

**SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA**

**La sorveglianza epidemiologica
dello screening dei tumori del collo
dell'utero nella Regione Emilia-Romagna**

Seminario di studio

Bologna, 21 marzo 2019

***Incidenza del carcinoma
cervicale in Emilia-Romagna
per stadio di malattia***

Lauro Bucchi, Silvia Mancini

Valutazione degli effetti del programma di screening cervicale della RER sull'incidenza di cancro

1. **incidenza totale (25-64 anni d'età)**
2. **incidenza per tipo istologico (25-64 anni d'età)**
3. **incidenza per stadio (25-64 anni d'età)**
4. **incidenza oltre i 64 anni d'età**

Valutazione degli effetti del programma di screening cervicale della RER sull'incidenza di cancro

Studio *"intention-to-screen"*

E' uno studio sugli effetti dello screening sull'intera popolazione invitata, quale che sia la proporzione di invitati realmente screenati.

Esso sottostima l'efficacia dello screening sugli aderenti, ma produce una stima della sua efficacia in condizioni reali, soprattutto per il livello di partecipazione ottenuto.

Esso sottostima l'efficacia del test, ma produce una stima dell'efficacia del programma come misura di sanità pubblica.

Razionale: monitorare le strategie di prevenzione del cancro cervicale basate sull'HPV

- ✓ coordinare l'HPV-screening con la vaccinazione come servizi complementari
- ✓ coordinare la quality assurance dell'HPV-screening e della vaccinazione
- ✓ *"... monitor which HPV types are spreading in the population ..."*
- ✓ valutare le conseguenze dell'immigrazione di donne ad alto rischio
- ✓ monitorare la durata della protezione del vaccino
- ✓ fornire dati aggiornati sui rischi della vaccinazione (anche di lungo periodo)
- ✓ **stimare il beneficio aggiuntivo dell'HPV-screening rispetto al Pap-screening**
- ✓ stimare il beneficio aggiuntivo dell'HPV-screening rispetto alla vaccinazione
- ✓ valutare la prevalenza e le implicazioni del co-testing
- ✓ gestire i problemi di linkage tra registri tumori e registri vaccinali e di screening

Arbyn M et al. Eur J Cancer 2009;45:2671-2678

Arbyn M et al. Ann Oncol 2010;21:448-58

Dillner J et al. Clin Exp Immunol 2011;163:17-25

Vorsters A et al. Papillomavirus Res 2017;4:45-53

Incidenza totale

Estimating the impact of an organised screening programme on cervical cancer incidence: A 26-year study from northern Italy

Lauro Bucchi¹, Flavia Baldacchini¹, Silvia Mancini¹, Alessandra Ravaoli¹, Orietta Giuliani¹, Rosa Vattiato¹, Fabio Falcini^{1,2}, Paolo Giorgi Rossi³, Cinzia Campari⁴, Debora Canuti⁵, Enza Di Felice⁶, Priscilla Sassoli de Bianchi⁶, Stefano Ferretti⁶, Nicoletta Bertozzi⁶ and Annibale Biggeri⁷,
on behalf of the Emilia-Romagna Region Workgroup for Cervical Screening Evaluation

Int. J. Cancer: **144**, 1017–1026 (2019) © 2018 UICC

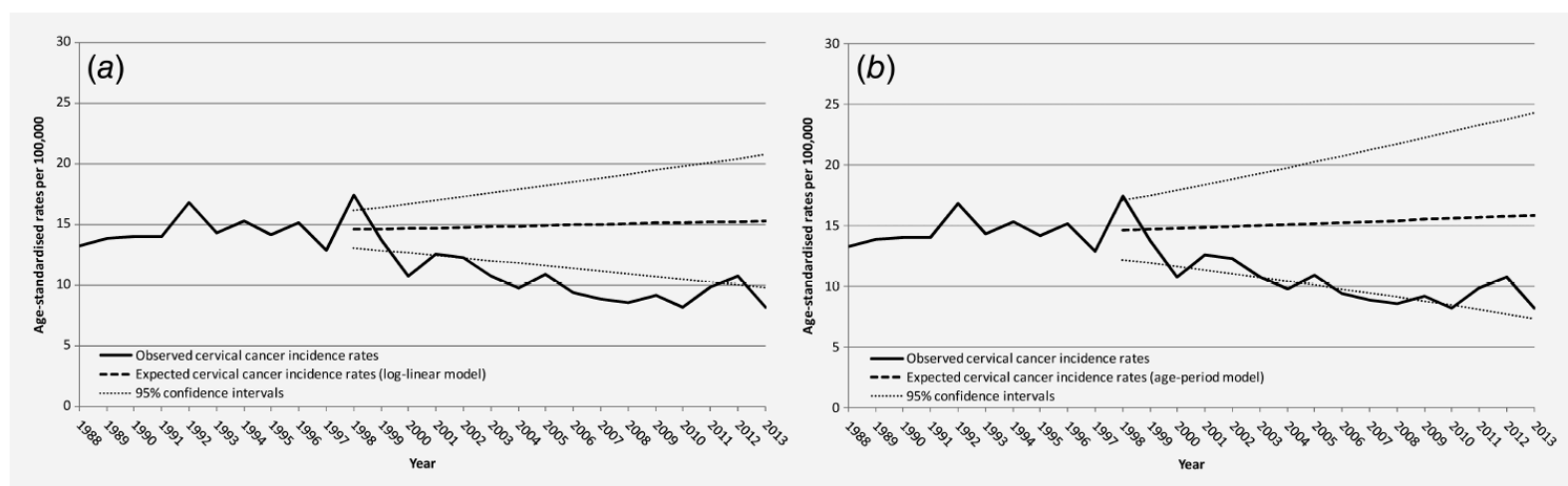


Figure 1. Curve of observed total annual cervical cancer incidence rates per 100,000 women aged 25–64 years in 1988–2013 and curve of total annual rates that would be expected in 1998–2013 in the absence of screening. In the two panels of the Figure, the bold line represents the curve of observed total annual cervical cancer incidence rates. The dashed lines represent the curve of expected total annual rates in the absence of screening derived from (a) a log-linear model and (b) an age-period model (see text). The dotted lines represent the 95% confidence bands around the expected rates. All rates were age-standardised using the European standard population. Emilia-Romagna Region cancer registries and health care district cervical cancer screening programmes, Italy, 1988–2013.

Incidenza totale

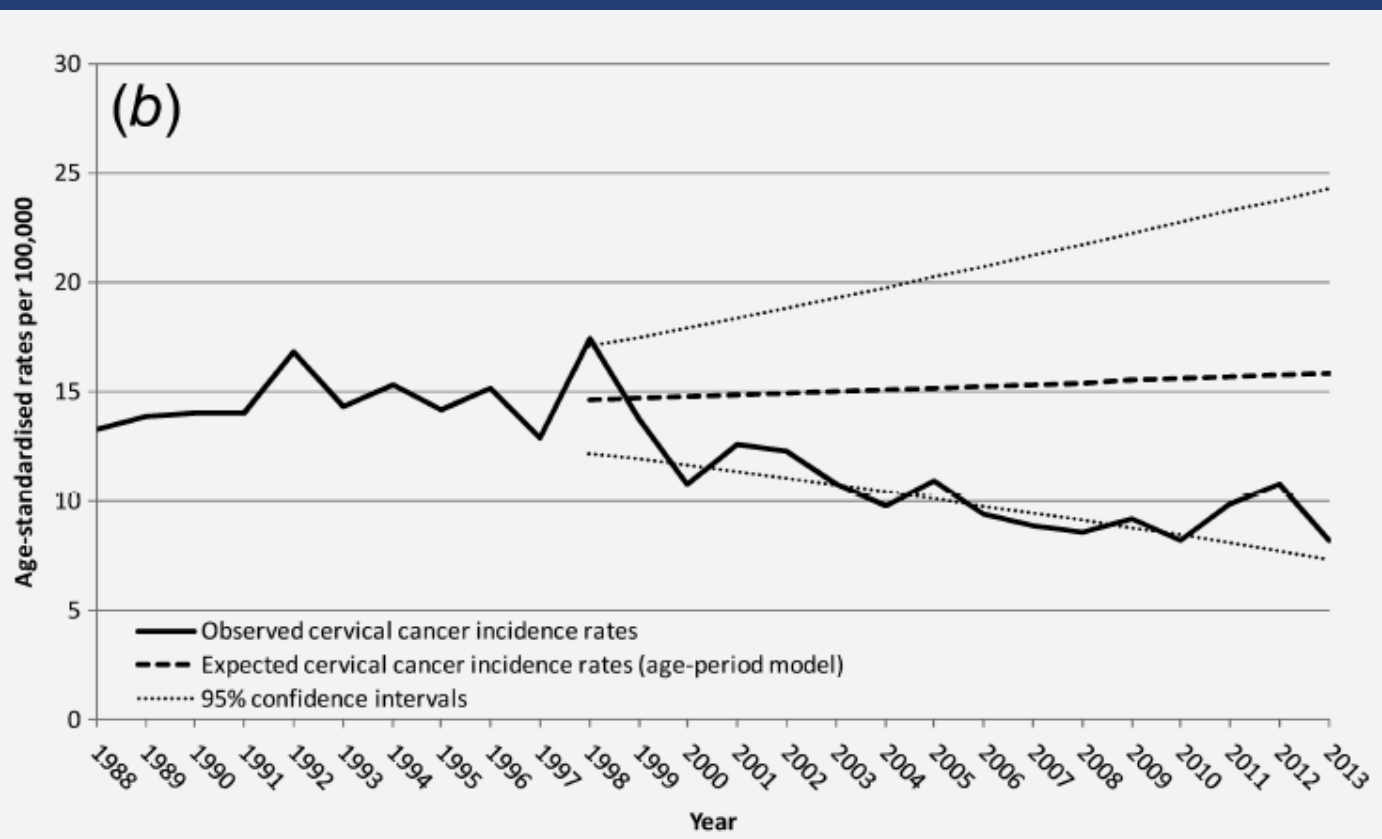
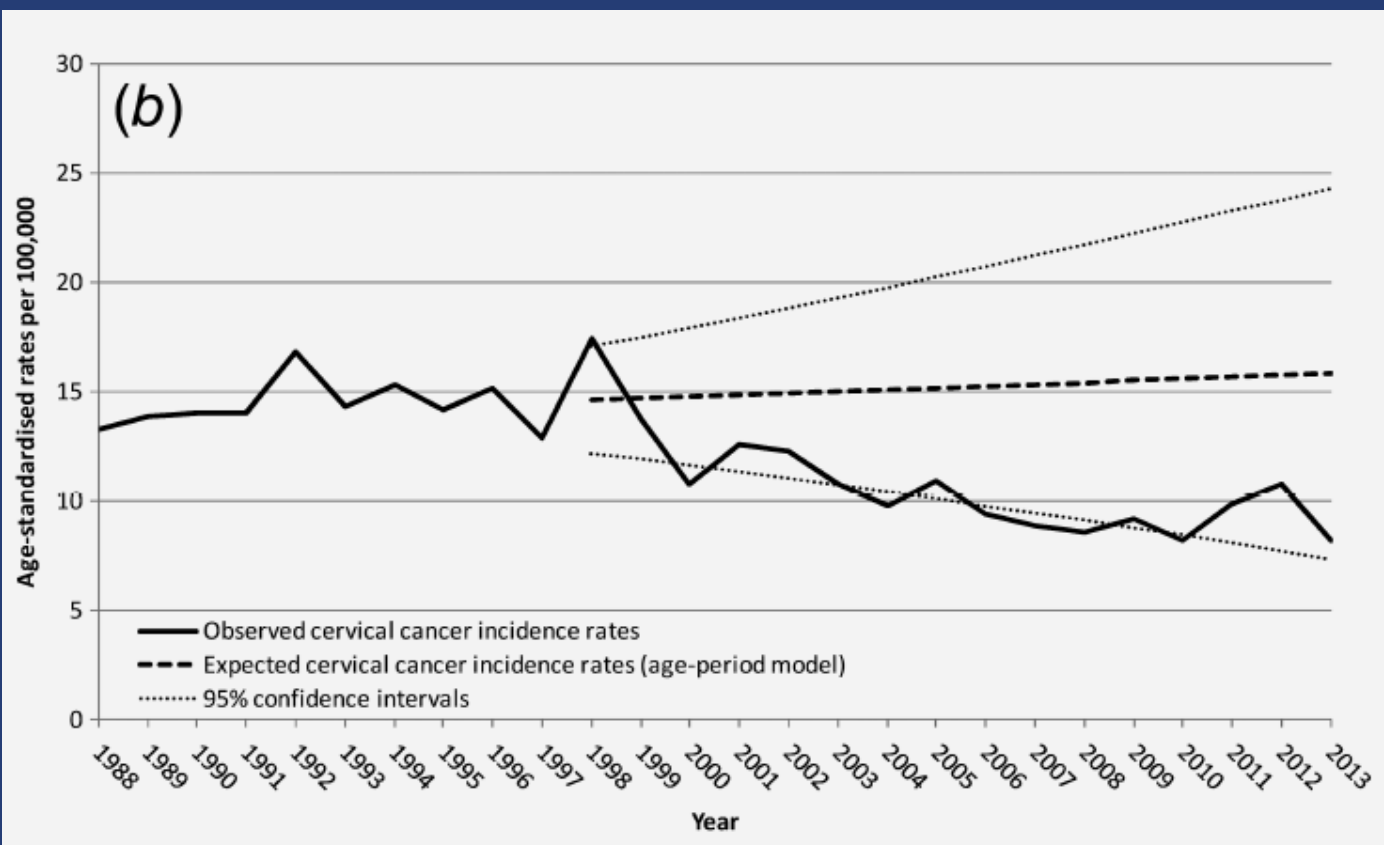


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Incidenza totale



The incidence decrease stabilised at approximately 40% (median of the annual decreases in the years 2007–2013 under the two approaches; interquartile range, 35%–45%).

Incidenza totale

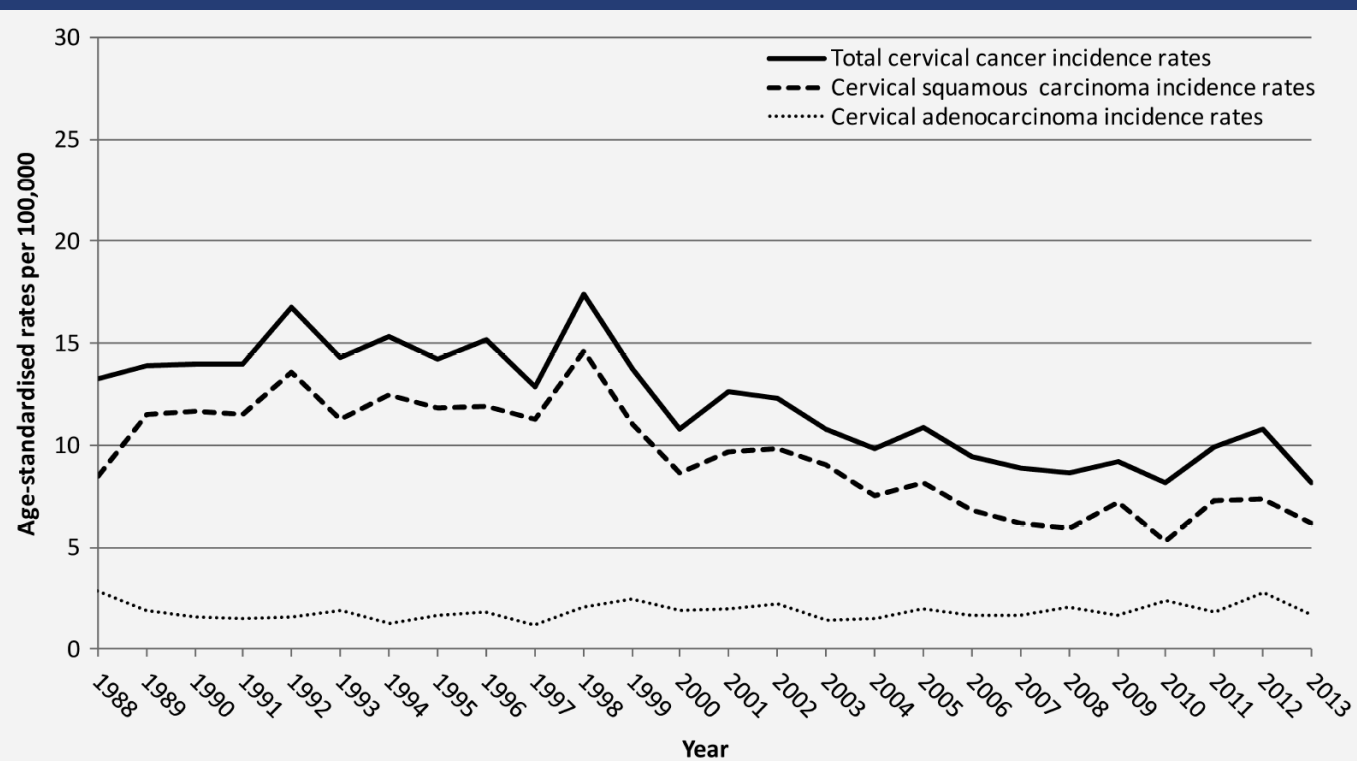


Figure 2. Curve of observed annual incidence rates of cervical cancer (total), squamous cervical carcinoma, and cervical adenocarcinoma per 100,000 women aged 25–64 years. The bold line represents the curve of observed total annual cervical cancer incidence rates (the same curve as in Figure 1a and b). The lower section of the Figure shows the calendar time trends in observed annual rates of the two subtypes of cervical cancer, squamous carcinoma (dashed line) and adenocarcinoma (dotted line). The decreasing trend in observed total annual rates was entirely accounted for by squamous carcinoma. Adenocarcinoma incidence was stable over the entire time period (log-linear model exponential slope 1988–2013, 1.005; 95% CI, 0.993 to 1.016) and corresponded to the estimated trend in total annual rates for the years 1988–1997 (log-linear model exponential slope, 1.003; 95% CI, 0.983 to 1.024). The latter was also the estimated trend for the years 1998–2013 in Figure 1a, which is thus validated by the adenocarcinoma incidence trend. All rates were age-standardised using the European standard population. Emilia-Romagna Region cancer registries and health care district cervical cancer screening programmes, Italy, 1988–2013.

Incidenza totale

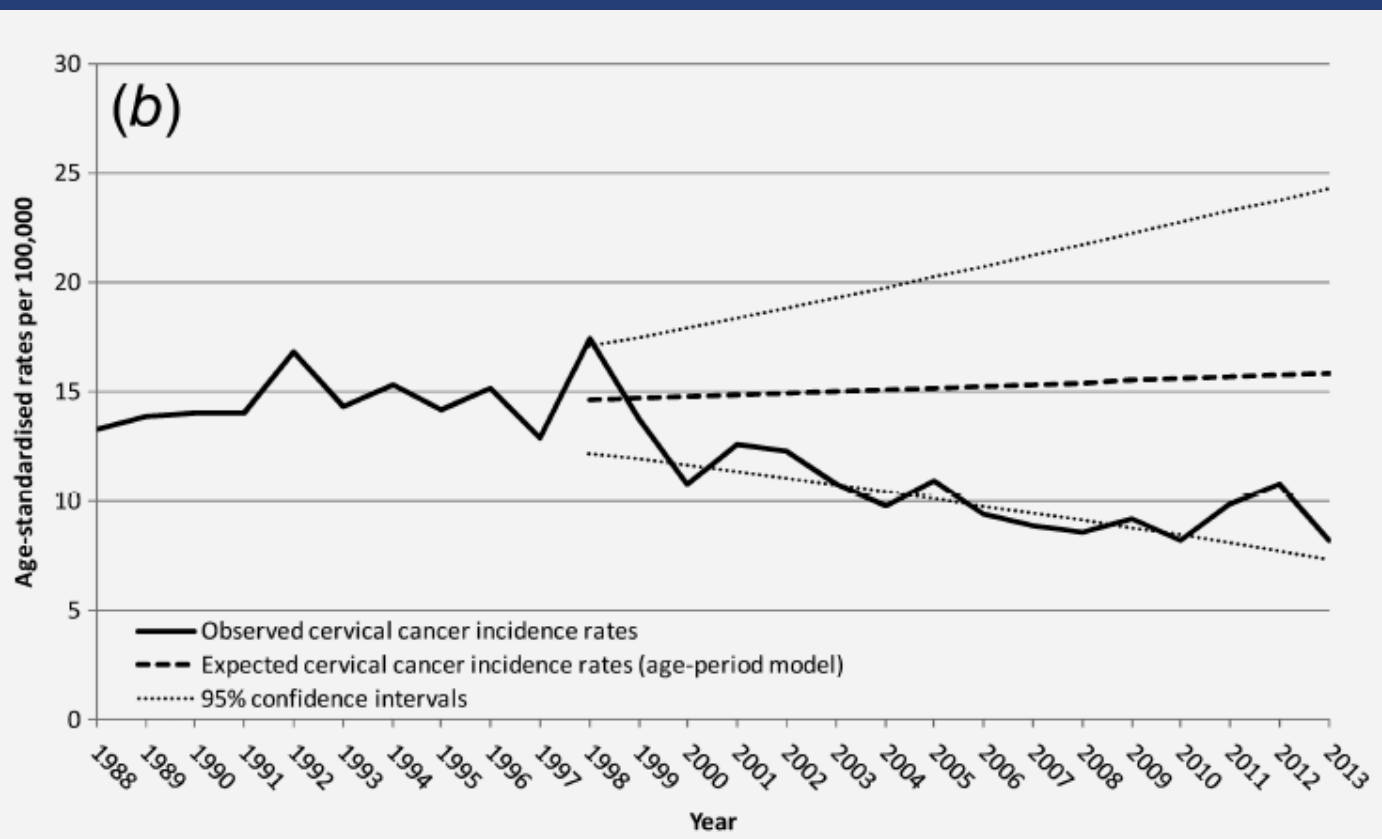


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Effetto coorte-di-nascita sull'incidenza

The cervical cancer epidemic that screening has prevented in the UK

Julian Peto, Clare Gilham, Olivia Fletcher, Fiona E Matthews

Lancet 2004; 364: 249-56

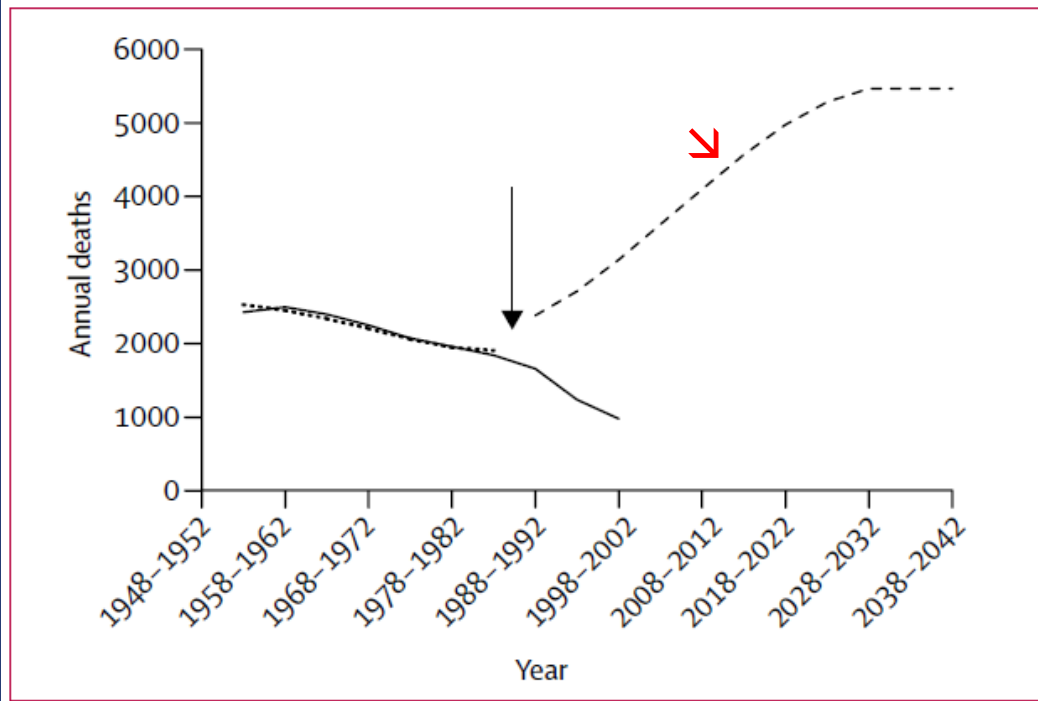


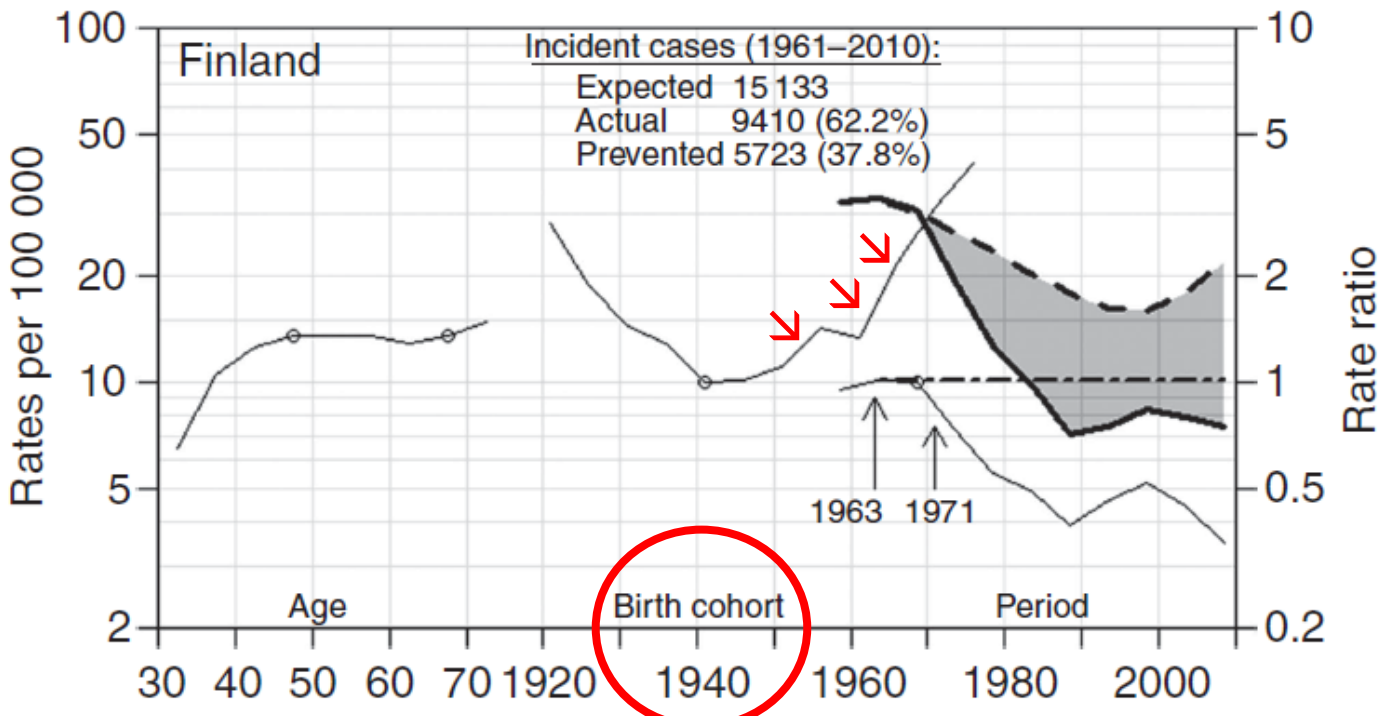
Figure 4: Projected cervical cancer deaths in women younger than 85 years without any screening (England and Wales)

Effetto coorte-di-nascita sull'incidenza

50 years of screening in the Nordic countries: quantifying the effects on cervical cancer incidence

S Vaccarella^{*,1}, S Franceschi¹, G Engholm², S Lönnberg³, S Khan⁴ and F Bray¹

British Journal of Cancer (2014) 111, 965–969



Effetto coorte-di-nascita sull'incidenza

Third Italian national survey on knowledge, attitudes, and sexual behaviour in relation to HIV/AIDS risk and the role of health education campaigns

Carlo Signorelli¹, Cesira Pasquarella¹, Rosa Maria Limina², Edoardo Colzani¹, Mila Fanti¹, Antonia Cielo¹, Massimo Greco³, Chiara Porro de' Somenzi⁴, Maria Chironna⁵, Michele Quarto⁵

European Journal of Public Health, Vol. 16, No. 5, 498–504
© The Author 2006. Published by Oxford University Press

Table 3 Age at first sexual intercourse (measures of central tendency) among people reporting at least one sexual intercourse in life (stratified by age cohorts)

Age cohorts	<i>n</i>	%	Mode	Median value	Mean	Total amount
18–24 (1978–1984)	306	73.73	17	17	16.91	288
25–29 (1973–1977)	297	84.62	18	18	18.17	270
30–34 (1968–1972)	261	87.29	18	18	18.37	240
35–39 (1963–1967)	226	91.87	17	18	18.26	202
40–44 (1958–1962)	340	93.15	18	18	18.53	310
45–49 (1953–1957)	266	96.03	18	18	18.69	235
Totals	1.696	86.84				

Metodi

AUSL e anni

Piacenza **2003-2014**

Parma **1996-2014**

Reggio-Emilia esclusa

Bologna esclusa

Ferrara **1995-2011**

Altre **1995-2014**

Metodi

Classificazione per stadio

preinvasivo

CIN3 (adenocarcinoma in situ, CIN2-3, CIN3)

adenocarcinoma in situ

invasivo

precoce T1a, T1a1, T1a2

avanzato T1b+, yT

ignoto T1nas, Tx, T missing

Metodi

Trattamento

- T1a1** conizzazione
+ linfadenectomia con invasione degli spazi linfovaskolari
- T1a2** conizzazione
+ linfadenectomia
isterectomia (fattori: età, parità)
- T1b+** isterectomia
+ linfadenectomia

Metodi

Assunti

1995-96

incidenza per stadio pre-screening

1988-96

incidenza per stadio: stabile

1997

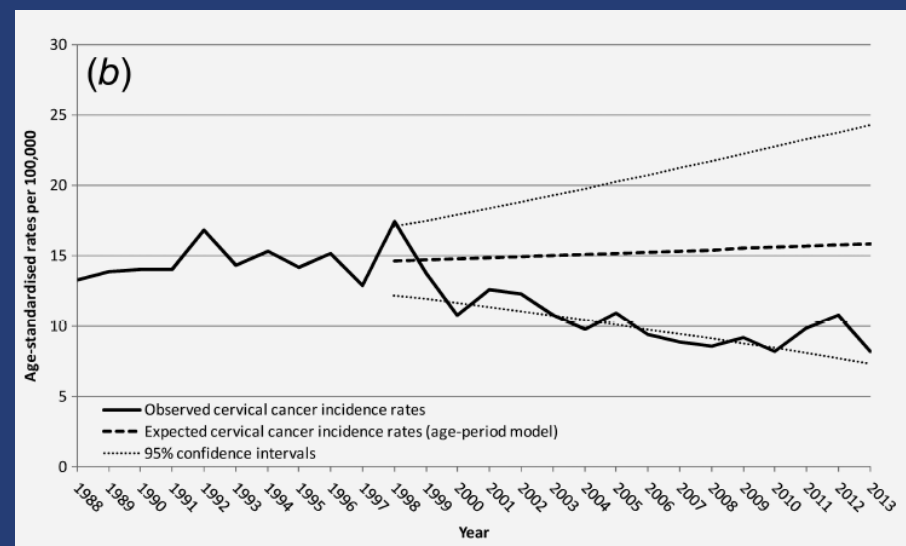
primo anno di screening

1997-2014

incidenza attesa per stadio: stabile

≥2007

stabilizzazione dell'incidenza osservata per stadio



Metodi

Periodi

1995-96

periodo di riferimento

1997-98

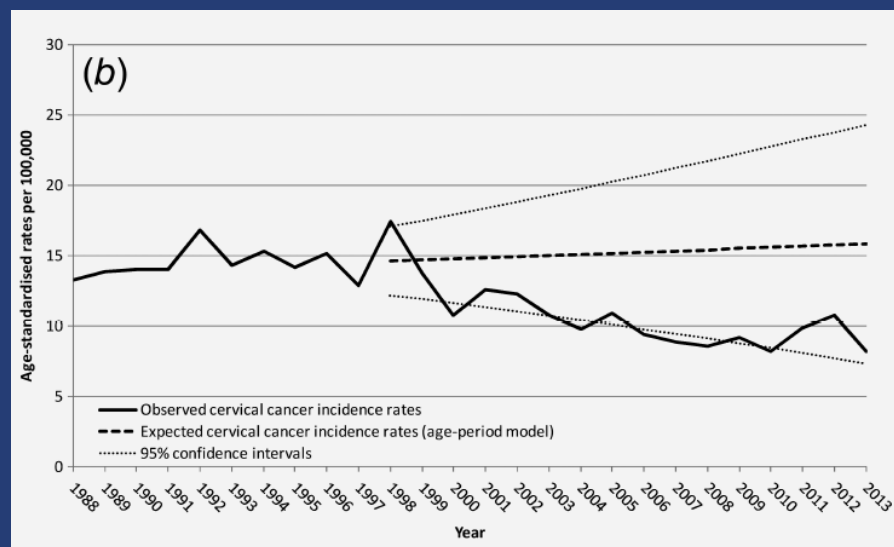
introduzione dello screening

1999-2006

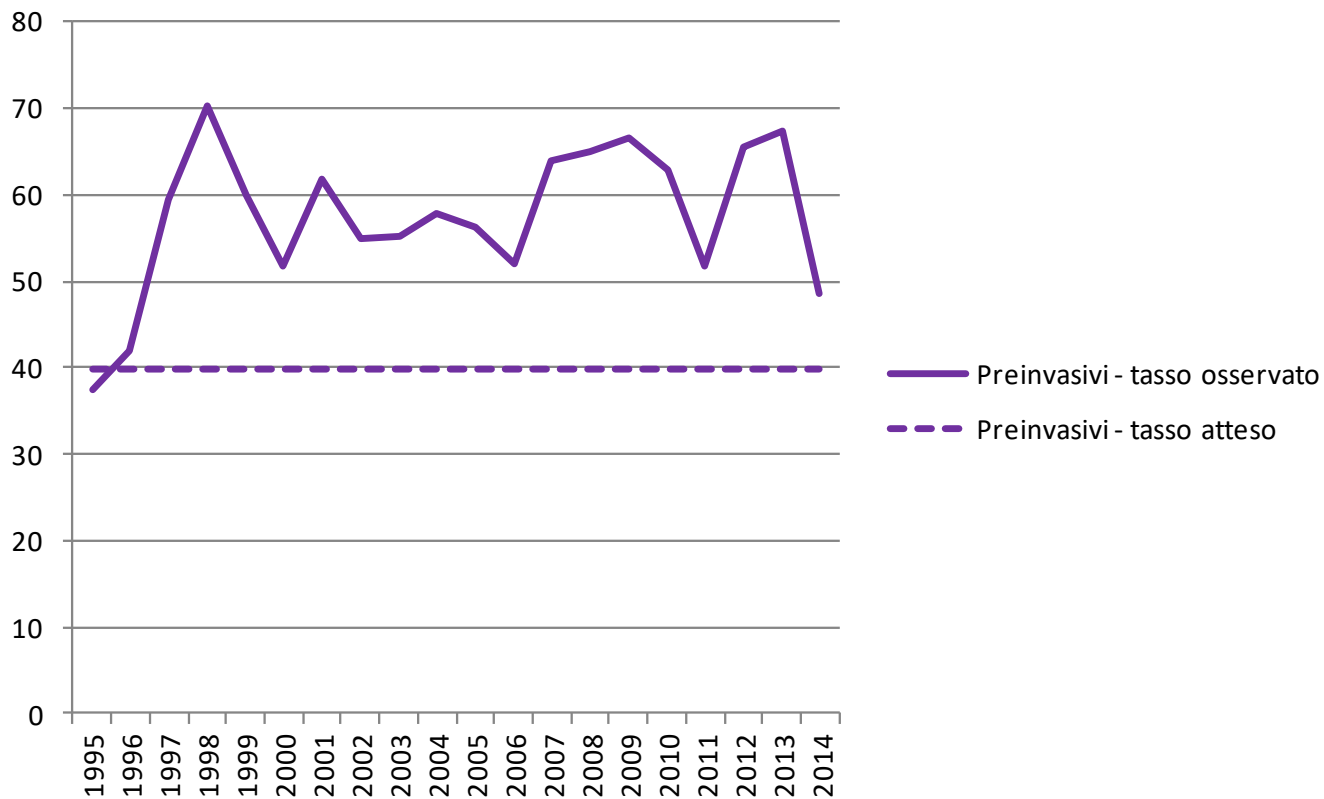
incidenza in diminuzione

2007-2014

stabilizzazione dell'incidenza

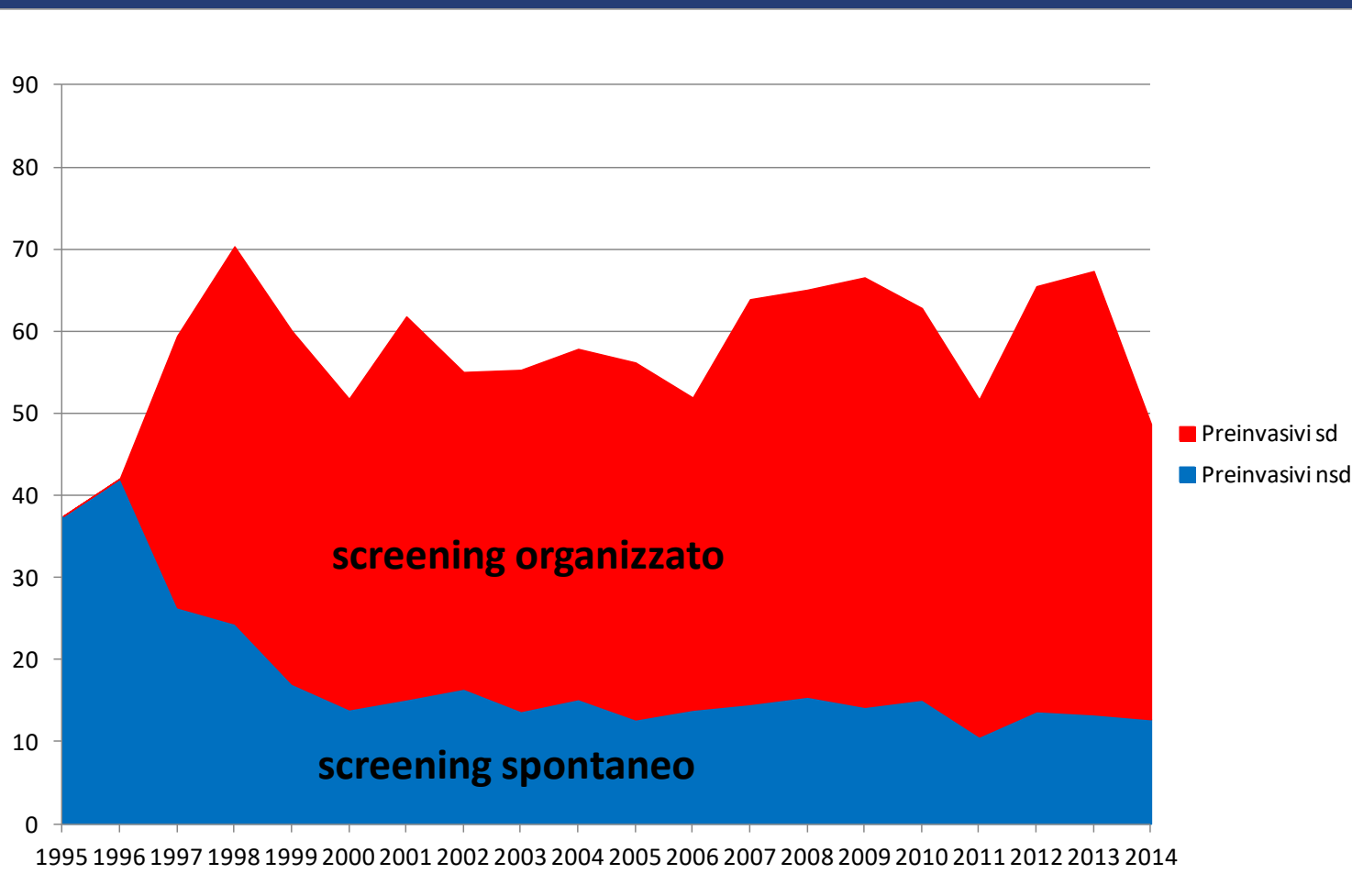


Risultati: CIN3

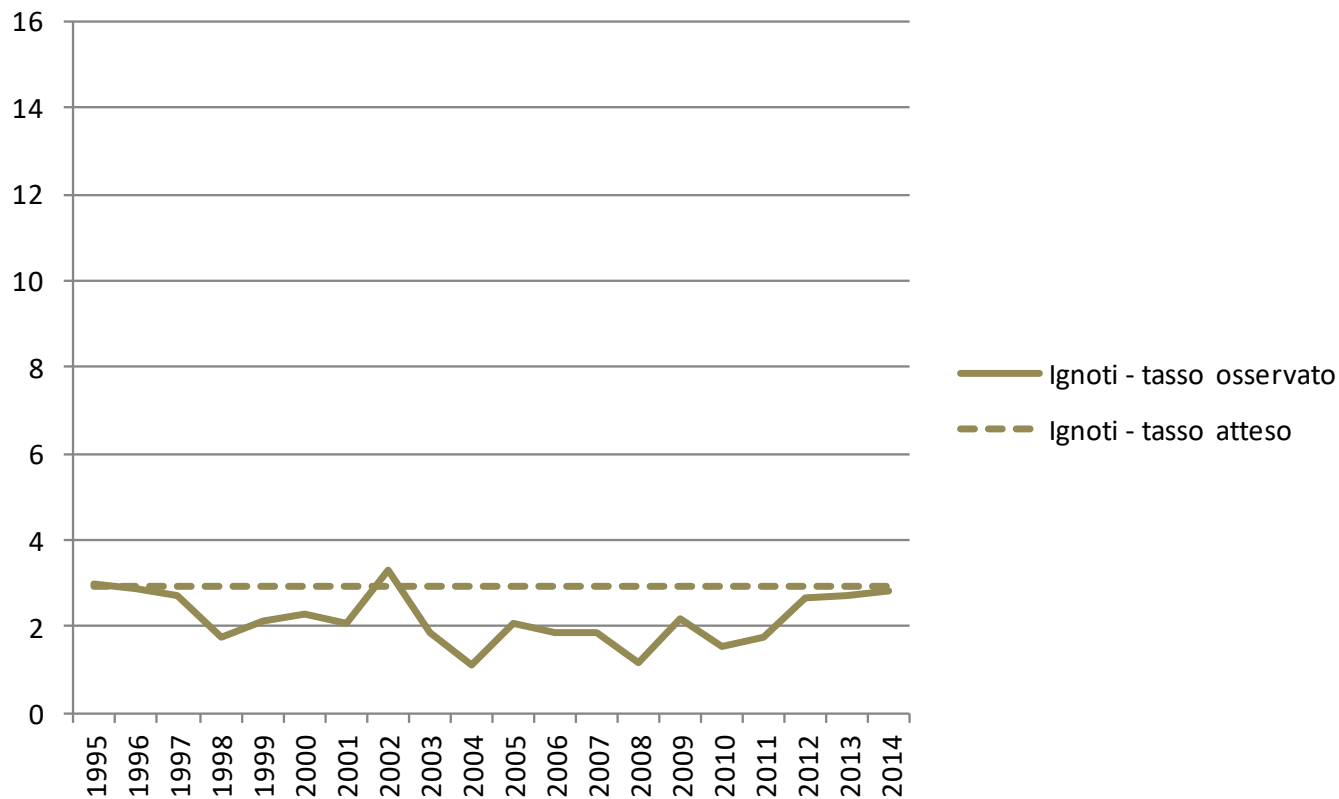


PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	658	1058	1.61	1.45	1.79
1999-2006	2895	4090	1.41	1.29	1.55
2007-2014	2824	4325	1.55	1.41	1.70

Risultati: CIN3

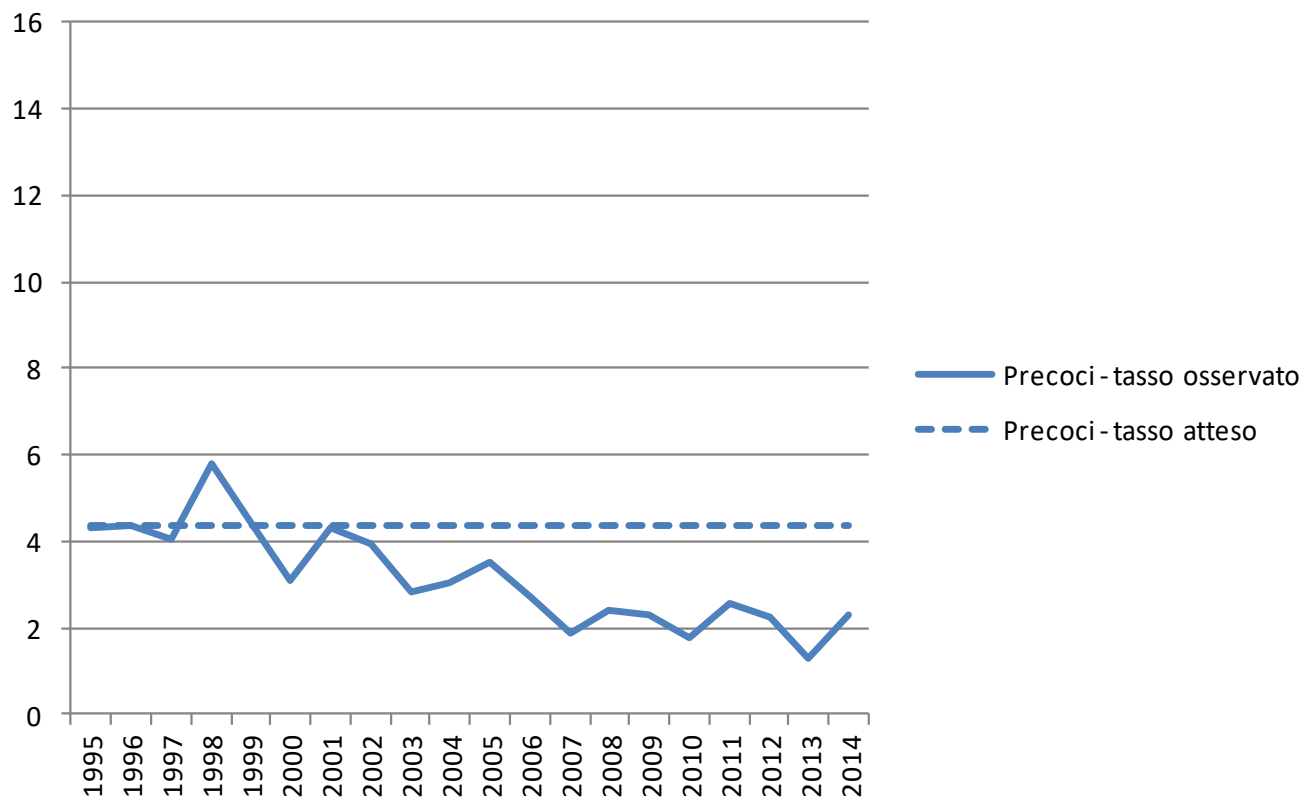


Risultati: ca. squamoso in stadio ignoto



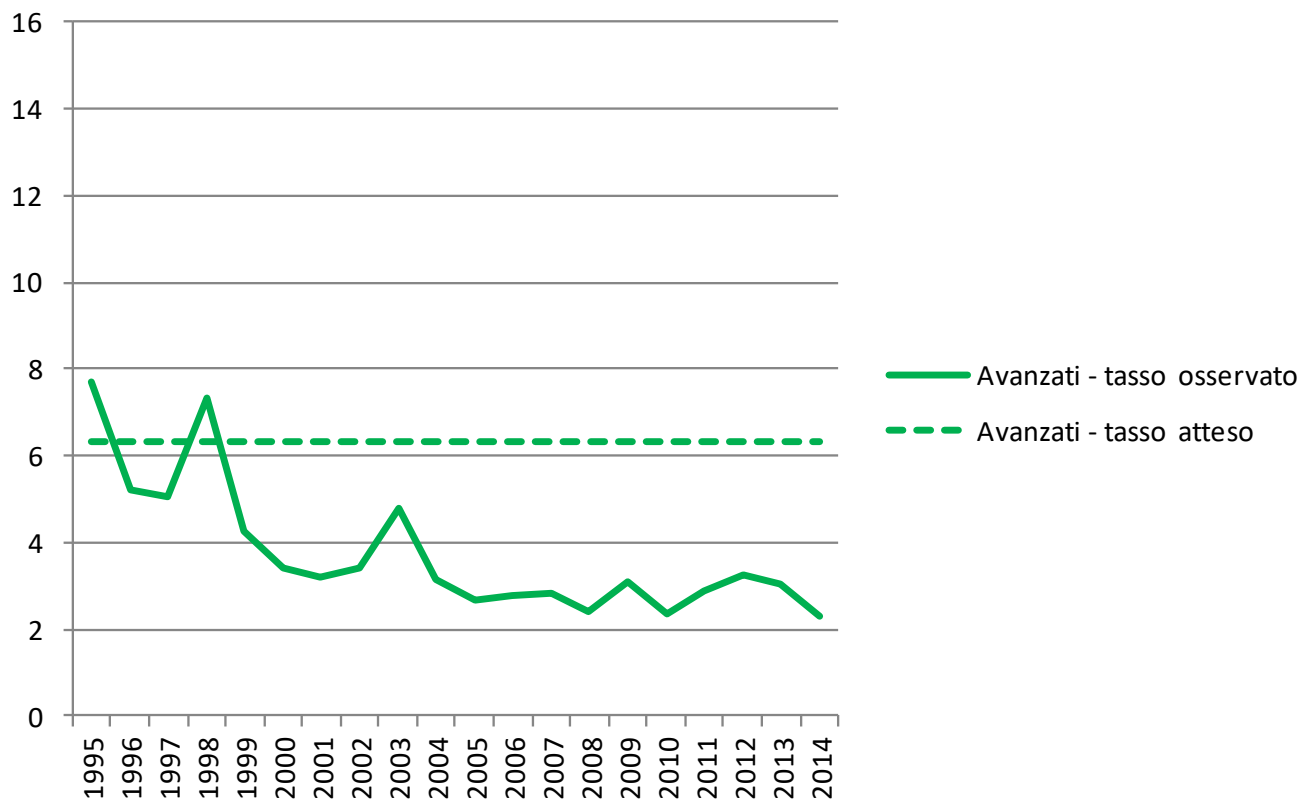
PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	46	35	0.76	0.48	1.21
1999-2006	201	140	0.70	0.49	1.01
2007-2014	204	141	0.69	0.48	0.99

Risultati: ca. squamoso precoce



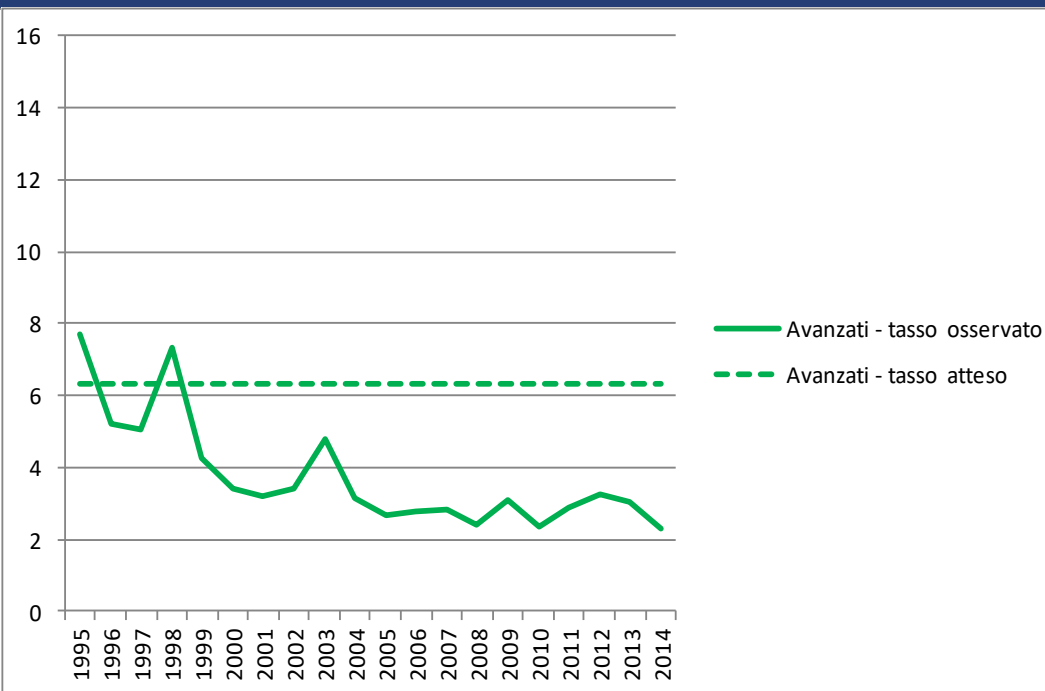
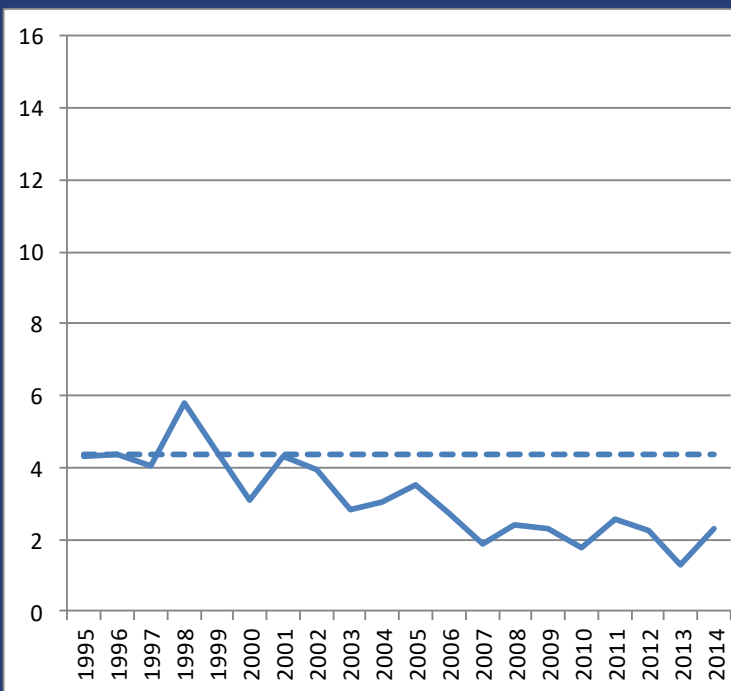
PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	68	78	1.14	0.80	1.62
1999-2006	300	243	0.80	0.60	1.08
2007-2014	309	152	0.49	0.36	0.67

Risultati: ca. squamoso avanzato



PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	98	96	0.97	0.72	1.31
1999-2006	426	233	0.54	0.42	0.70
2007-2014	444	195	0.44	0.33	0.57

Risultati: ca. squamoso avanzato



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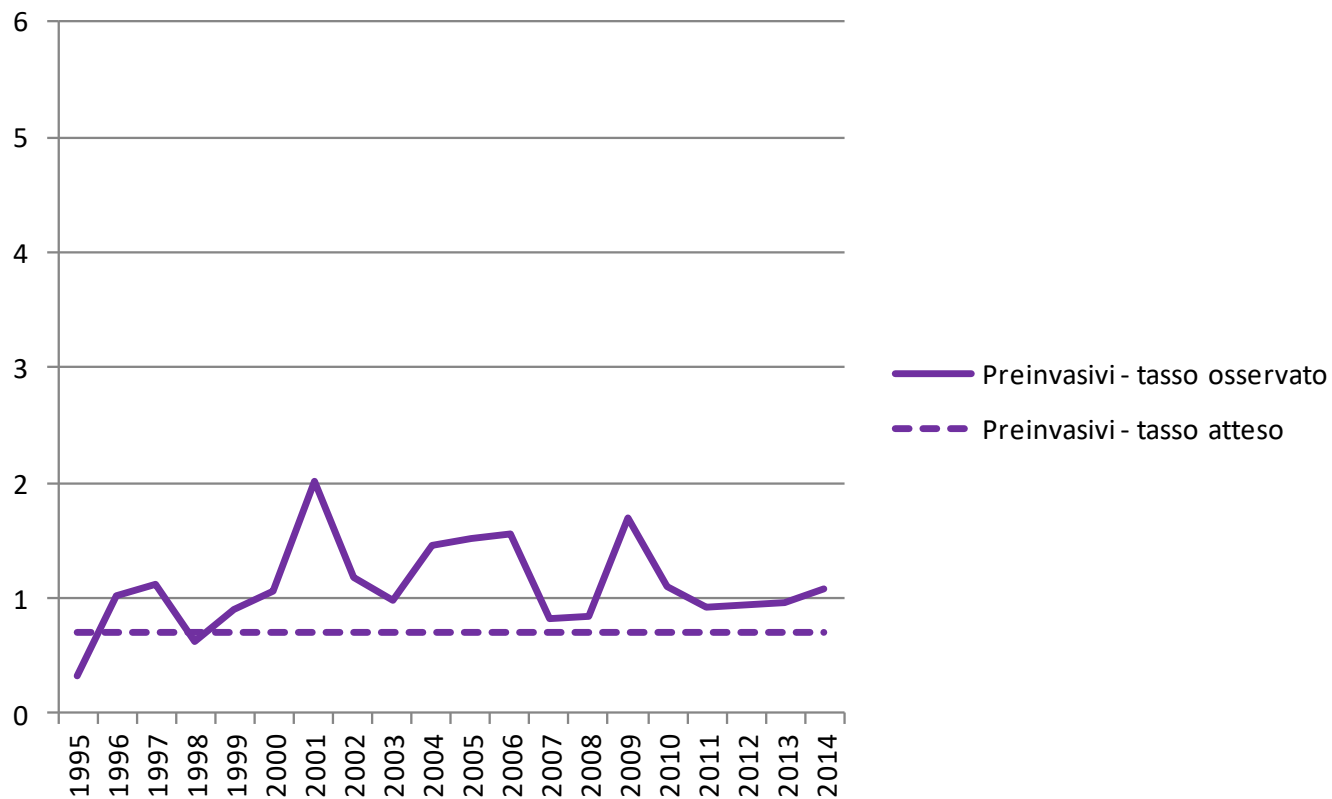
Risultati: ca. squamoso avanzato

Cancro squamoso: rapporto tra rapporti d'incidenza avanzati:precoci

Periodo	A	O	IRR	Rapporto tra IRR (IC 95%)
1995-1996	53	77	1.45	Riferimento
1997-1998	78	96	1.23	0.85 (0.53-1.34)
1999-2006	243	233	0.96	0.66 (0.45-0.98)
2007-2014	152	195	1.28	0.88 (0.59-1.33)

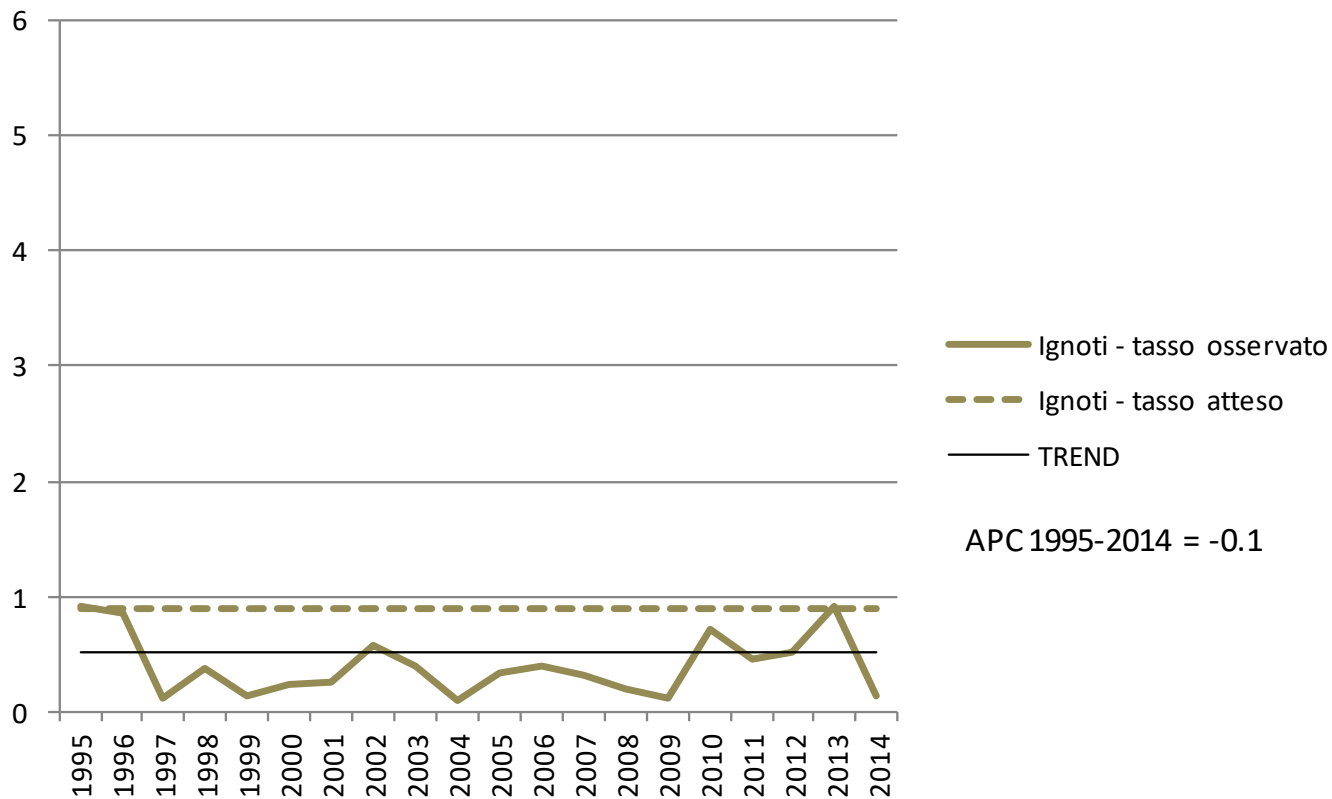
A, attesi; O, osservati; IRR, incidence rate ratio; IC, intervalli di confidenza.

Risultati: adenoca. in situ



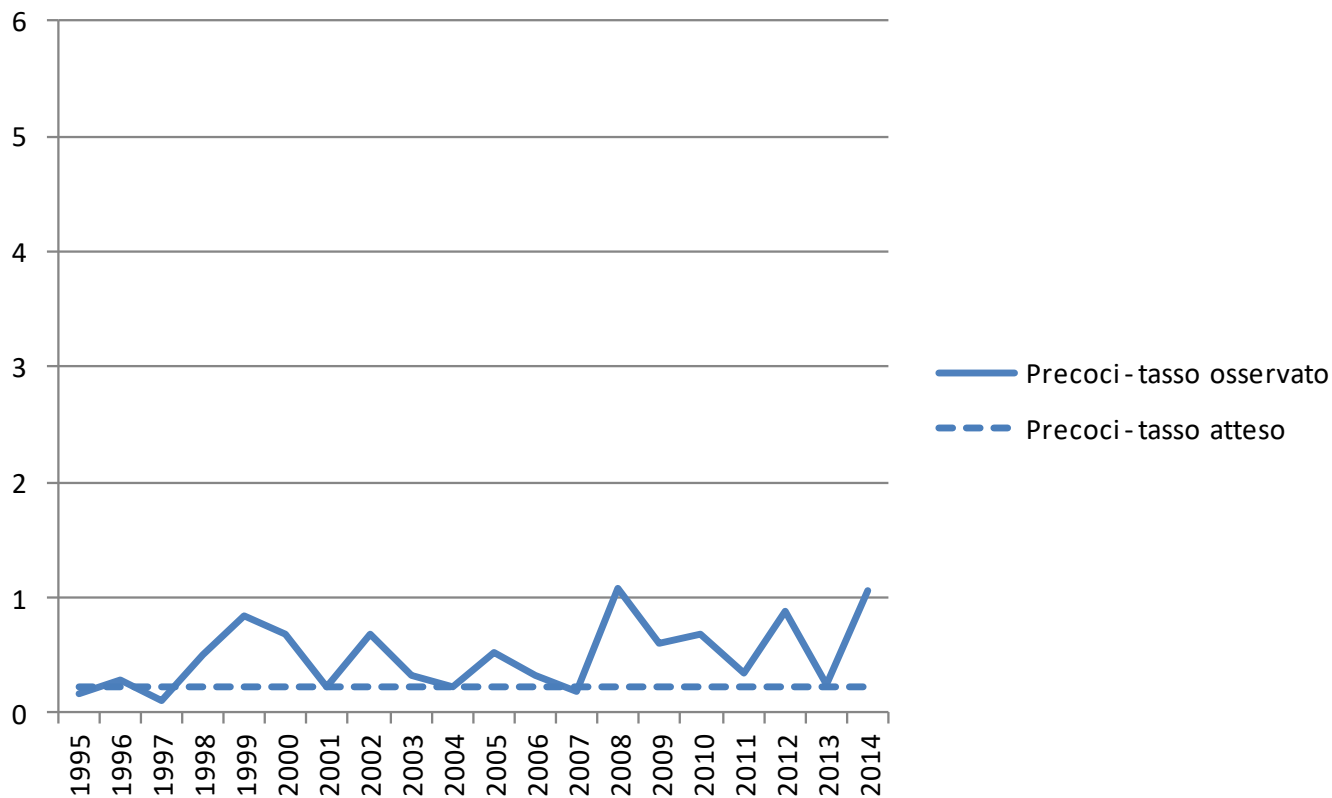
PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	12	14	1.20	0.52	2.78
1999-2006	50	96	1.87	0.94	3.70
2007-2014	51	74	1.44	0.72	2.88

Risultati: adenoca. in stadio ignoto



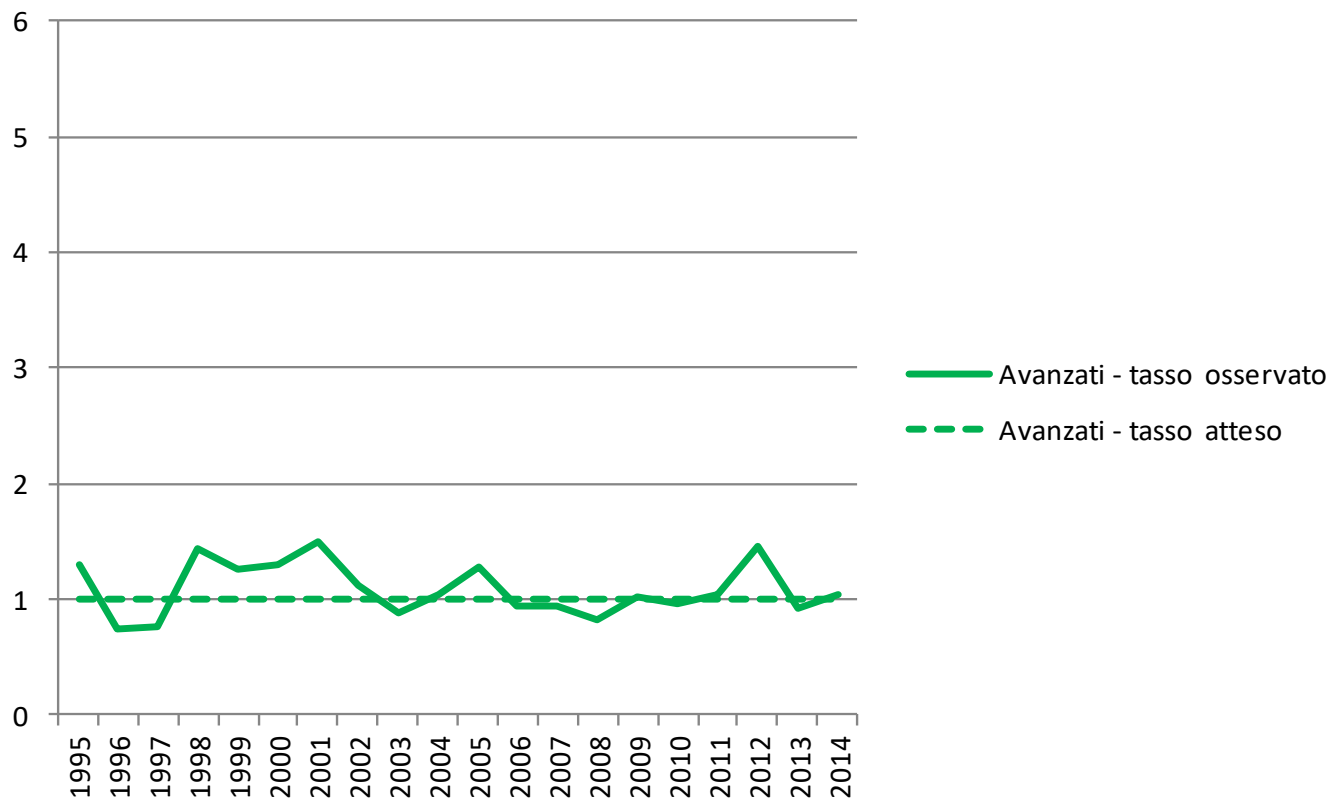
PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	14	4	0.28	0.09	0.89
1999-2006	62	22	0.35	0.17	0.73
2007-2014	64	29	0.46	0.23	0.92

Risultati: adenoca. precoce



PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	4	5	1.29	0.31	5.38
1999-2006	17	34	1.97	0.60	6.41
2007-2014	16	46	2.65	0.82	8.53

Risultati: adenoca. avanzato



PERIODO	ATTESI	OSSERVATI	IRR CON IC 95%		
1997-1998	15	17	1.10	0.53	2.31
1999-2006	66	80	1.18	0.65	2.17
2007-2014	69	72	1.03	0.56	1.91

Conclusioni

Effetti del programma di screening sull'incidenza per stadio

- ✓ CIN3 totale: aumento del 50% circa, persistente ma ampiamente oscillante
- ✓ CIN3 spontaneo: riduzione del 65%

Conclusioni

Effetti del programma di screening sull'incidenza per stadio

- ✓ **Carcinoma squamoso:**
 - riduzione simile (45-50%) per cancri precoci ed avanzati
 - downstaging non significativo
- ✓ **Adenocarcinoma: effetti non significativi e incoerenti a causa della forte riduzione dei cancri non stadiati**

Conclusioni

Effetti del programma di screening sull'incidenza per stadio

- ✓ L'andamento divergente delle incidenze (aumento della CIN3, riduzione del carcinoma squamoso, stabilità delle lesioni ghiandolari) non può essere causato da variazioni dell'esposizione ai fattori di rischio, che sono gli stessi per tutte queste malattie.
- ✓ E' l'ennesimo indizio che la riduzione dell'incidenza totale è dovuta allo screening