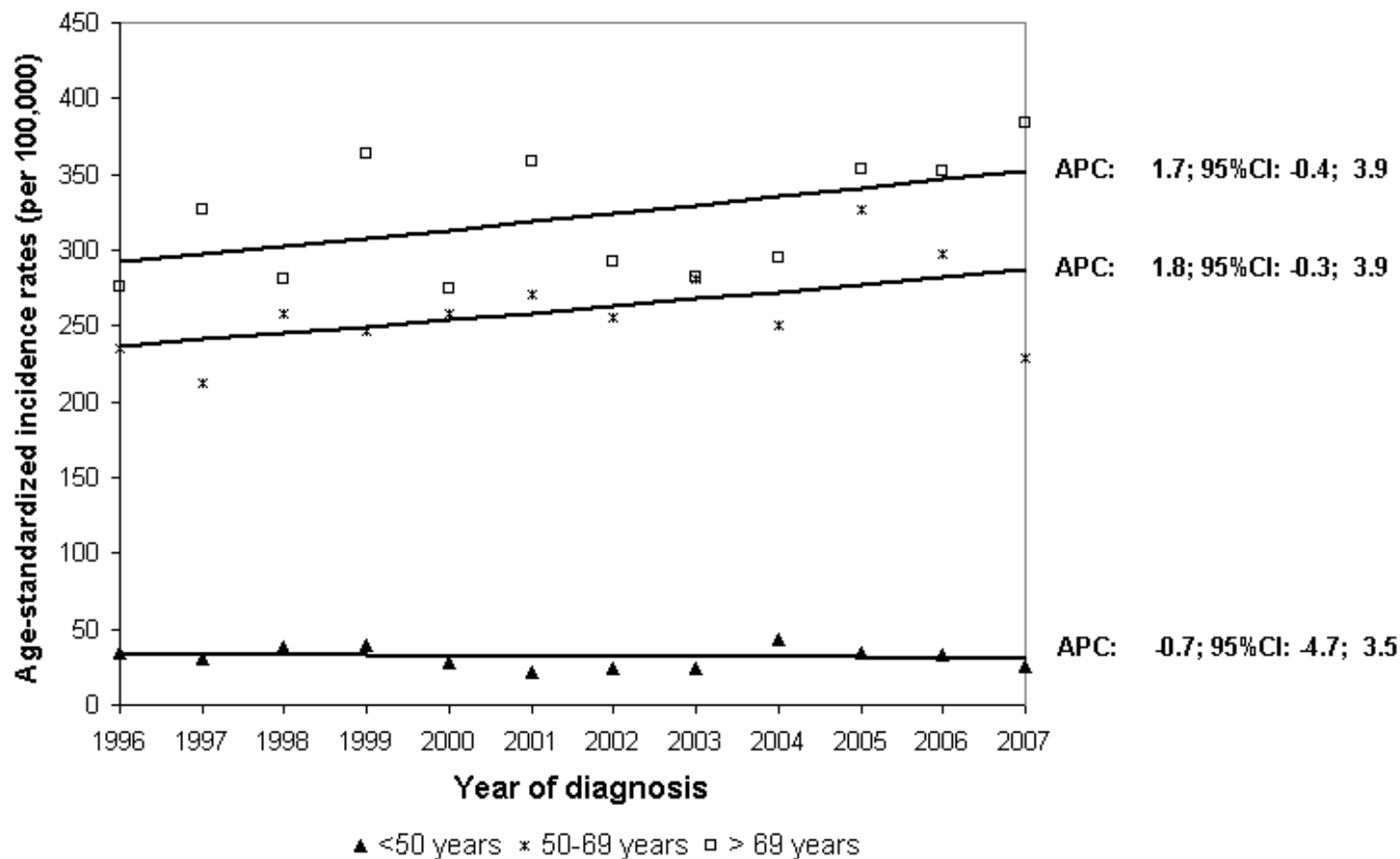
Tassi di incidenza del tumore mammario in Ticino e in alcune zone limitrofe



Incidenza dei tumori invasivi e in-situ della mammella. Ticino, 1996-2007



Incidenza del tumore mammario per classi d'età in Ticino, 1996-2007



Fattori di rischio del cancro al seno

Table 3. Factors That Increase the Relative Risk for Breast Cancer in Women

Relative Risk	Factor
>4.0	<ul style="list-style-type: none">• Female• Age (65+ versus <65 years, although risk increases across all ages until age 80)• Certain inherited genetic mutations for breast cancer (BRCA1 and/or BRCA2)• Two or more first-degree relatives with breast cancer diagnosed at an early age• Personal history of breast cancer• High breast tissue density• Biopsy-confirmed atypical hyperplasia
2.1-4.0	<ul style="list-style-type: none">• One first-degree relative with breast cancer• High-dose radiation to chest• High bone density (postmenopausal)
1.1-2.0	
Factors that affect circulating hormones	<ul style="list-style-type: none">• Late age at first full-term pregnancy (>30 years)• Early menarche (<12 years)• Late menopause (>55 years)• No full-term pregnancies• Never breastfed a child• Recent oral contraceptive use• Recent and long-term use of hormone replacement therapy• Obesity (postmenopausal)
Other factors	<ul style="list-style-type: none">• Personal history of endometrium, ovary, or colon cancer• Alcohol consumption• Height (tall)• High socioeconomic status• Jewish heritage

Adapted with permission from Hulka et al, 2001.

Fattori di rischio del cancro al seno

Estimated risk at birth up to and including:	UK (2008)
age 29	1 in 2,000
age 39	1 in 215
age 49	1 in 50
age 59	1 in 22
age 69	1 in 13
Lifetime risk	1 in 8

Oral contraceptive use	Relative risk (confidence interval)
Never users	1.0
Current users	1.24 (1.15-1.33)
1-4 years after stopping	1.16 (1.08-1.23)
5-9 years after stopping	1.07 (1.02-1.13)
10+ years after stopping	1.01 (0.96-1.05)

Fattori di rischio del cancro al seno

Table 4.3: Relative risk of invasive breast cancer in relation to recency and type of HRT used

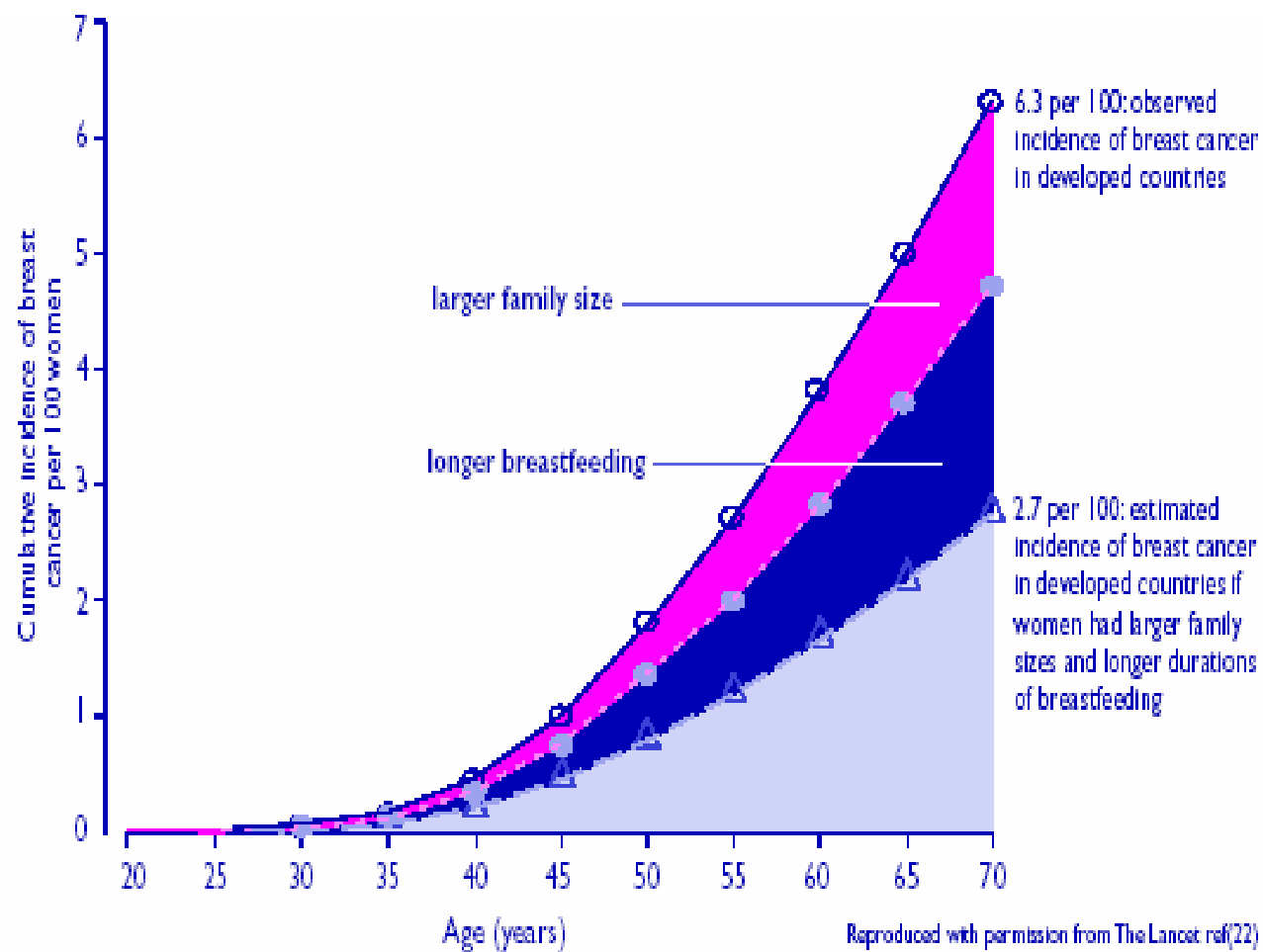
HRT use at baseline	Relative risk (confidence interval)
Never users	1.00 (0.97-1.04)
Current users	1.66 (1.60-1.72)
Current users of oestrogen only	1.30 (1.22-1.38)
Current users of oestrogen-progestagen	2.00 (1.91-2.09)
Current users of tibolone	1.45 (1.25-1.67)
All past users	1.01 (0.95-1.08)
Last use <5 years previously	1.04 (0.95-1.12)
Last use 5-9 years previously	1.01 (0.88-1.16)
Last use ≥ 10 years previously	0.90 (0.72-1.12)

First-degree relatives affected with breast cancer	Cases : Controls	Risk ratio (99% FCI)
0	50,713 : 94,548	1.00 (0.97-1.03)
1	6810 : 6998	1.80 (1.70-1.91)
2	603 : 404	2.93 (2.37-3.63)
≥3	83 : 36	3.90 (2.03-7.49)

Table 5.14.1 Risk ratios of breast cancer and 99% floating confidence intervals (FCI) in relation to family history of breast cancer in first-degree relatives. RRs are stratified by study, age, menarche, marital status, parity, age at first birth and number of sisters. (Data from Lancet (2001) 358, 1389-99)

Fattori di rischio del cancro al seno

Estimated cumulative incidence of breast cancer in developed countries if women had family sizes and breastfeeding patterns typical of developing countries



RIFLESSIONI SULLO SCREEINING

PERCHE' parliamo di depistaggio?
PERCHE' parliamo di mammografie?

MOTIVO FONDAMENTALE

Fattori di rischio per tumore alla mammella sono molteplici/sconosciuti (età, sesso, predisposizione genetica, fattori ormonali/riproduttivi).

Fattori di rischio sono difficili da controllare.
La prevenzione primaria é relativamente poco proponibile.

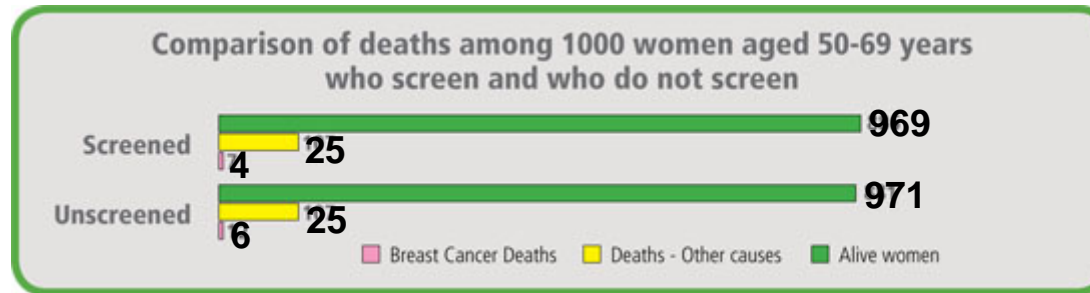
Prevenzione secondaria / diagnosi precoce / depistaggio

In un'inchiesta svizzera sulla salute 2007 risulta che oltre l'80% delle donne ticinesi nel gruppo 50-65 anni hanno fatto almeno una mammografia

Fonte: Ufficio federale di statistica UST, Sezione Salute della popolazione, Team "Indagine sulla salute in Svizzera"



RIFLESSIONI SULLO SCREEINING

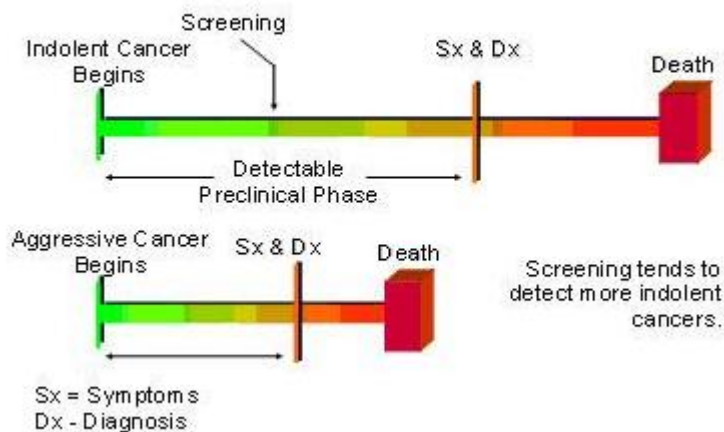


Barrat A. Howard K, Irwing L, et al. Model of outcomes of screening mammography: information to support informed choices. BMJ 2005; 330: 936 - 938.

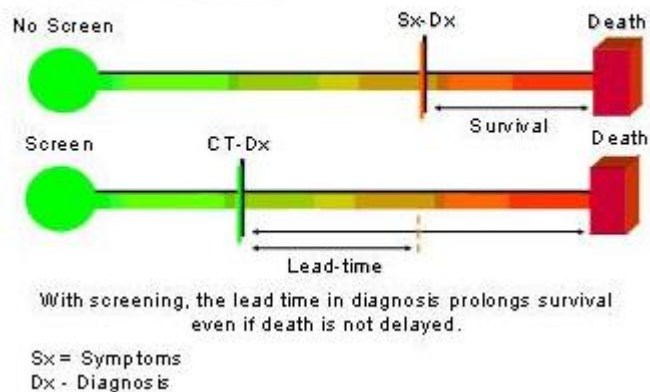
RIFLESSIONI SULLO SCREEINING

Effetti negativi/collaterali

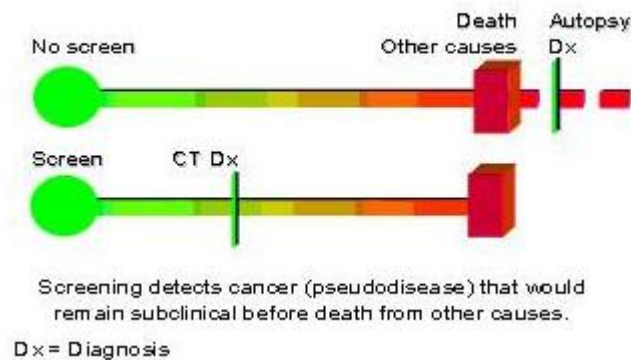
Length Bias



Lead-time Bias



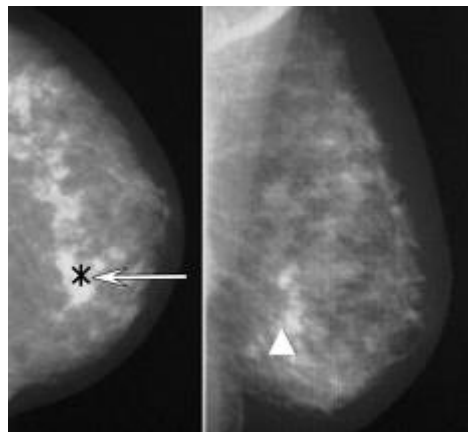
Overdiagnosis Bias (Pseudodisease)



RIFLESSIONI SULLO SCREEINING

Mammografia opportunistica o spontanea

Basata sull'informazione che ha il singolo o proposta dal ginecologo
Intervalli non regolari
Indicatori di qualità non rilevabili



RIFLESSIONI SULLO SCREEINING

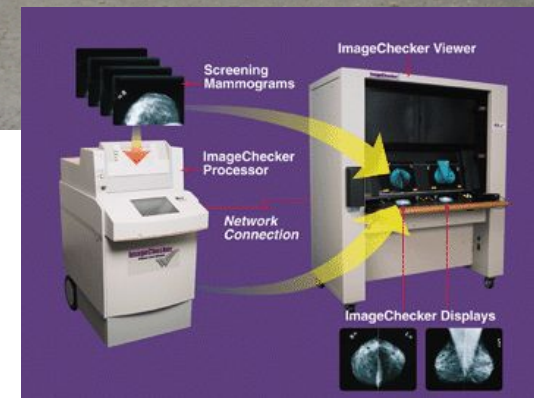
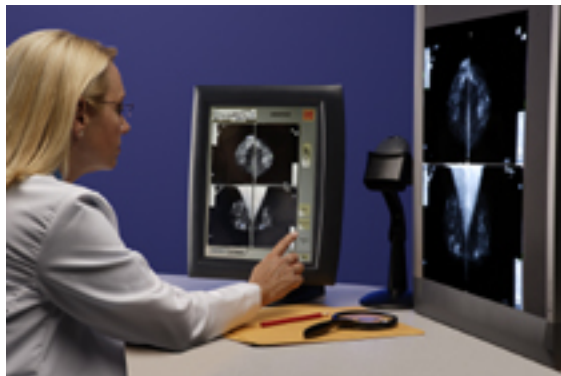
Mammografia organizzata

Accesso **uniforme**, gratuito

Intervalli regolari, 2 anni, 50-69 anni

Doppia lettura, **certificazione** apparecchi
Rilevazione e valutazione di **indicatori di performance**

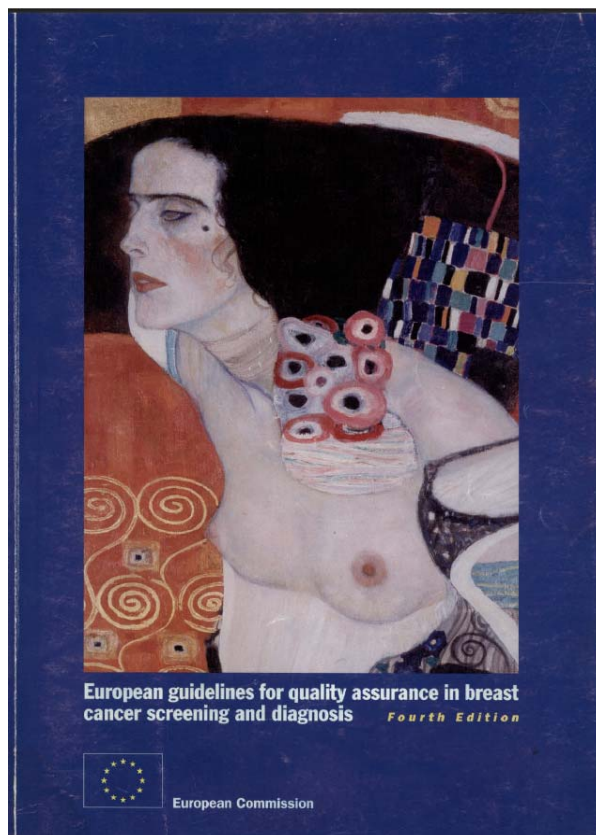
- *European Guidelines for Quality*
- *Assurance for Breast Cancer Screening*



RIFLESSIONI SULLO SCREEINING

Mammografia organizzata

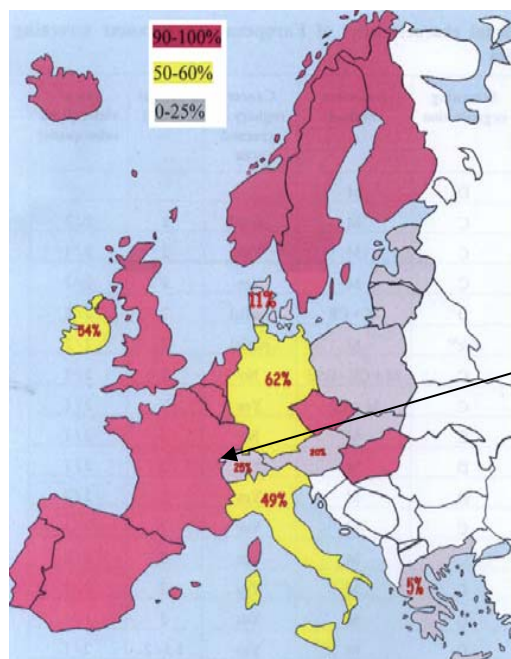
Indicatori di performance



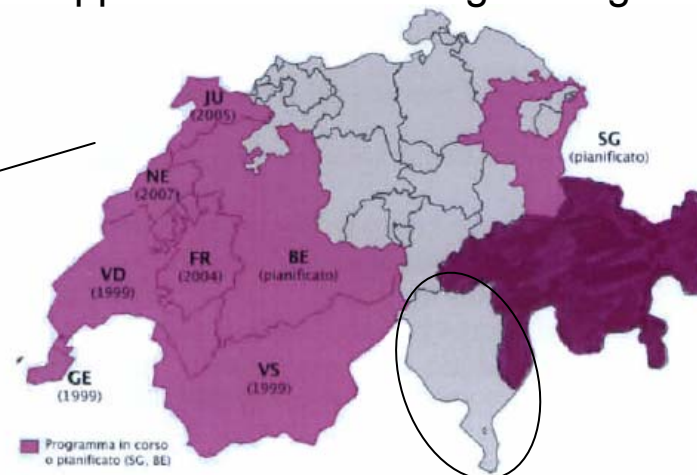
Performance indicator	Acceptable level	Desirable level
13. Proportion of screened women subjected to early recall following diagnostic assessment ^{4T2}	< 1%	0%
14. Breast cancer detection rate, expressed as a multiple of the underlying, expected, breast cancer incidence rate in the absence of screening (IR) ^{1T33, 4T1} <ul style="list-style-type: none"> • initial screening examinations • subsequent-regular screening examinations 	3 x IR 1.5 x IR	> 3 x IR > 1.5 x IR
15. Interval cancer rate as a proportion of the underlying, expected, breast cancer incidence rate in the absence of screening ^{1T33} <ul style="list-style-type: none"> • within the first year (0-11 months) • within the second year (12-23 months) 	30% 50%	< 30% < 50%
16. Proportion of screen-detected cancers that are invasive ^{1T33, 4T1}	90%	80-90%
17. Proportion of screen-detected cancers that are stage II+ ^{1T33} <ul style="list-style-type: none"> • initial screening examinations • subsequent-regular screening examinations 	NA 25%	< 30% < 25%
18. Proportion of invasive screen-detected cancers that are node-negative ^{1T33} <ul style="list-style-type: none"> • initial screening examinations • subsequent-regular screening examinations 	NA 75%	> 70% > 75%
19. Proportion of invasive screen-detected cancers that are ≤ 10 mm in size ^{1T33, 4T1} <ul style="list-style-type: none"> • initial screening examinations • subsequent-regular screening examinations 	NA ≥ 25%	≥ 25% ≥ 30%
20. Proportion of invasive screen-detected cancers that are < 15 mm in size ^{7A,2}	50%	> 50%

RIFLESSIONI SULLO SCREENING

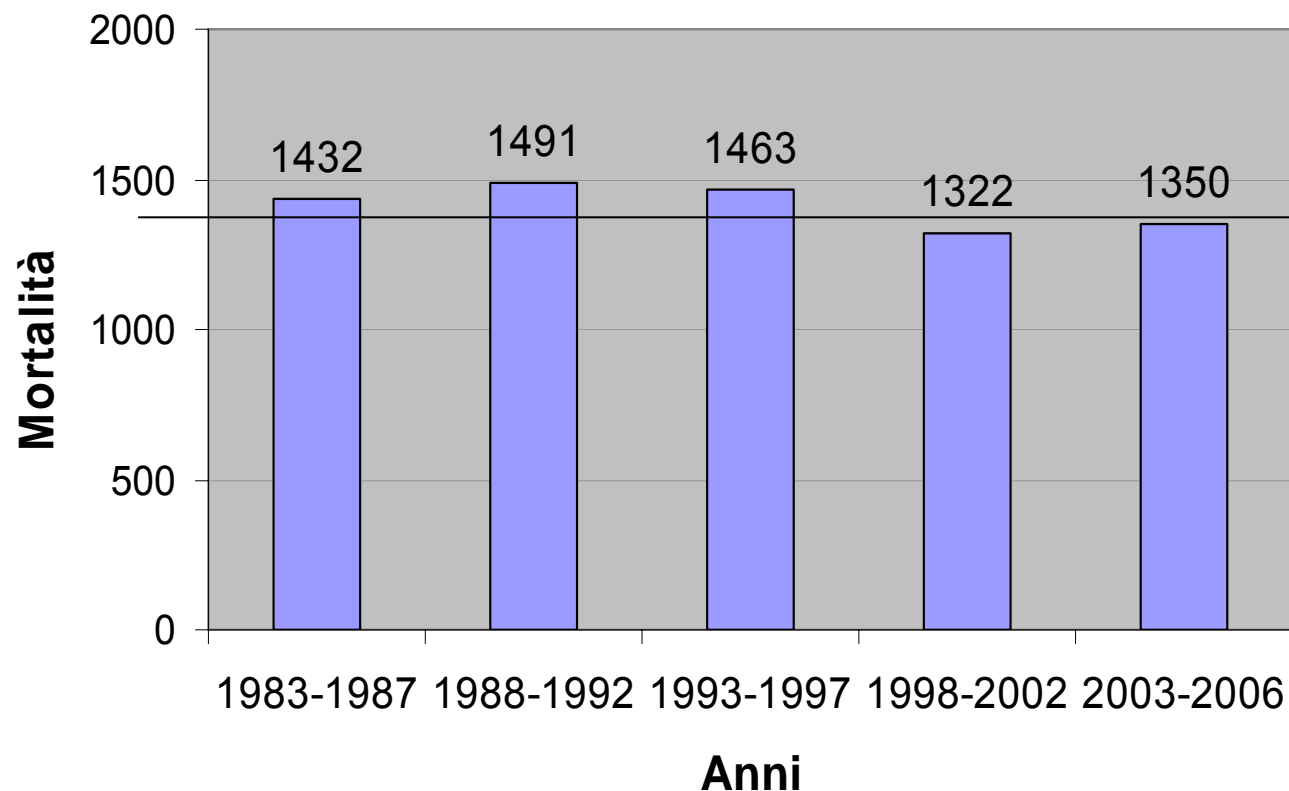
Coverage of organized screening programmes in Europe



In Switzerland there is a co-existence of systematic screening programmes and opportunistic screening strategies

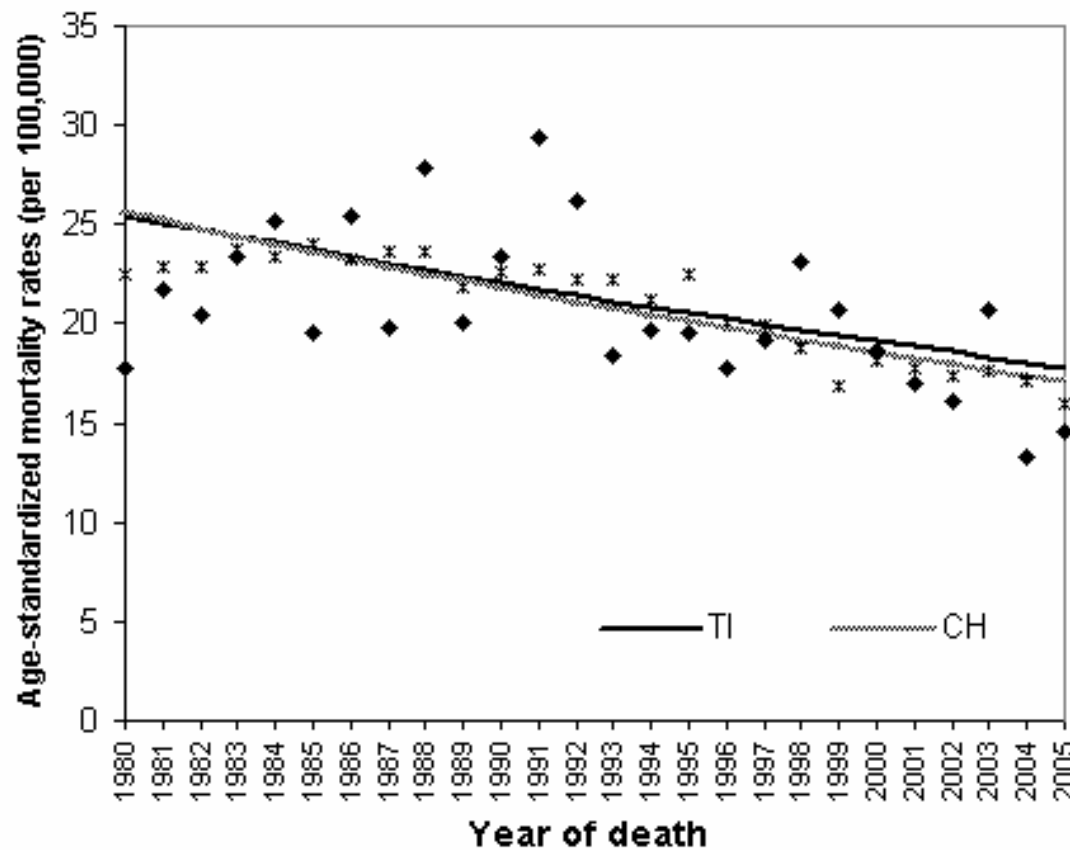


Frequenza dei decessi per cancro del seno in Svizzera e Ticino



Frequenza in Ticino:
65-75 decessi anno

Mortalità per tumore mammario Ticino e Svizzera, 1980-2005



-Invecchiamento
-Aumento popolazione

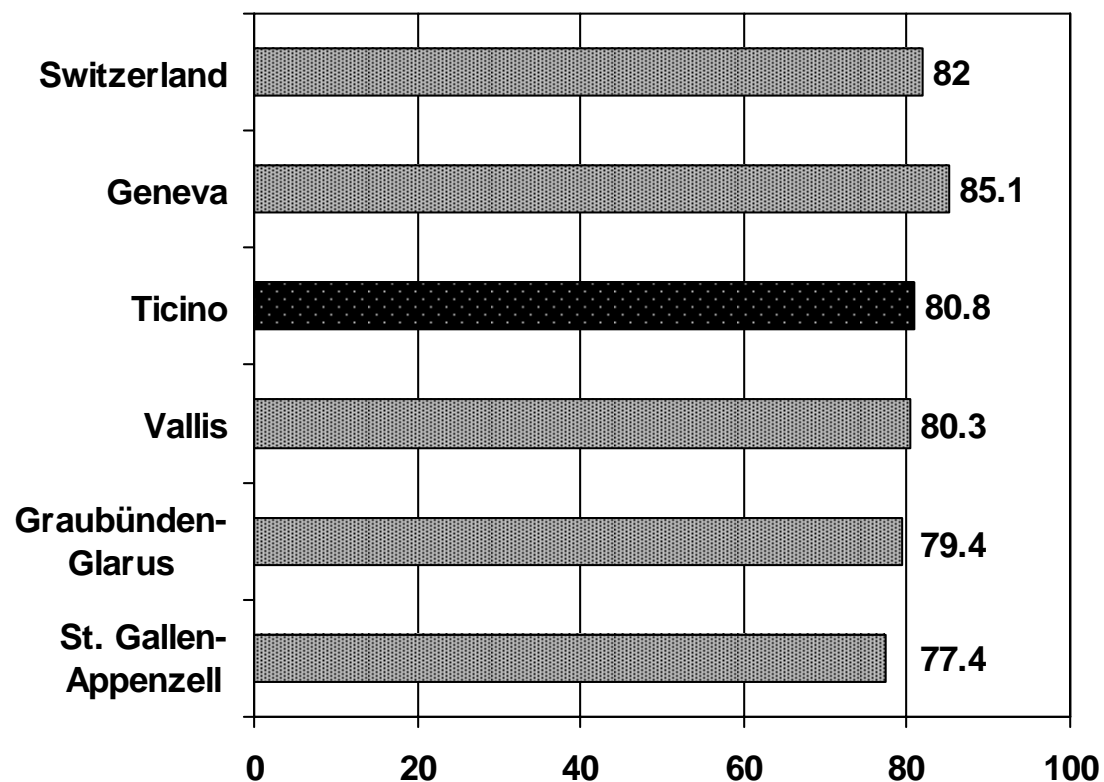
TASSO
STANDARDIZZATO X ETA'

APC: -1.4; 95%CI: -2.4; -0.5

APC: -1.6; 95%CI: -1.9; -1.3

REALE DIMINUZIONE
DELLA MORTALITA'

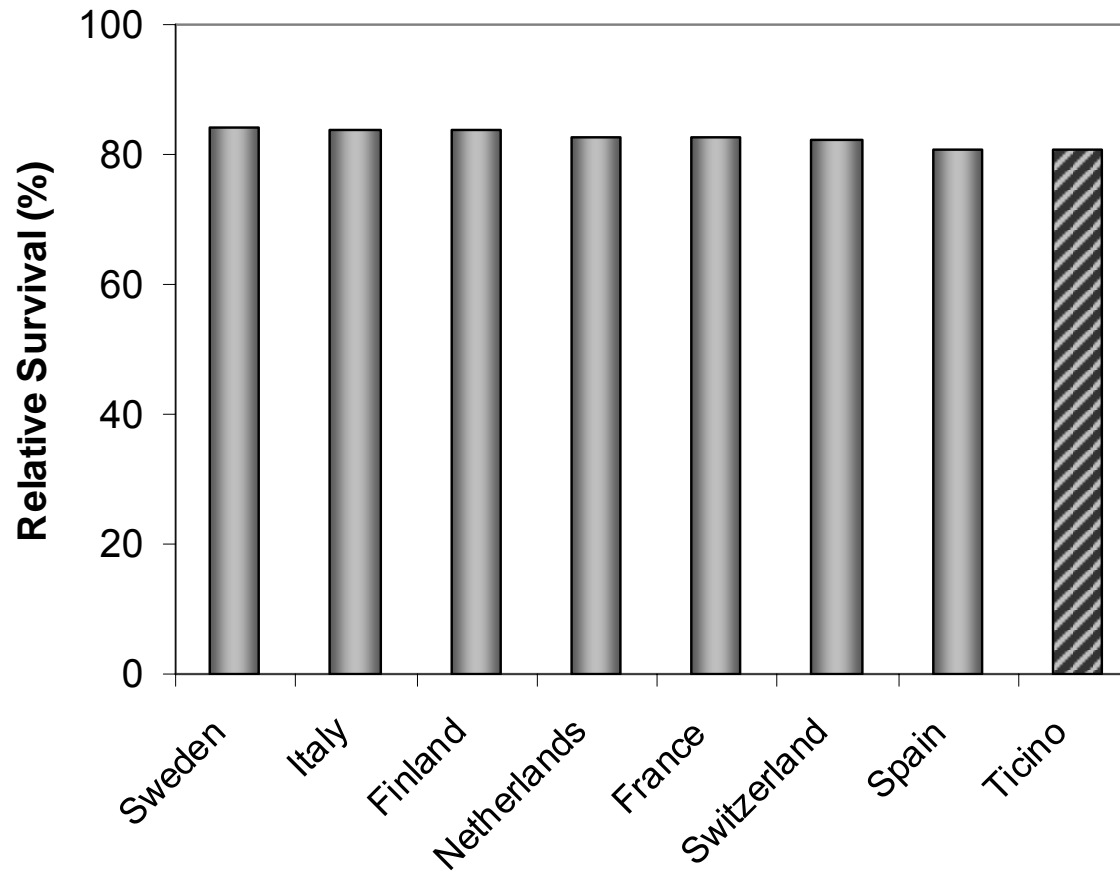
Sopravvivenza relativa a 5 anni dalla diagnosi in Ticino e Svizzera



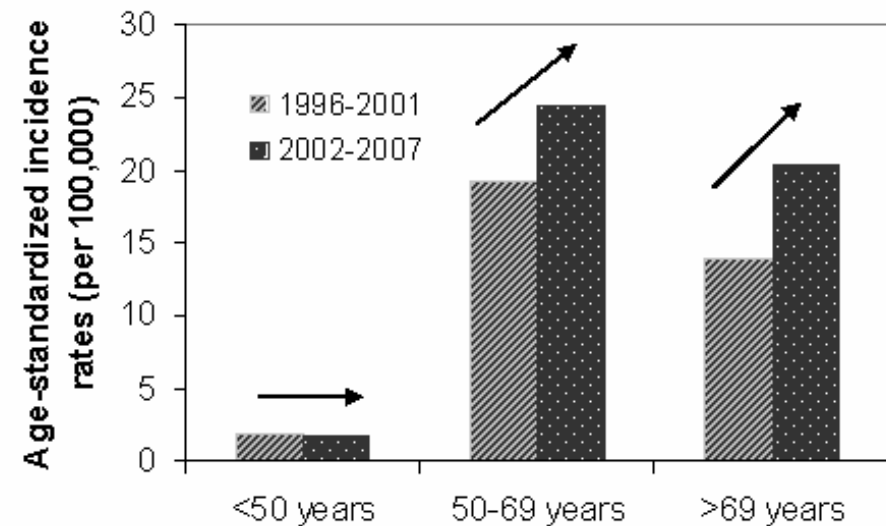
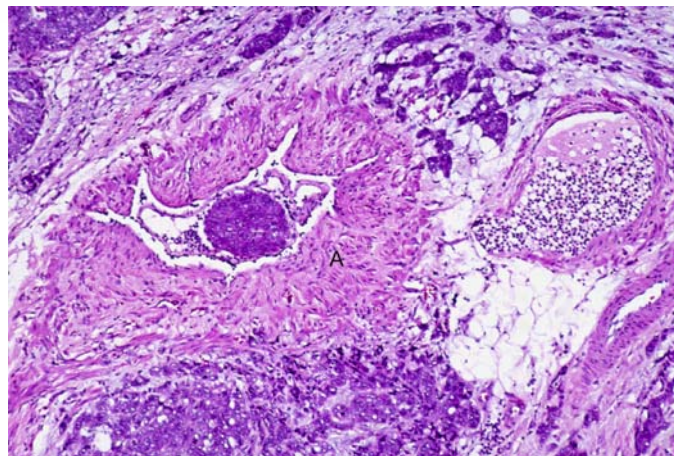
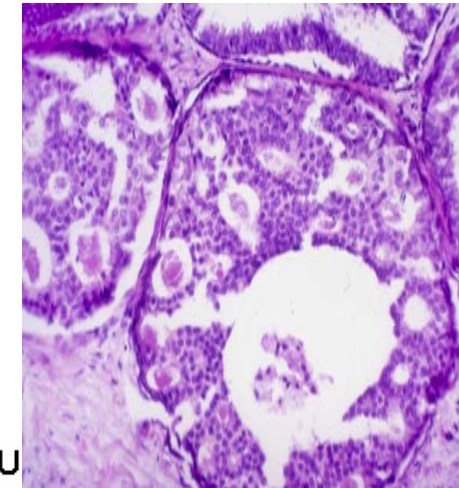
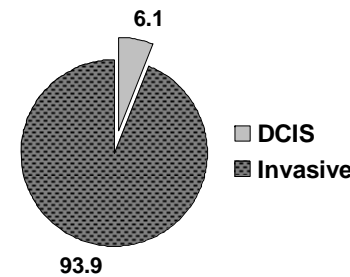
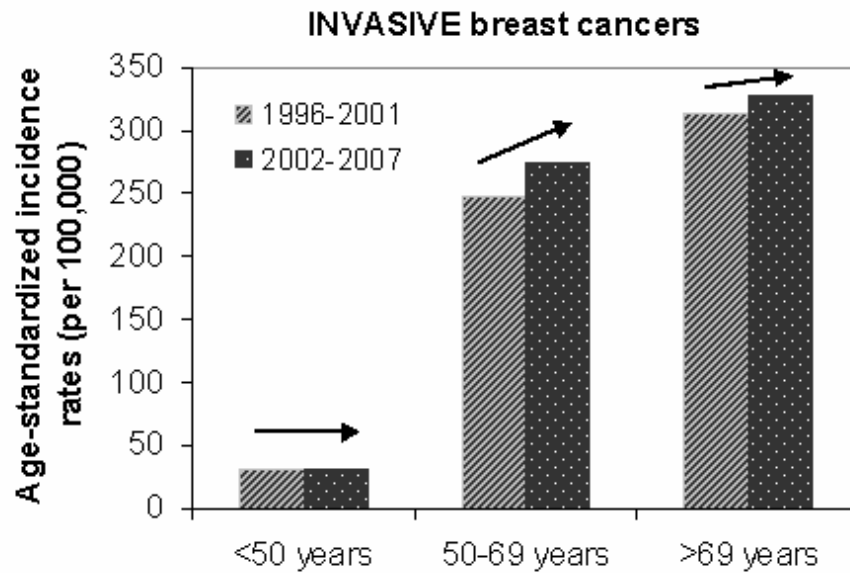
Survival legata a
diagnosi precoce e
trattamenti

Sopravvivenza Relativa a 5 anni dalla diagnosi del tumore mammario in Ticino e in Europa

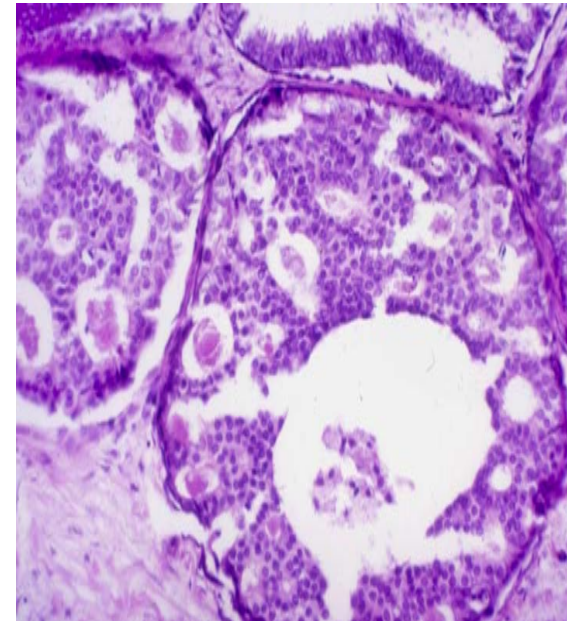
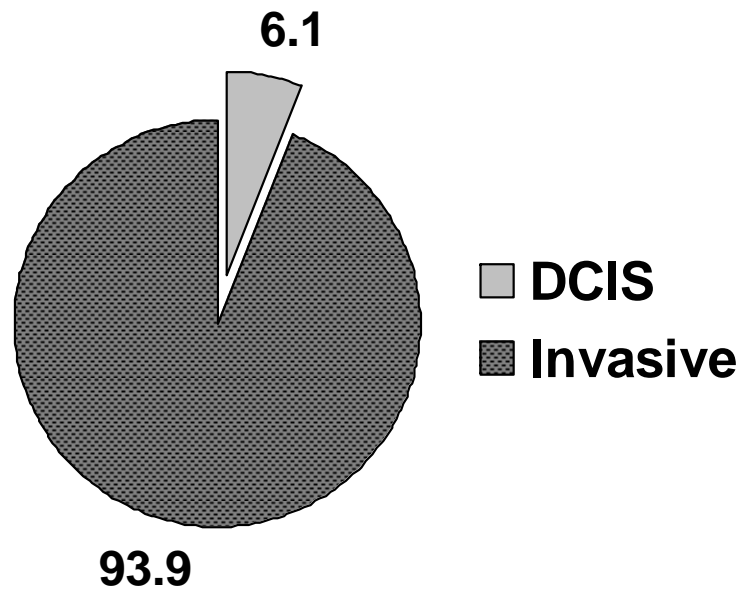
(the EUROCORE IV Study)



Incidenza dei tumori invasivi e in-situ della mammella. Ticino, 1996-2007



La proporzione di carcinoma in situ in Ticino è bassa rispetto all'Europa. Perché????????



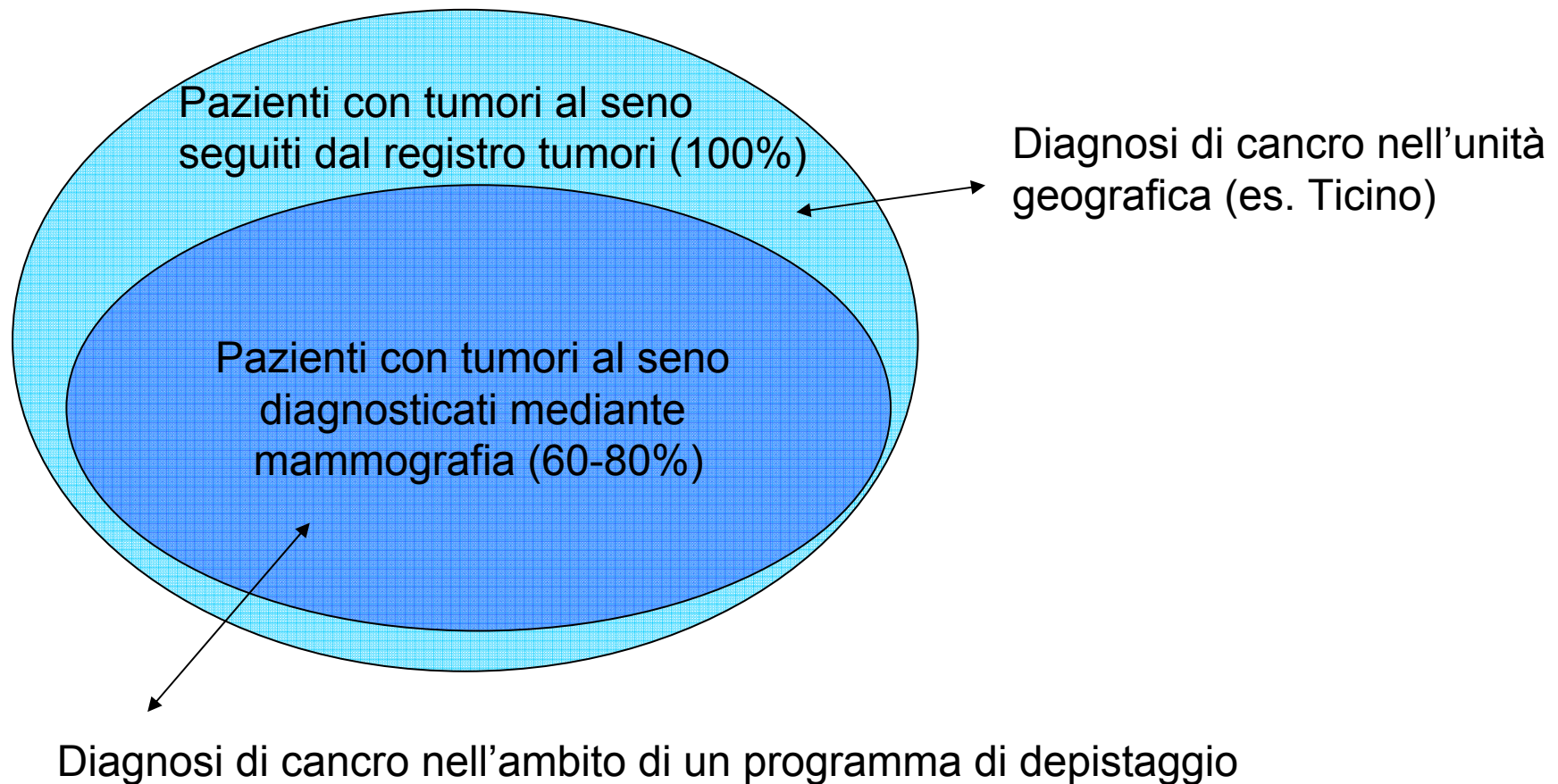
A causa di differenti fattori di rischio? Possibile anche se poco probabile
Risultato di differenti approcci di diagnosi precoce? **Da indagare!**

Cerchiamo di rispondere: analisi specifica

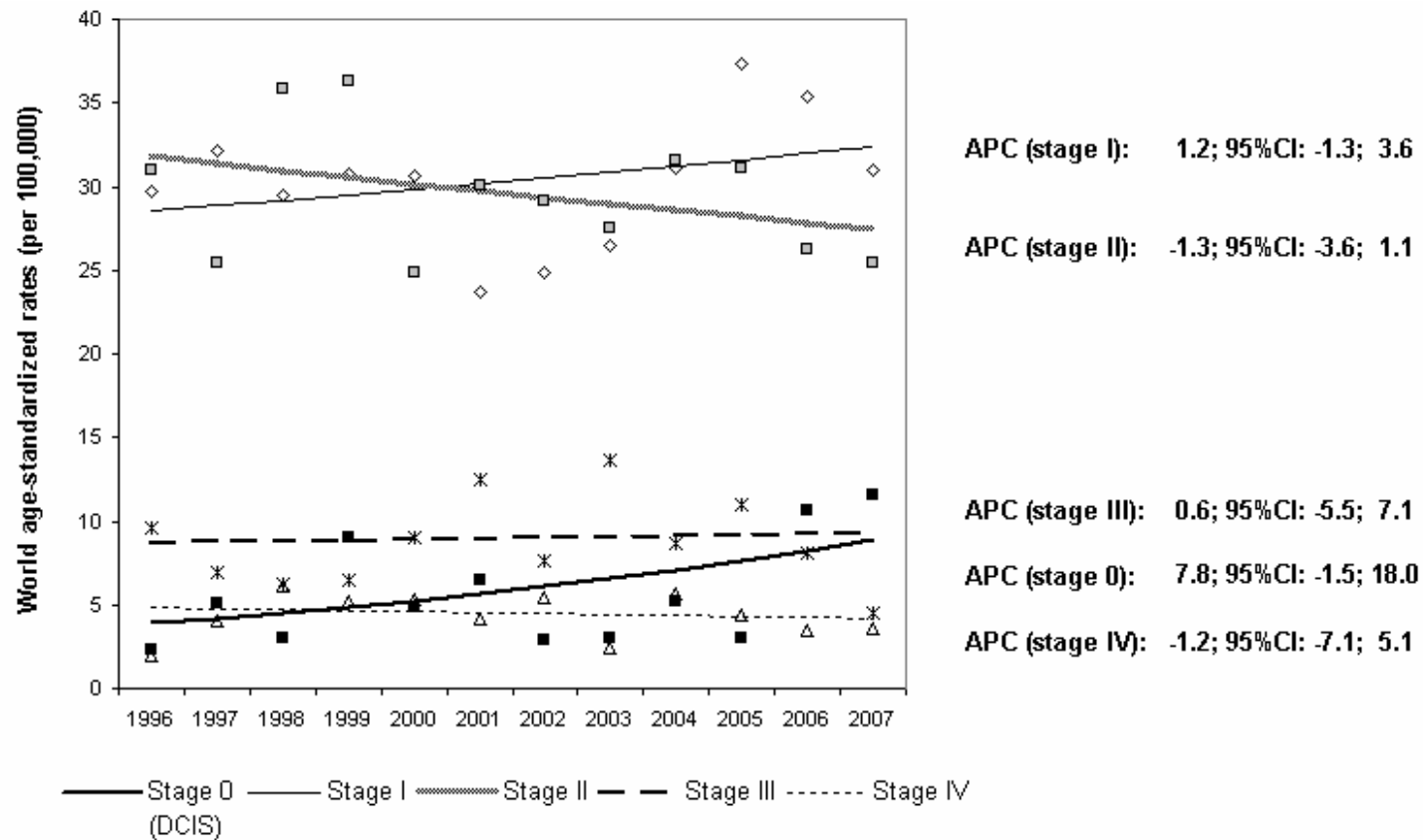
Obiettivi:

- produzione di indicatori **specifici alla diagnosi**
(N = 3047 casi nel periodo 1996-2007)
- indicatori **indipendenti dalle modalità** terapeutiche applicate
- indicatori **compatibili** con le *European Guidelines for Quality Assurance for Breast Cancer Screening*
- **confronto con dati presenti in letteratura** di altre realtà geografiche in particolare con e senza screening organizzato

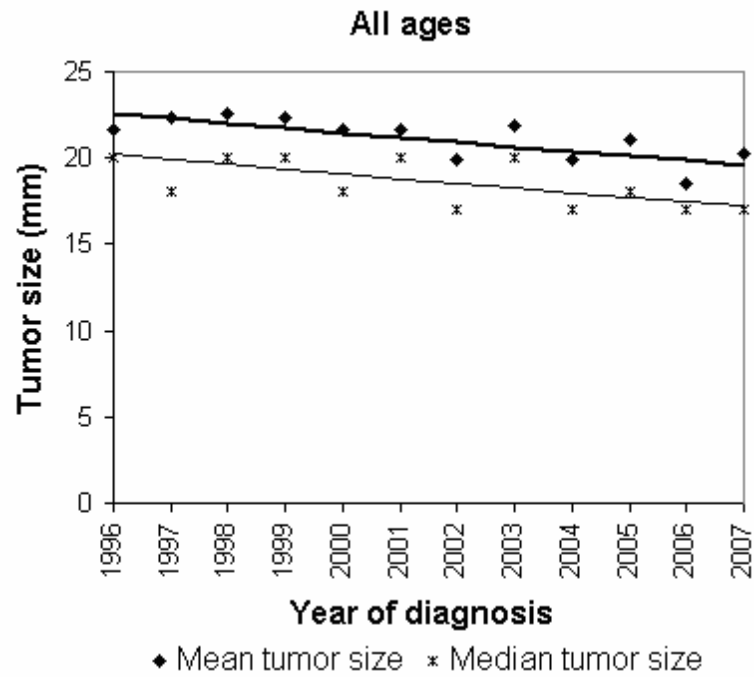
Quale popolazione osserva un Registro Tumori?



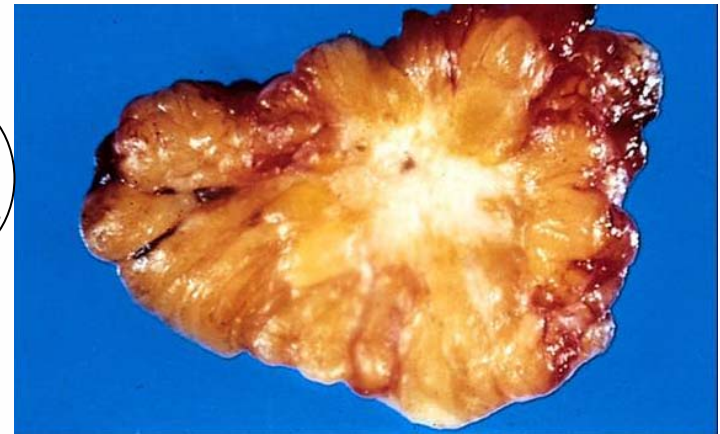
1. Trend tumori del seno, secondo lo stadio alla diagnosi. Ticino, 1996-2007



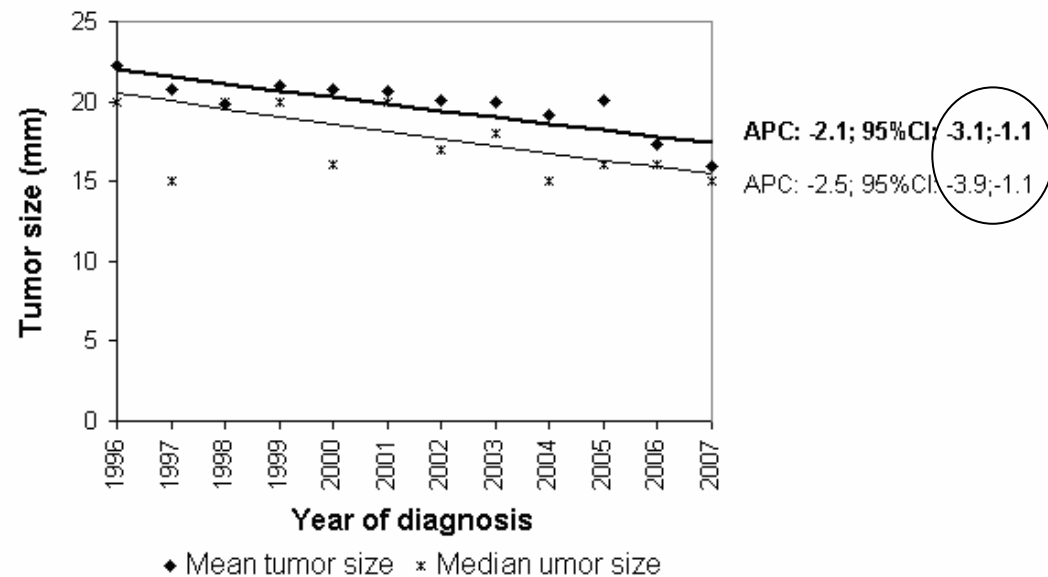
2. Trend del diametro medio e mediano dei tumori invasivi del seno. Ticino, 1996-2007



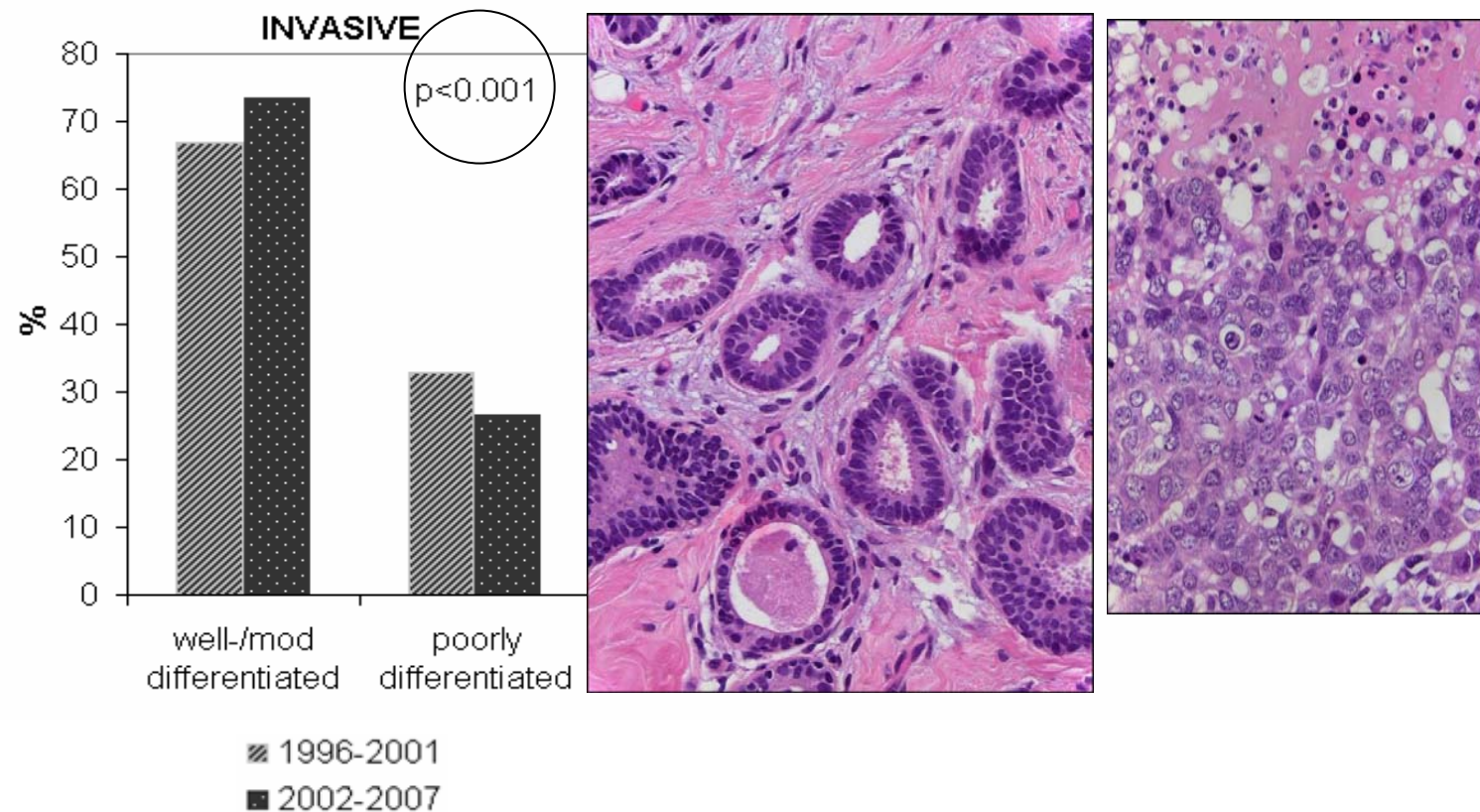
APC: -1.3; 95%CI: -2.1;-0.5
 APC: -1.5; 95%CI: -2.5;-0.4



Age group 50-69 years



3. Percentuale dei tumori invasivi della mammella, secondo il grado istologico. Ticino, 1996-2001 e 2002-2007



Alcuni confronti tra Ticino ed altri studi population-based

Parametro	Guidelines Screening Programme	Ticino 1996-2007	Altri studi population-based, in Paesi dove è presente un programma di screening
% carcinomi in-situ	-	6.1%	7.4% e 10% in Olanda 13% e 15% in US
% carcinomi in-situ (50-69 anni)	10-20%	8.4%	11.6% in Olanda 12.3% in Ginevra 12.5% in Vaud
% tumori invasivi con diametro del tumore ≤ 10 mm (50-69 anni)	$\geq 25-30\%$	18.2%*	26.1% in Geneva 30.1% in Vaud
% tumori invasivi con diametro del tumore ≤ 20 mm (50-69 anni)	NA	63.5%*	70.4% in Geneva 70.1% in Vaud

* Casi 2000-2005

I dati in corsivo derivano da uno screening opportunistico

¹ (Louwman *et al*, 2008); ² (van Steenberg *et al*, 2008); ³ (Coburn *et al*, 2004); ⁴ (Malmgren *et al*, 2008); ⁵ (Bulliard *et al*, 2009); ⁶ (Schopper & de Wolf, 2007); ⁷ (Jensen *et al*, 2008)

CONCLUSIONI

1. Nel periodo d'osservazione si registra in Ticino un trend **favorevole** degli indicatori prognostici (diametro, stadio e grado di differenziazione).
2. In Ticino si conferma una **predisposizione** della donna verso la diagnosi precoce
3. I dati raccolti dall'*Inchiesta Svizzera sulla Salute* sono **confermati** dai dati clinico-patologici presentati.
4. Per contro, gli indicatori clinico-patologici osservati in Ticino risultano **meno favorevoli** di quelli riportati in paesi dove un programma di screening è attivo.