

CONVEGNO NAZIONALE
GISMA 2015

Lo Screening mammografico in Italia:

i dati, gli strumenti, la ricerca
ed i compagni di strada



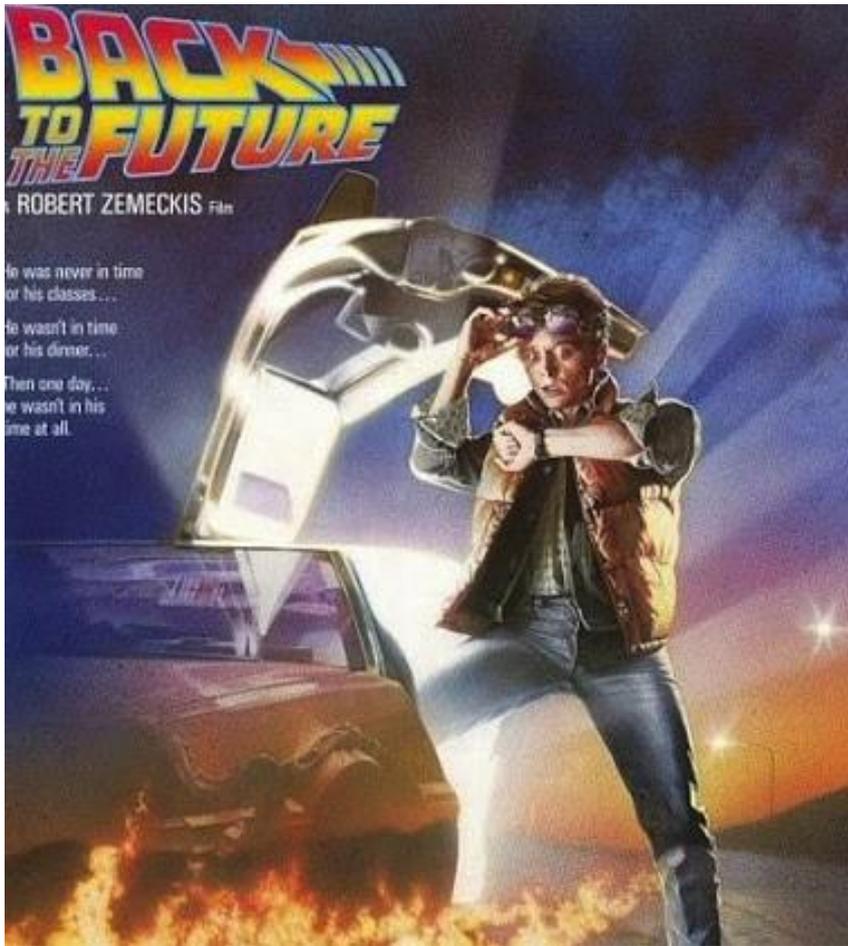
Reggio Emilia
7-8 maggio 2015
UNIVERSITÀ
DEGLI STUDI
DI REGGIO EMILIA

*Il futuro influenza il presente
tanto quanto il passato*

(F.W. Nietzsche)

- Il futuro degli screening: dalle politiche agli strumenti ai compagni di strada
- *Ritorno al futuro*
- *Eugenio Paci*
- *Epidemiologo, Firenze*
- *Reggio Emilia, 8 Maggio 2015*

1985-2015



- Cosa sarebbe cambiato, se fossero intervenute 20 anni fa scelte diverse, influenzate dall'oggi quando siamo consapevoli degli esiti delle nostre azioni?
- Quali conseguenze se avessimo modificato qualcosa?

30 anni di storia dello screening mammografico

- Dalla Valutazione di efficacia dello screening al Programma di Screening
 - Dal programma di screening alla valutazione di impatto e al bilancio beneficio/danni
- 

Quali sono le cose che abbiamo appreso e che potranno essere utili per il futuro della prevenzione del tumore della mammella, cosa non avevamo capito, cosa è cambiato



THE EUROPEAN GROUP
FOR
BREAST CANCER SCREENING

CONSTITUTED IN FLORENCE, 1982

1982-1985

Secretary: Adel GAD
Department of Clinical
Pathology and Cytology
Falun, Sweden

Treasurer: Marco ROSSELLI DEL TURCO
Centro Studio e Prevenzione
Oncologica
Florence, Italy

Annual Meeting

1982
7-8 June Palazzo dei Congressi
Florence, Italy

President: Giancarlo MALTONI
Centro Studio e Prevenzione
Oncologica
Florence, Italy

1983
21-23 July University of Surrey,
Guildford, England

President: John L. PRICE
Jarvis Screening Centre
Guildford, England

1984
9-10 August Schloss Rickelu,
Dusseldorf, Federal
Republic of Germany

President: H. G. BENDER
Universitäts Frauenklinik
Dusseldorf, Federal
Republic of Germany

1985-1988

Secretary: Barbara THOMAS
Jarvis Screening Centre
Guildford, England

Treasurer: Bernt-Peter ROBBA
Abt. Epidemiologie u.
Sozialmedizin, Hannover
Federal Republic of Germany

Annual Meeting

1985
10-11 October Preventicon, Utrecht
The Netherlands

President: Tom ROMBACH
Preventicon, Utrecht,
The Netherlands

1986
6-8 November Falun Hospital, Falun
Sweden

President: Gunnar EKLUND
Cancer Epidemiology Unit
Karolinska Hospital,
Stockholm, Sweden

1987 Proposed meeting in Turku, Finland - Cancelled

1988
21-23 Sept. Lincoln College,
Oxford, England

President: Audrey TUCKER
St. Bartholomew's Hospital
London, England

1988-91

Secretary: Bernt-Peter ROBBA
Abt. Epidemiologie u.
Sozialmedizin, Hannover
Federal Republic of Germany

Treasurer: Janet DACIE
St. Bartholomew's Hospital
London, England

Annual Meeting

1989
8-10 June Strasbourg

President: R. RENARD
Association pour le
Depistage des Maladies
du Sein Strasbourg

Cosa pensavamo

(e in larga parte pensiamo ancora, con meno certezze)

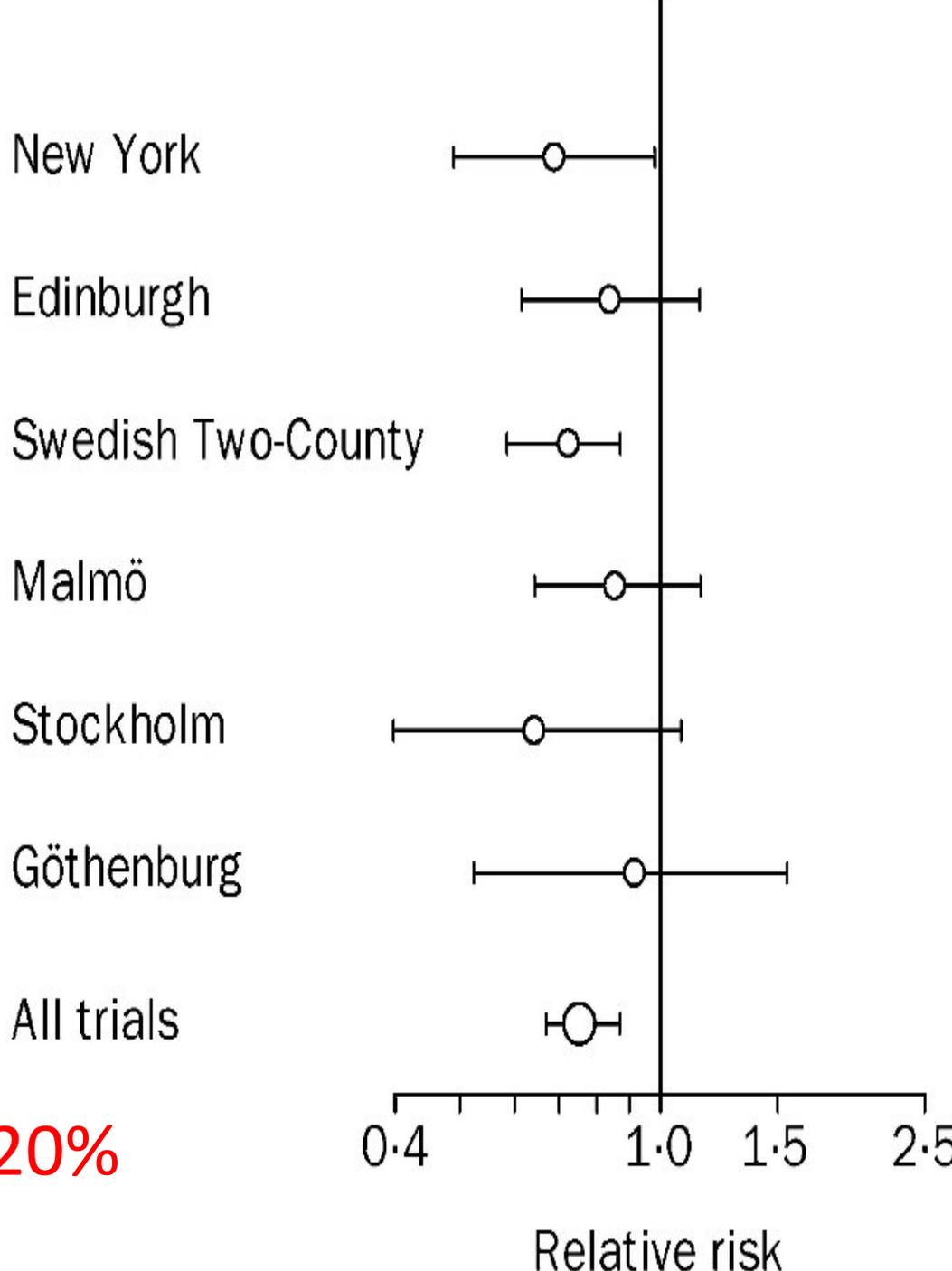
- La prevenzione oncologica e lo screening devono dimostrare di essere efficaci per poter essere adottate come interventi di Sanità Pubblica
- Questa esigenza veniva dall'esperienza fatta con l'introduzione dello screening di massa per il cervocarcinoma (pap test) (era la critica di A.Cochrane all'assenza di studi randomizzati).

Nicholas Wald
1990-91

Lo stato dell'evidenza
della riduzione di
mortalità per TM nei
RCT

All'avvio dei programmi
di screening
In Europa

-20%



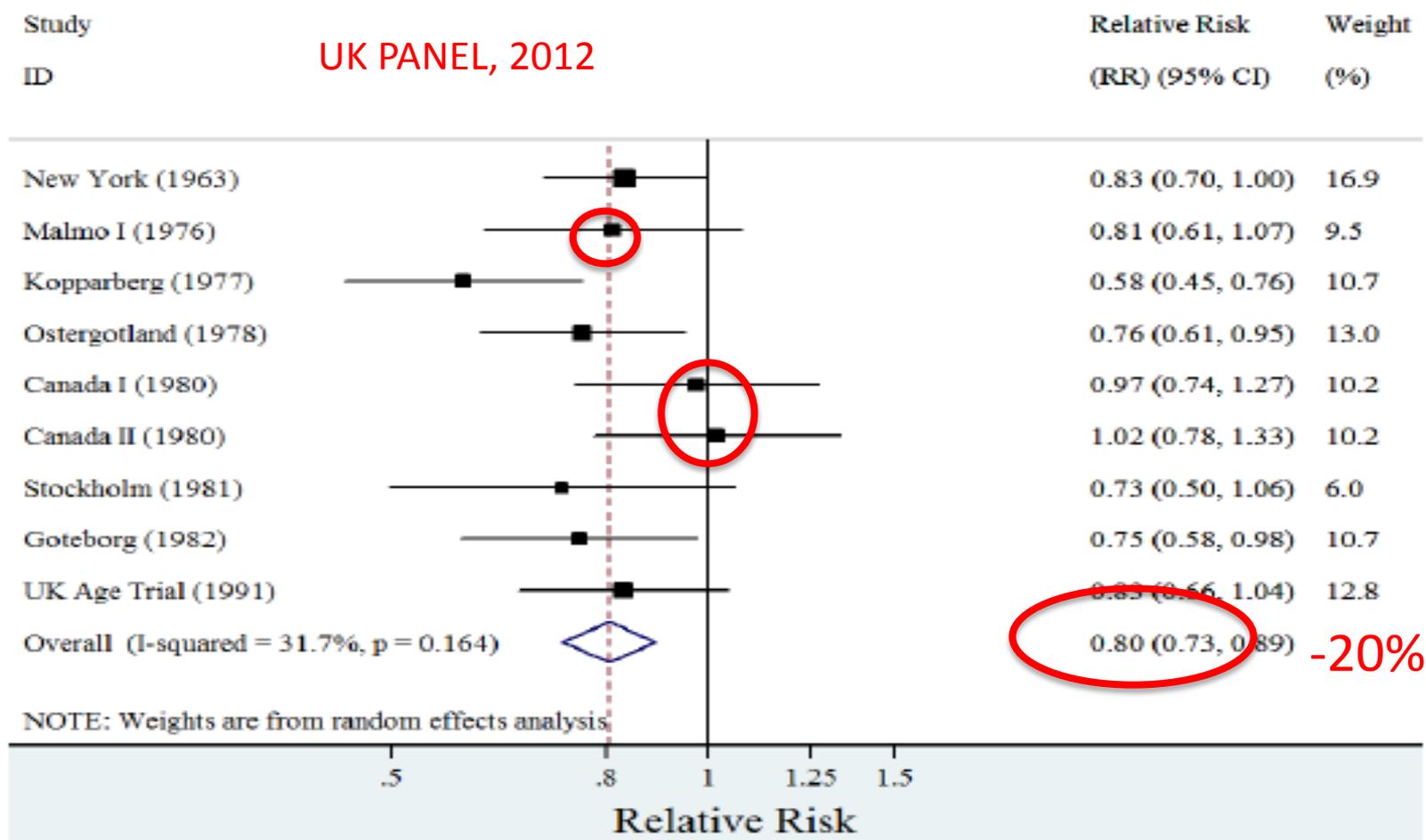


Figure 3.1 Meta-analysis of the breast cancer screening trials: relative risk (RR) of breast cancer mortality after 13 years of follow-up. Adapted from the Cochrane Review (Gøtzsche 2011).

Note: Malmö II is excluded because follow-up approximating 13 years was not available; the Swedish Two County (Kopparberg and Östergötland) and Canada I and II trials are split into their component parts; the Edinburgh trial is excluded because of severe imbalances between randomised groups.

L'EBM non è *solo* scienza

- La Cochrane Review di Gotsche e Olsen, pubblicata nel 2001 sceglieva in base a criteri di qualità 3 RCT e su questa base escludeva ogni effetto dello screening mammografico.
- La scelta di esclusione dei RCT avveniva su questioni discusse da anni e sosteneva come di alta qualità il trial canadese, che era stato al centro di polemiche accese sulla randomizzazione e il disegno dello studio sin dagli anni ottanta.
- Il risultato finale, senza esclusione di alcuno studio, tranne quello di Edinburgo, confermava il 20% di riduzione della mortalità per causa se tutti gli studi erano inclusi.
- Dopo 13 anni l'UK Panel ha confermato la opportunità di includere tutti gli studi e una riduzione della mortalità per causa overall del 20%.
- La gestione degli studi clinici è diversa da quelli di massa come i trial che valutano gli screening. Oggi la possibilità di gestione dei dati è totalmente cambiata e si avvale di sistemi informativi di popolazione (cause di morte e registri tumori).

Quarta edizione del Codice europeo contro il cancro



L'Agenzia Internazionale per la Ricerca sul Cancro - **IARC**, l'ente dell'Organizzazione mondiale della sanità specializzato in oncologia, ha presentato la quarta edizione del **Codice europeo contro il cancro** con la partecipazione della Commissione europea. Il nuovo codice prevede 12 suggerimenti basati sulle migliori evidenze scientifiche disponibili che puntano all'adozione di stili di vita sani e a sostenere nella quotidianità la prevenzione anticancro.

Le dodici azioni quotidiane anticancro

1. Non fumare. Non fare uso di tabacco
2. Non fumare in casa. Appoggia le politiche contro il fumo sul luogo di lavoro
3. Fai in modo di mantenere il peso corporeo salutare
4. Sii fisicamente attivo tutti i giorni. Limita il tempo che trascorri seduto
5. Segui una dieta sana:
 - > mangia principalmente cereali integrali, legumi, verdura e frutta
 - > limita i cibi ad alto contenuto calorico (cibi con alto contenuto di zuccheri e grassi) ed evita le bevande zuccherate
 - > evita la carne conservata; limita la carne rossa e i cibi ad alto contenuto di sale
6. Se bevi alcolici, limitane l'assunzione. Per la prevenzione del cancro non è consigliabile bere alcolici
7. Evita lunghe esposizioni al sole, con particolare attenzione ai bambini. Usa le protezioni solari. Non utilizzare lampade solari
8. Sul luogo di lavoro, proteggiti dall'esposizione ad agenti cancerogeni seguendo le istruzioni in merito alla sicurezza
9. Controlla se in casa sei esposto ad alti livelli di radiazioni radon. Attivati per ridurre i livelli di esposizione al radon
10. Per le donne:
 - > l'allattamento riduce il rischio di cancro nella donna. Se puoi, allatta il tuo bambino
 - > la terapia ormonale sostitutiva (HRT) aumenta il rischio di alcuni tipi di cancro. Limita l'uso dell'HRT
11. Assicurati che il tuo bambino sia vaccinato per:
 - > Epatite B (per i neonati)
 - > Papillomavirus - HPV (per le ragazze)
12. Aderisci ai programmi di screening per:
 - > cancro all'intestino (uomini e donne)
 - > cancro al seno (donne)
 - > cancro alla cervice (donne)

Leggi il **Codice europeo contro il cancro** (in lingua inglese)

Vedi anche

- > Terra dei Fuochi, la mappatura delle aree e le azioni del Ministero
- > Tumori, i dati sulle diagnosi e le guarigioni in Italia
- > Screening mammografico, cervicale, colorettaie, dati 2009-2013
- > Screening per la prevenzione dei tumori, la vita è più rosa
- > "Io, adolescente: l'ospedale che vorrei"
- > Io, adolescente con tumore: l'ospedale che vorrei

Cambia canale



La nostra salute

- > Infezione da Papillomavirus umano
- > Screening per il cancro del colon-retto
- > Screening per il cancro del collo dell'utero



Temi e professioni

- > Piano nazionale della prevenzione - Ridurre il carico prevenibile ed evitabile di morbosità, mortalità e disabilità delle malattie non trasmissibili
- > Tumori - Atto di indirizzo per ridurre il carico della malattia del cancro
- > Tumori - Cure palliative

Segui il ministero



Due mondi , la stessa polemica ?

- Negli Stati Uniti la diffusione dello screening mammografico, dopo lo studio HIP, è avvenuta come pratica clinica spontanea, in un clima di promozione entusiasta, e con una ideologia della prevenzione individuale (HRT)
- In Europa si sono sviluppati i programmi di screening di sanità pubblica, con un proposta di controllo dell'offerta e della qualità dello screening mammografico.

Breast Cancer Screening

Report to the Health Ministers
of England, Wales,
Scotland & Northern Ireland

By a working group chaired
by
Professor Sir Patrick Forrest

1985-86

Preface

We were appointed under the Chairmanship of Professor Sir Patrick Forrest in July 1985 by Mr Kenneth Clarke, then Minister for Health, on behalf of all the UK Health Ministers. Our terms of reference were:

i to consider the information now available on breast cancer screening by mammography; the extent to which this suggests necessary changes in UK policy on the provision of mammographic facilities and the screening of

ii to suggest a range of policy options and assess the benefits and costs associated with them; and set out the service planning, manpower, financial and other implications of implementing such options.

Details of membership are at Annex A.

Our interim report, addressing itself to part one of the remit, was presented to Ministers in January 1986. In this report we concluded that:

'The information that is already available from the principal overseas studies demonstrates that screening by mammography can lead to the prolongation of the lives of women aged 50 and over with breast cancer. There is a convincing case, on clinical grounds, for a change in UK policy on the provision of mammographic facilities and the screening of symptomless women.' And, that,

'The preliminary view of the working group is that it would not be sensible to introduce mammographic screening on a UK basis without providing the necessary back-up services to assess the abnormalities that would be detected'.

After reaching these conclusions we went on to complete the second part of our remit. In all we met on 11 occasions and considered about 70 papers including published papers which are listed in the selected bibliography. Many of our meetings were also attended by co-opted experts who represented other relevant disciplines or were specially invited to present evidence. The names of these

gratitude their invaluable contributions.

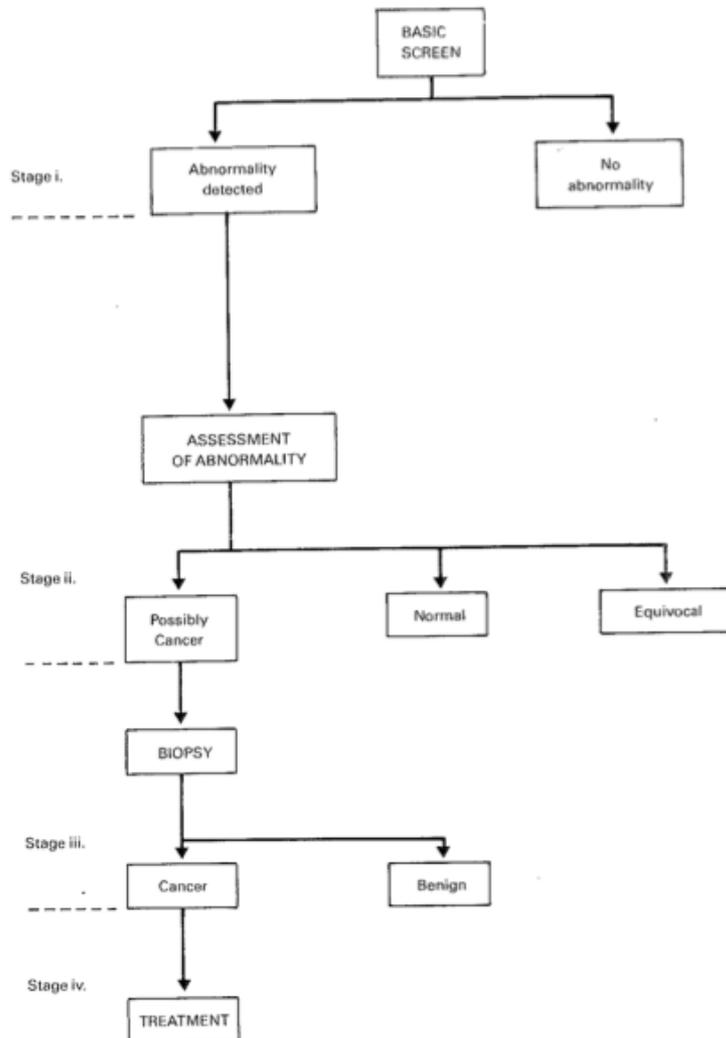
We also wish to thank the Scottish Home and Health Department for funding a study to provide specific information on the costs of screening in Edinburgh that we had requested. Finally, we wish to record our gratitude to the Department of Health and Social Security for providing the Secretariat, whose courteous and efficient support greatly facilitated our task.

We present at the end of our report our main conclusions.

November 1986

Figure 3.1

Screening Procedure



Notes: a) If the basic screen is single-view mammography stage i may include additional mammographic views.

b) Women with equivocal assessment results are kept under surveillance by the assessment team.

c) Normal at stage ii includes benign lesions considered insignificant.

Breast cancer screening programmes: the development of a monitoring and evaluation system

N.E. Day¹, D.R.R. Williams² & K.T. Khaw²

¹MRC Biostatistics, 5 Shaftesbury Road, Cambridge CB2 2BW and ²Department of Community Medicine, Cambridge, UK.

Summary It is important that the introduction of breast screening is closely monitored. The anticipated effect on breast cancer mortality will take 10 years or more fully to emerge, and will only occur if a succession of more short-term end points are met. Data from the Swedish two-county randomised trial provide targets that should be achieved, following a logical progression of compliance with the initial invitation, prevalence and stage distribution at the prevalence screen, the rate of interval cancers after the initial screen, the pick-up rate and stage distribution at later screening tests, the rate of interval cancers after later tests, the absolute rate of advanced cancer and finally the breast cancer mortality rate. For evaluation purposes, historical data on stage at diagnosis is desirable; it is suggested that tumour size is probably the most relevant variable available in most cases.

Table V Suggested levels beyond which corrective action is strongly indicated

<i>Measure</i>	<i>Acceptable level</i>
Compliance rate	No less than 60%
Prevalance rate at first screening test	No less than three times the underlying incidence rate
Rate of interval cancers	No more than 25% of expected incidence in first 2 years after a negative test, and no more than 60% of expected incidence in the third year
Stage distribution of screen-detected cancers	
At first test	No more than 40% stage II or more advanced
At subsequent tests	No more than 30% stage II or more advanced
Reduction in rate of advanced cancers	No less than 30% in target population, seven years after first invitation sent
Reduction in breast cancer mortality rates	No less than 25% in target population free from breast cancer when first invitation sent, 10 years after

La scelta della sanità pubblica Inglese e Europea: iniziare lo screening a 50 anni

- In base agli studi Randomizzati esistenti fu deciso di iniziare lo screening a 50 anni
- La scelta del Forrest Report fu anche quella dei progetti Pilota e poi dei programmi di screening Europei (European Guidelines)
- La controversia sull'età di inizio è divampata fino a esplodere nel 1997, per l'azione del NCI _ NIH in una conferenza di consenso che ha fatto epoca
- Nel 1991 iniziava l'UK-AGE –TRIAL, che arruolava donne di 40-41, rappresentò una risposta parziale a una esigenza conoscitiva.

Breast Cancer Screening for Women Ages 40-49

National Institutes of Health
Consensus Development Conference Statement
Jan 21-23, 1997



"MAMMOGRAPHY SCREENING FOR WOMEN AGES 40-49"

Statement of

**Richard D. Klausner, M.D.
Director, National Cancer Institute
on Screening Mammography**

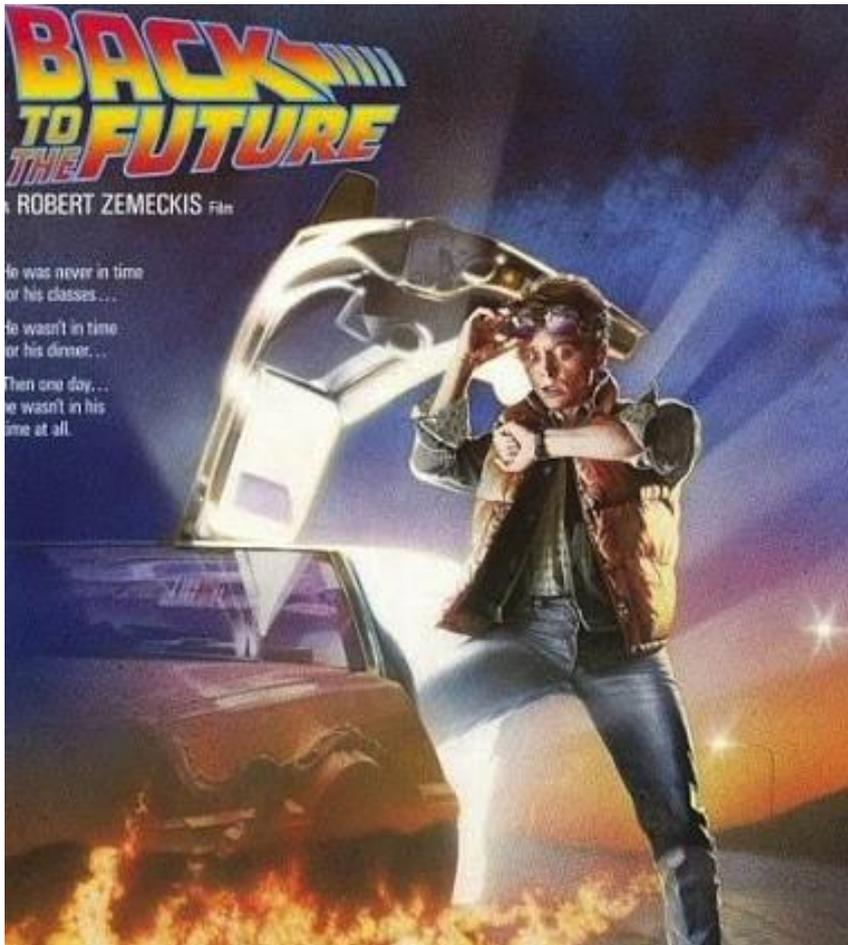
Before the

**Subcommittee on Labor, Health and Human Services,
Education and Related Agencies
Senator Arlen Specter, Chairman
February 5, 1997**

~~the balance and tone of the discussion in the Panel's draft report~~ It is my opinion that the draft report of the Panel overly minimizes the benefits and overly emphasizes the risks for this population. A balanced statement of the pros and cons of screening is essential for a woman to make an informed decision whether to initiate regular mammography in her forties.

Nel 2014 e recentemente nel 2015 la polemica sullo screening mammografico e l'intervallo di screening continua con grande vivacità

Back to the future



- Bisognerebbe tornar indietro e cambiare l'atteggiamento di chi non appoggiò le proposte di studi longitudinali di screening su donne 40-41 anni *at entry* nella consapevolezza di quanto danno è stato fatto alla conoscenza del tumore della mammella nelle donne in premenopausa

Sull'opportunità di estendere lo screening mammografico organizzato alle donne di 40-49 e 70-74 anni di età. Raccomandazioni di una conferenza di consenso italiana

On the opportunity of extending screening service by mammography to 40-49 and 70-74 years of age women. Recommendations of a national Italian Consensus Conference

Epidemiologia & Prevenzione, 2007

Vito Distanto,¹ Stefano Ciatto,² Alfonso Frigerio,³ Carlo Naldoni,⁴ Eugenio Paci,² Antonio Ponti,⁵ Marco Rosselli del Turco,² Marcello Vettorazzi,⁶ Marco Zappa²

metanalisi	anni di follow-up	OR	IC 95%
Smart, 1995 ⁴	10,4	0,84	0,69-1,02
Kerlikowske, 1995 ⁵	7-9	0,92	0,75-1,13
Glasziou, 1995 ⁶	7-9	0,95	0,77-1,18
Tabár, 1996 ⁷	-	0,85	0,71-1,01
Kerlikowske, 1997 ⁸	10-12	0,84	0,71-0,99
Glasziou, 1997 ⁹	10-12	0,85	0,71-1,01
Hendrick, 1997 ¹⁰	12,7	0,82	0,71-0,95
Olsen & Gotzsche, 2001 ¹¹ (2 trial)	13	1,03	0,77-1,38
Nystrom, 2002 ¹² (5 trial svedesi)	15,8	0,80	0,63-1,01
Humphrey, 2002 ¹³	14	0,85	0,73-0,99

Intervallo	1° anno	2° anno	3° anno
Firenze			
40-49	0,24	0,41	0,98
50-59	0,17	0,45	0,51
60-69	0,09	0,17	0,39
Trial svedesi			
40-49	0,37	0,67	0,60
50-59	0,11	0,29	0,46
60-69	0,14	0,28	0,43

Modificato da Paci et al.¹⁵

Tabella 5. Rapporto tra tasso osservato di carcinoma d'intervallo rispetto a tasso di incidenza atteso in assenza di screening: evidenze dal programma di screening di Firenze e dai trial svedesi, per classi di età e anno di intervallo.

Table 5. Ratio of observed interval cancer rate as compared to expected incidence rate in absence of screening: evidence from the Florence programme and from Swedish trials, by age and year of interval.

Evidenza Limitata , estensione solo condizionata al raggiungimento obiettivo 70-74, Maggiore intensità di screening. La questione età rimane per molti aspetti aperta, non ultimo dal punto di vista della costo efficacia.

Age Group	N	% of the age group/total regional target population	Interval
45-49	163.354	19.5	1 year
50-69	548.855	65.4	2 years (started in 1996)
70-74	126.311	15.1	2 years
TOT 45-74	838.520	100.0	

Regional Participation rate 45-49 : 62.7% (2010) 71% (2011)

Un diverso approccio : le due (?) malattie

- L'estensione alle donne è prevalentemente motivata dalla opportunità di una offerta di Sanità Pubblica e un recupero delle donne al servizio di screening.
- Lo sforzo di prevedere l'offerta di screening annuale è notevole e una riduzione del burden dello screening è importante
- Ma i problemi di fondo restano...

La nuova frontiera della caratterizzazione biologica dei tumori mammari. Lo screening è meno sensibile nei Triplo Negativi, comparazione dei tassi di incidenza negli screen detected vs intervalli

J Cancer Res Clin Oncol
DOI 10.1007/s00432-012-1304-1

ORIGINAL PAPER

Biological characteristics of interval cancers: a role for biomarkers in the breast cancer screening

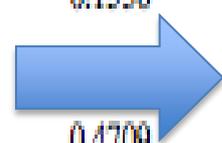
A. Caldarella · D. Puliti · E. Crocetti · S. Bianchi ·
V. Vezzosi · P. Apicella · M. Biancalani ·
A. Giannini · C. Urso · F. Zolfanelli · E. Paci

Received: 17 August 2012 / Accepted: 24 August 2012
© Springer-Verlag 2012

J Cancer Res Clin Oncol

Table 2 Breast cancer: logistic regression of the probability of being interval cancer instead of screen detected

Subtype	Crude OR	95 % CI	<i>p</i> value	Adjusted ^a OR	95 % CI	<i>p</i> value
Luminal A	Ref	–		Ref	–	
Luminal B (HER2 negative)	1.79	0.91–3.52	0.0899	1.45	0.68–3.07	0.3334
Luminal B (HER2 positive)	1.92	0.78–4.71	0.1536	1.30	0.48–3.54	0.6087
Triple negative	3.52	1.12–11.13		3.16	0.81–12.26	0.0967
HER2+	1.57	0.46–5.29	0.4709	1.09	0.26–4.55	0.9082



^a Adjusted for age at diagnosis, density, histotype, pT and pN

RESEARCH ARTICLE

Open Access

Tumor phenotype and breast density in distinct categories of interval cancer: results of population-based mammography screening in Spain

Laia Domingo^{1,2*}, Dolores Salas^{3,4}, Raquel Zubizarreta⁵, Marisa Baré^{2,6,7}, Garbiñe Sarriugarte⁸, Teresa Barata⁹, Josefa Ibáñez^{3,4}, Jordi Blanch¹, Montserrat Puig-Vives¹⁰, Ana Belén Fernández⁵, Xavier Castells^{1,2,7}, Maria Sala^{1,2,7} and on behalf of the INCA Study Group

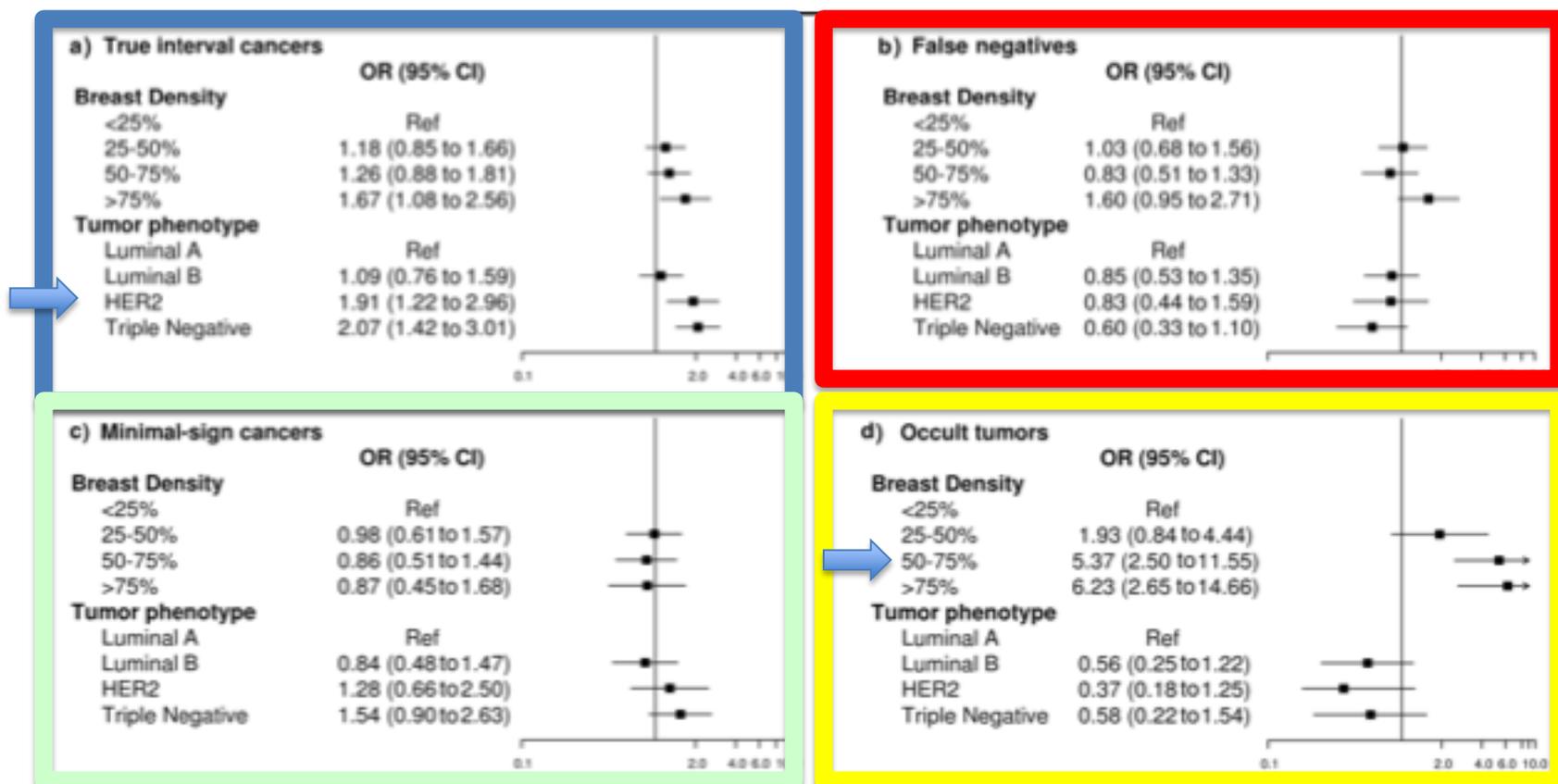


Figure 1 Multinomial logistic regression model of the association of breast density and tumor phenotypes with categories of interval cancer, adjusted for age at screening, screening program, and tumor size. The association of breast density with tumor phenotype, adjusted by screening program (categorical), age (continuous), and tumor size (categorical, <11 mm; 11 to 20 mm; 21 to 50 mm; >50 mm), is shown for the multiple endpoints of the multinomial logistic regression models, which are **(a)** true interval cancers; **(b)** false negatives; **(c)** minimal-sign cancers and **(d)** occult tumors. The reference category (Ref) is screening-detected cancers. The black squares and the horizontal lines represent the odds ratios (OR) and corresponding 95% CI, respectively. ORs are presented on the log scale. Tumor phenotype = Luminal A: ER-/HER2- or PR+/HER2-; Luminal B: ER+/HER2+ or PR+/HER2+; HER2: ER-/PR-/HER2+; Triple-negative: ER-/PR-/HER2-.

COMMENTARY

How Many Etiological Subtypes of Breast Cancer: Two, Three, Four, Or More?

William F. Anderson, Philip S. Rosenberg, Aleix Prat, Charles M. Perou, Mark E. Sherman

Manuscript received August 15, 2013; revised May 1, 2014; accepted May 13, 2014.

Correspondence to: William F. Anderson, MD, MPH, National Cancer Institute, Division of Cancer Epidemiology and Genetics, Biostatistics Branch, 9609 Medical Center Dr, Rm 7E144, Bethesda, MD 20892–9780 (e-mail: wanderso@mail.nih.gov).

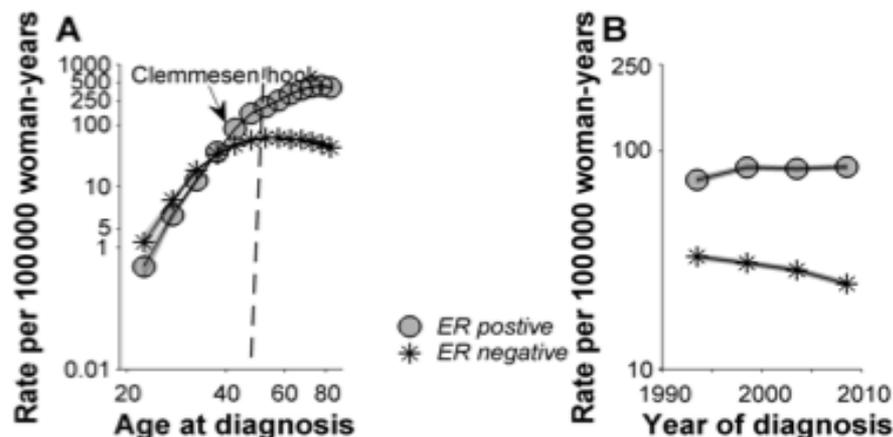


Figure 1. Breast cancer case and population data were obtained from the National Cancer Institute's Surveillance, Epidemiology, and End Results 9 Registries Database from 1990 through 2010 among women with invasive estrogen receptor (ER)-positive and ER-negative breast cancer. The dataset included thirteen 5-year age groups (ages 20–24, 25–29, ..., 80–84 years) and four 5-year time periods (1991–1995, 1996–2000, 2001–2005, 2006–2010), spanning 16 partially overlapping 10-year birth cohorts, referred to by mid-year of birth (1911, 1916, ..., 1986). We

used the age-period-cohort framework to obtain the fitted or longitudinal age-specific incidence rate curve for the mid-cohort, adjusted for period effects (A) and the fitted temporal trends (B). A) Age-specific incidence rates for ER-negative cancers rise rapidly early in reproductive life and then flatten or fall. Rates for ER positive cancers rise rapidly early in life and then continue to rise at a slower pace. B) ER-positive and ER-negative temporal trends have diverged over time. ER-positive rates have risen, whereas ER-negative rates have fallen.

COMMENTARY

How Many Etiological Subtypes of Breast Cancer: Two, Three, Four, Or More?

William F. Anderson, Philip S. Rosenberg, Aleix Prat, Charles M. Perou, Mark E. Sherman

Manuscript received August 15, 2013; revised May 1, 2014; accepted May 13, 2014.

Correspondence to: William F. Anderson, MD, MPH, National Cancer Institute, Division of Cancer Epidemiology and Genetics, Biostatistics Branch, 9609 Medical Center Dr, Rm 7E144, Bethesda, MD 20892-9780 (e-mail: wanderso@mail.nih.gov).

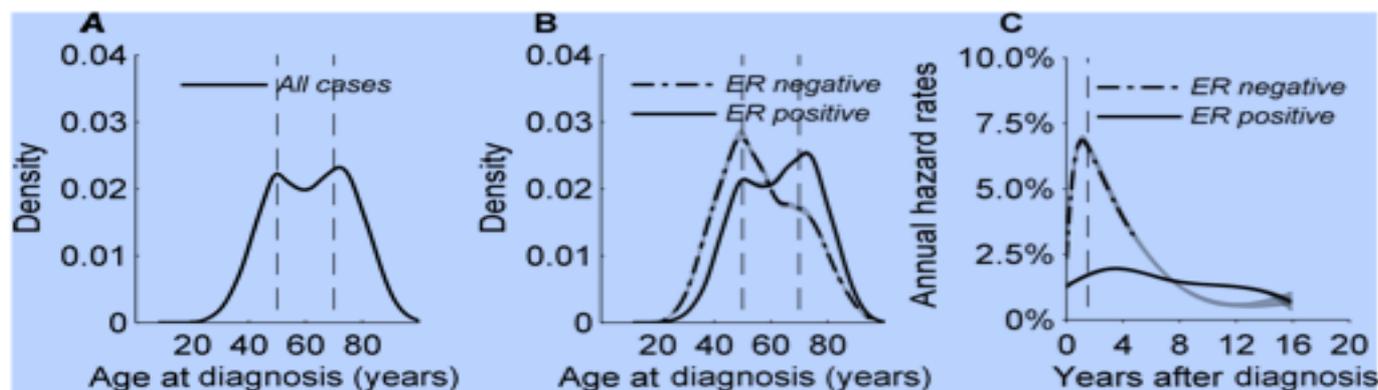


Figure 2. Invasive female breast cancer case data were obtained from the National Cancer Institute's Surveillance, Epidemiology, and End Results 9 Registries Database from 1990 through 2010 database overall and for estrogen receptor (ER)-positive and ER-negative cancers. Bimodal breast cancer populations have fluctuated over time likely because of complex interactions between age-related biologic, risk factor, and screening phenomena, as previously described (186). For illustration, this figure has been restricted to the 1995 to 1998 period, during which a bimodal female breast cancer population was evenly distributed between early-onset and late-onset subtypes. Age distributions at diagnosis (or density plots) with 95% confidence intervals were constructed in 1-year age increments using a kernel density estimator applied to the corresponding age-at-diagnosis frequency histogram. The area under the curve represents 100% of the cancer records. The vertical axis shows the smoothed distribution (or proportion) with the frequency value $\times 100 =$ percentage distribution. **A)** Density plot for breast cancer overall demonstrates a bimodal age distribution at diagnosis with the modal ages near 50 and 70 years representing the central tendencies for early-onset and late-onset breast cancers. **B)** Density plot for ER-negative tumors also shows a bimodal age distribution at diagnosis with a dominant early-onset mode near

age 50 years and a minor mode around age 70 years. Density plot for ER-positive tumors shows bimodal age distributions at diagnosis with a dominant late-onset mode near age 70 years and a minor mode around age 50 years. **C)** The risk for breast cancer-specific death can be expressed as an annual hazard rate, which describes the instantaneous rate of dying from breast cancer in a specified time interval (ie, percentage dying per year) after diagnosis among women who are alive at the beginning of that time interval. Nonparametric hazard function estimators were applied that modeled the hazard profile of ER-positive and ER-negative cancers, allowing both the shape and magnitude to be estimated free of ad hoc mathematical assumptions. Specifically, the hazard rate curves were generated using cubic splines with joinpoints selected by Akaike's information criteria and 95% confidence intervals applied with bootstrap resampling (187-189). Bimodal age distributions at diagnosis among women (B) are associated with two very different cancer-specific outcomes. ER-negative hazards for breast cancer death peak near 7.5% per year approximately 2 years after initial diagnosis and then decline rapidly. ER-positive hazards lack a sharp peak but are relatively constant at 1% to 2% per year. Falling ER-negative and constant ER-positive hazards cross over approximately 8 years after breast cancer diagnosis.

CORRESPONDENCE

RE: How Many Etiological Subtypes of Breast Cancer: Two, Three, Four, or More?

A. Caldarella, E. Crocetti

Affiliation of authors: Clinical and Descriptive Epidemiology Unit, Institute for Study and Cancer Prevention, Florence, Italy (AC, EC).

Distribuzione per età dei tumori della mammella ER neg.
(RTT, 1984-85)

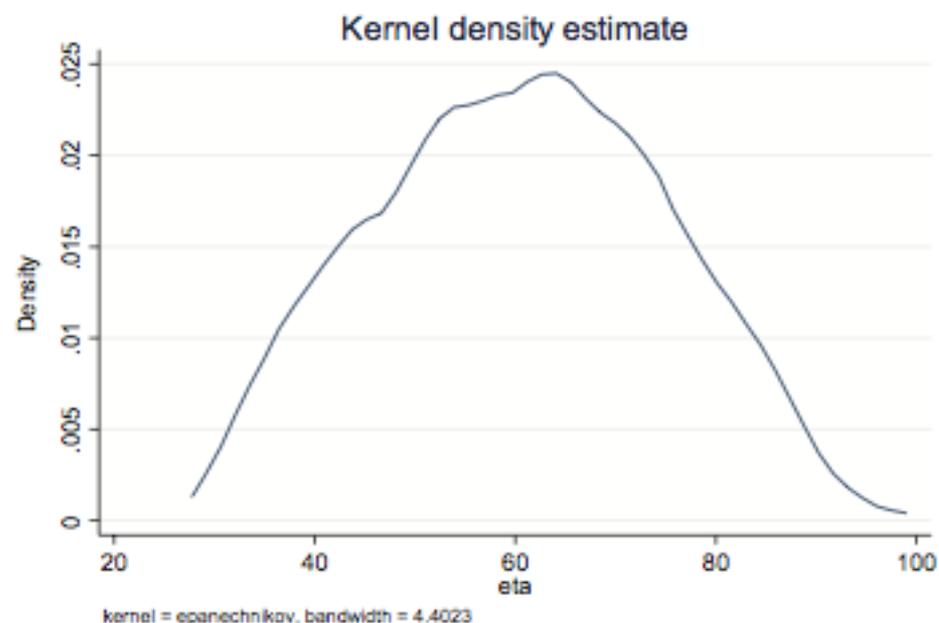


Figure 1. Tuscan Cancer Registry: age distribution in estrogen receptor-negative breast tumors.

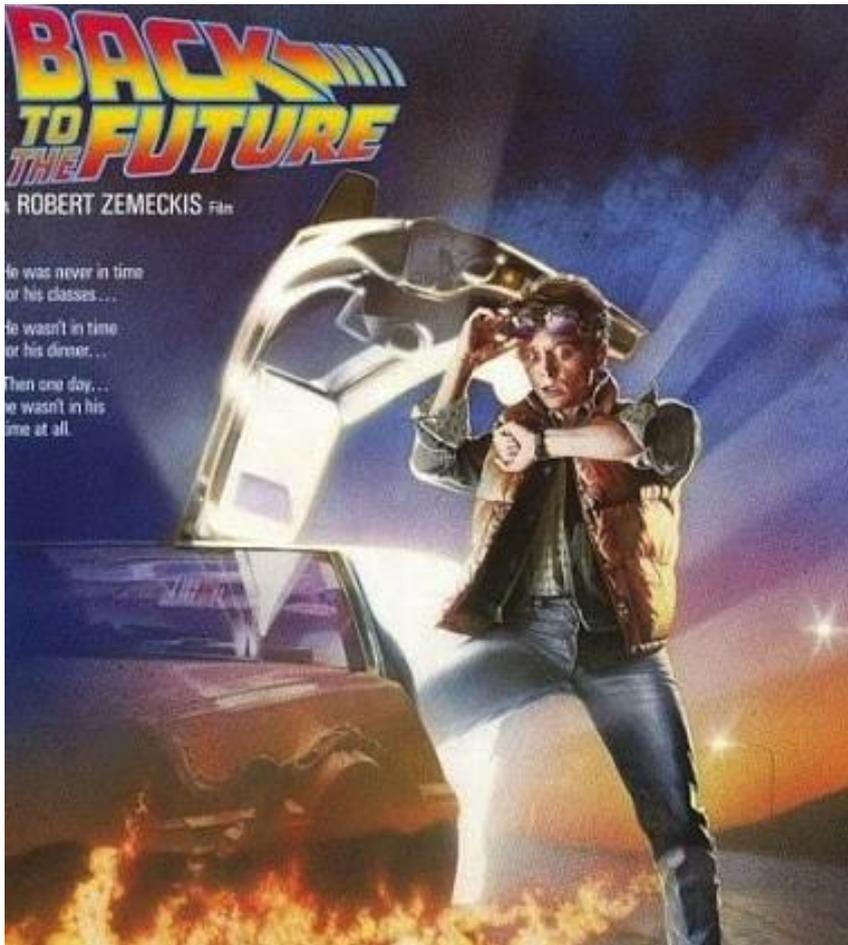
Estensione dello screening e ricerca

- L'estensione dello screening alle donne 45-49 deve essere accompagnata dalla ricerca su i rapporti tra età, genetica, densità e caratteristiche dei tumori.
- La ricerca è' essenziale in presenza di una evidenza limitata di efficacia e correlata al bisogno di capire i limiti dello screening e le necessarie integrazioni
- La possibilità di intervento non deve dimenticare le donne che non sono raggiunte dallo screening mammografico (altre fasce di età, alto rischio)
- La possibilità di ricerca e intervento con iniziative integrate sugli stili di vita (Obesità, Sindrome Metabolica, ...) deve essere valutata per essere inserita nei programmi di sanità pubblica.

38 Registri Tumori , decessi per TM AIRTUM,2009

Età	Osservati	Diagnosticati fuori screening (prima dei 50 o dopo i 70 anni)
<50	160	160
50-69	627	228 (30%)
70-79	455	400 (10%)
80+	266	266
	1508	1054

La grande controversia: un problema di comunicazione?



- Lo sviluppo della comunicazione era imprevedibile
- La Medicina è cambiata, la tecnologia ha costruito il futuro
- La questione della sovradiagnosi è di contenuto o solo di emozioni e comunicazione?

Breast cancer screening: its impact on clinical medicine

H.J. de Koning, G.J. van Oortmarssen, B.M. van Ineveld & P.J. van der Maas

Department of Public Health and Social Medicine, Erasmus Universiteit Rotterdam, PO Box 1738, 3000 DR Rotterdam, The Netherlands.

Table II Favourable and unfavourable effects when implementing nationwide breast cancer screening of women aged 50-70 every 2 years

<i>Unfavourable effects</i>		<i>Favourable effects</i>	
Invitations	1.45 million	Decrease in clinical mammograms via physicians	35,000
Screens	1.00 million	Decrease in biopsies outside the programme with benign result	7,950
Clinical mammograms	7,300	Total number of screen-detected cancers	3,850
Screen false positives which have led to a biopsy	2,100	Decrease in clinically diagnosed cancers	3,635
Additional number of breast cancers detected* (including dCIS)	215	Increase in breast conserving therapy	1,400
Mastectomies for dCIS	280	Decrease in mastectomy	1,050
		Decrease in adjuvant systemic treatment	715
		Decrease in treating advanced disease	840
Life-years after known diagnosis of breast cancer	14,400	Life-years gained	13,800
		Breast cancer deaths prevented	840

Numbers are counted for the period 1988-2088 and standardised per one million screens. Mass screening 1988-2015 (total of 14.6 million screens). *Otherwise died from other causes.

Sovradiagnosi 1990

Detecting more breast cancers and non-invasive cancers

Theoretically, overdiagnosis and subsequent overtreatment are important risks involved in mass screening. In practice it is difficult to assess whether overdiagnosis is actually taking place. Screening always leads to a (temporary) increase in the number of women with breast cancer, which is only a desirable effect and should not be confused with overdiagnosis. After termination of the programme one would expect a relative fall in this number.

Inevitably, some women will be detected who would, in the absence of screening, have died from other causes before the cancer had become manifest. However, this percentage is rather small; we predicted an increase in the incidence of at most 3% because of this phenomenon.

Overdiagnosis may also occur if some of the tumours would, in the absence of screening, never have progressed, or only very slowly, to a stage in which symptoms would lead to a clinical diagnosis. This may apply to ductal carcinoma *in situ*. In this analysis all screen-detected cancers are assumed to be progressive.

Breast screening: the facts— or maybe not

Peter Gøtzsche and colleagues argue that women are still not given enough, or correct, information about the harms of screening

10 years

Summary from evidence based leaflet

- It may be reasonable to attend for breast cancer screening with mammography, but it may also be reasonable not to attend because screening has both benefits and harms
- If 2000 women are screened regularly for 10 years, one woman will avoid dying from breast cancer
- At the same time, 10 healthy women will be treated unnecessarily. The breast will be removed, and they will often experience psychological strain
- Furthermore, about 200 healthy women will experience a false alarm. The psychological strain until one knows whether it was cancer, and even afterwards, can be severe

0.5 life saved per 1000 screened women

5 overdiagnosed breast cancer cases per 1000

	EUROSCREEN Working Group (2012)		UK Independent Review, 2012
	Screened	Invited	Invited (RCTs)
Expected BC deaths from 50 to 79 years diagnosed in ages 50- 69	19	19	19
N° lives saved	7-9	5-6	4
Expected BC cases from 50 to 79 years	67	67	67
N° overdiagnosed cases	4	3	13
N° overdiagnosed cases for every life saved	0.4 – 0.6	0.5 – 0.6	3*



Research

Education

News

Comment

Multimedia

Careers



From 1840

Jan

To 2013

Oct

Lives saved by breast screening outnumber cases of overdiagnosis, review says

Screening (epidemiology) Screening (public health) Breast cancer
Screening (oncology) Dentistry and oral medicine More topics General surgery
Health promotion Radiology Surgical diagnostic tests Prevention Fewer topics

PDF

Section PDF

Easy Read

Respond to this article



Related content

Read responses (2)

Rapid Response

Article metrics

Why the results from the EUROSCREEN Working Group are false

11 October 2012

The EUROSCREEN Working Group published a summary paper in a supplement of Journal of Medical Screening on 14 September (1), which received a lot of media attention. I was asked me to post a critique of it on our centre's website.

Peter C Gøtzsche,
Professor
Nordic Cochrane Centre,
Copenhagen, Denmark

Is Mammographic Screening Justifiable Considering Its Substantial Overdiagnosis Rate and Minor Effect on Mortality?

Karsten Juhl Jørgensen, MD
John D. Keen, MD, MBA
Peter C. Gøtzsche, MD

Proponents of mammographic screening generally say that the benefit is large and established beyond doubt, that there is little overdiagnosis, and that screening leads to less invasive treatment (1-3). The truth is that the benefit is doubtful, that overdiagnosis is substantial and certain, and that screening increases the number of mastectomies performed.

Posizione

- I limiti dello screening mammografico esistevano e esistono, non sono una invenzione di G&O. Devono essere quantificati nel migliore modo possibile e capiti.
- Lo screening organizzato di tipo Europeo ha garantito i benefici e contenuti i possibili rischi (in particolare falsi positivi, sovradiagnosi)
- La conoscenza del bilancio Benefici/ Danni è una necessità etica

NHS UK Benefici vs Danni

Weighing up the possible benefits and risks of breast screening

Breast screening
could save my life
from breast cancer

Breast screening
could mean that I am
diagnosed and treated
for a cancer that would
never have become
life-threatening



Informazioni per la scelta	Come eravamo (2002)	Come SIAMO (2014)	The fact (2014)
Riduzione della mortalità	Sì (23,4%)	Sì (27,8%)	Sì
Proporzione di donne richiamate al II livello	No	Sì (16,7%)	Sì
Falsi positivi	No	Sì (6,9%)	Sì
Falsi negativi	No	Sì (54,2%)	Sì
Sovradiagnosi	No	Sì (12,5%)	Sì
Rischio radiazioni	Sì (6,4%)	Sì (84,7%)	Sì
Effetti collaterali	Sì (34,0%)	Sì (84,8%)	Sì



Ministero della Salute

Cerca nel sito **cerca**

Urp | Contatti | PEC | Stampa | App | FAQ | Moduli e Servizi |



SalutExpo

Il Ministero della Salute all'Expo 2015

Notizie, Video, Foto, Opuscoli

salute.gov.it/expo2015

La nostra salute
Temi e professioni
News e media
Ministro e Ministero

Sei in: Home > News e media > Dossier > Screening per la prevenzione dei tumori, la vita è più rosa

Screening per la prevenzione dei tumori, la vita è più rosa

Credits



Multimedia



COUNCIL RECOMMENDATION
of 2 December 2003
on cancer screening
(2003/878/EC)

Scr
bef
the
scree

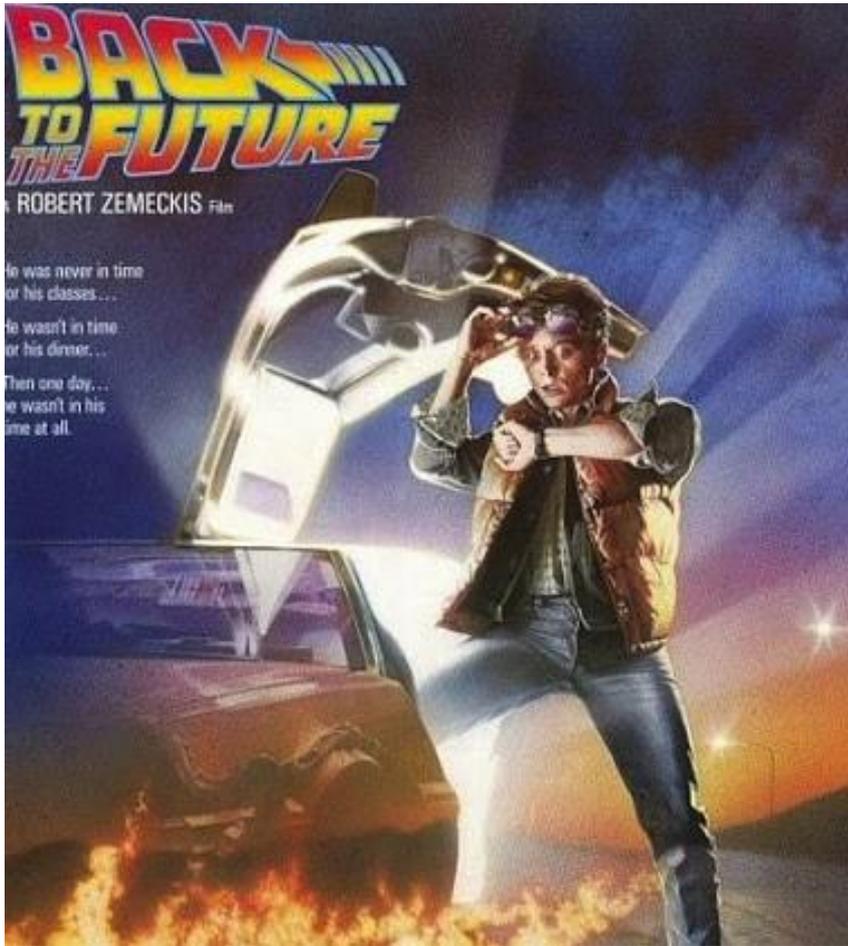
Screening is, however, testing of healthy people for diseases which have so far not given rise to symptoms. Aside from its beneficial effect on the disease specific mortality or incidence, screening might therefore also have some negative side effects for the screened population.

Health care providers should know all the potential benefits and risks of screening for a given cancer site before embarking on new cancer screening programmes. For the informed public of today, it is furthermore necessary to present these benefits and risks in a way which allows the individual citizen to decide on participation in the screening programmes for her or himself.

The purpose of this document is to give recommendations on cancer screening in the European Union. These recommendations address the people, the politicians and the health administrations of the Member States, the European Commission and the European Parliament

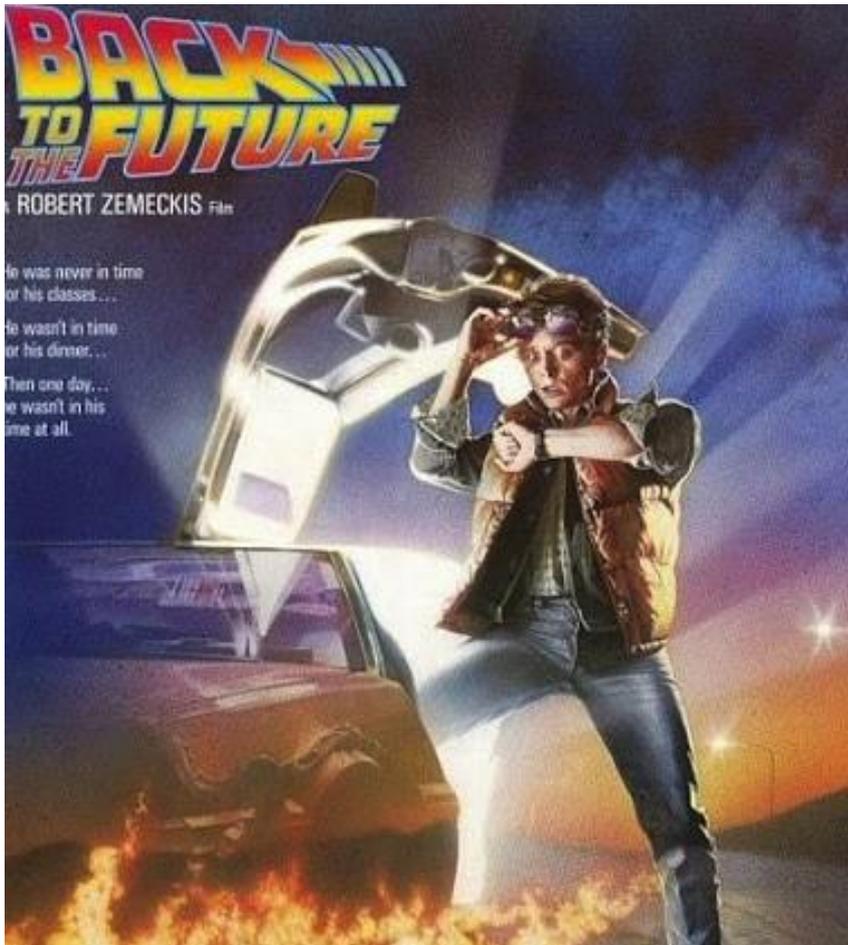


Ritorno indietro?



- Le scelte di 30 anni fa furono : dimostrazione di efficacia, controllo dei danni dello screening, comunicazione
- L'azione svolta per accrescere la comunicazione e le decisioni informate è stata insufficiente

Ritorno indietro? O nuovo approccio?



- Quale comunicazione sulla prevenzione oncologica e gli screening pensiamo necessaria?

