Medicina preventiva

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Prevenzione

- Che prevenire sia meglio che curare è un assunto intuitivo e condiviso dai più – soprattutto da coloro che non sono in buona salute

Materia E Perria C. I modelli di Prevenzione in Calamo-Specchia 2014

- Ruolo nel controllo

IGEA e PANACEA

- Nel suo Manuale critico di sanità pubblica (2015) Calamo-Specchia fa risalire alle mitiche figlie di Esculapio la frattura tra prevenzione e medicina clinica */modello di prevenzione clinica/*
- Gli sviluppi successivi avrebbero di gran lunga privilegiato il ramo della medicina tutelato da Panacea
- E' un fatto che la ripartizione attuale delle risorse sanitarie attribuisce il 95% delle risorse alla diagnosi e cura delle malattie

Chiamiamo prevenzione

- L’insieme delle strutture e delle azioni messe in atto prima che venga la malattia
- per fare in modo che non venga (prevenzione primaria)
- o che non sviluppi appieno le sue potenzialità nocive (prevenzione secondaria o della malattia sintomatica e terziaria o delle complicanze e recidive)
- Prevenzione quaternaria: prevenzione dei danni connessi all’assistenza sanitaria

Prevenzione primaria

- Intervento individuale / collettiva
- Valenza individuale / collettiva
- Selettiva /universale
- Sanitaria / extra-sanitaria
- Socio-economica, ambientale (ambienti di lavoro, occupazionale), comportamentale
- Malattie infettive- cronico degenerative , traumatismi
- Primordiale / Promozione della salute

AIM OF PREVENTION

- The aim of prevention from an epidemiology perspective is to promote good health and prevent disease (Bailey et al 2006)
- Epidemiological studies provide quantitative information to public health professionals and policy makers on the risks posed by certain behaviours and exposures
- This information can be used locally to improve health and reduce disease risks –either by the individual (low salt diet) or policy makers (fluoridation of water)
  - Bailey et al 2006)

- Successful prevention depends upon:
  - Knowledge of causation
  - Dynamics of transmission
  - Identification of risk factors and risk groups
  - Availability of prophylactic or early detection and treatment measures
  - Facilities for these treatment procedures
  - Evaluation and development of these procedures

Letteratura

Letteratura
Indagini ad hoc

Stages of wellness

- Stage 1: Exposure to positive health influences.
- Stage 2: Adoption of positive health practices (such as healthy diet, exercise, recreation, adequate sleep, etc.).
- Stage 3: Increase in indicators of health and wellness due to the healthy practices (such as increased strength and flexibility, immunity, optimal BMI, etc.).
- Stage 4: Achievement of specific defined health and wellness goals, both
  - subjective (e.g., sense of wellbeing and energy, fulfilling social relationships)
  - objective measures (e.g., high cognitive function, productivity, capacity for role fulfillment or achievement)

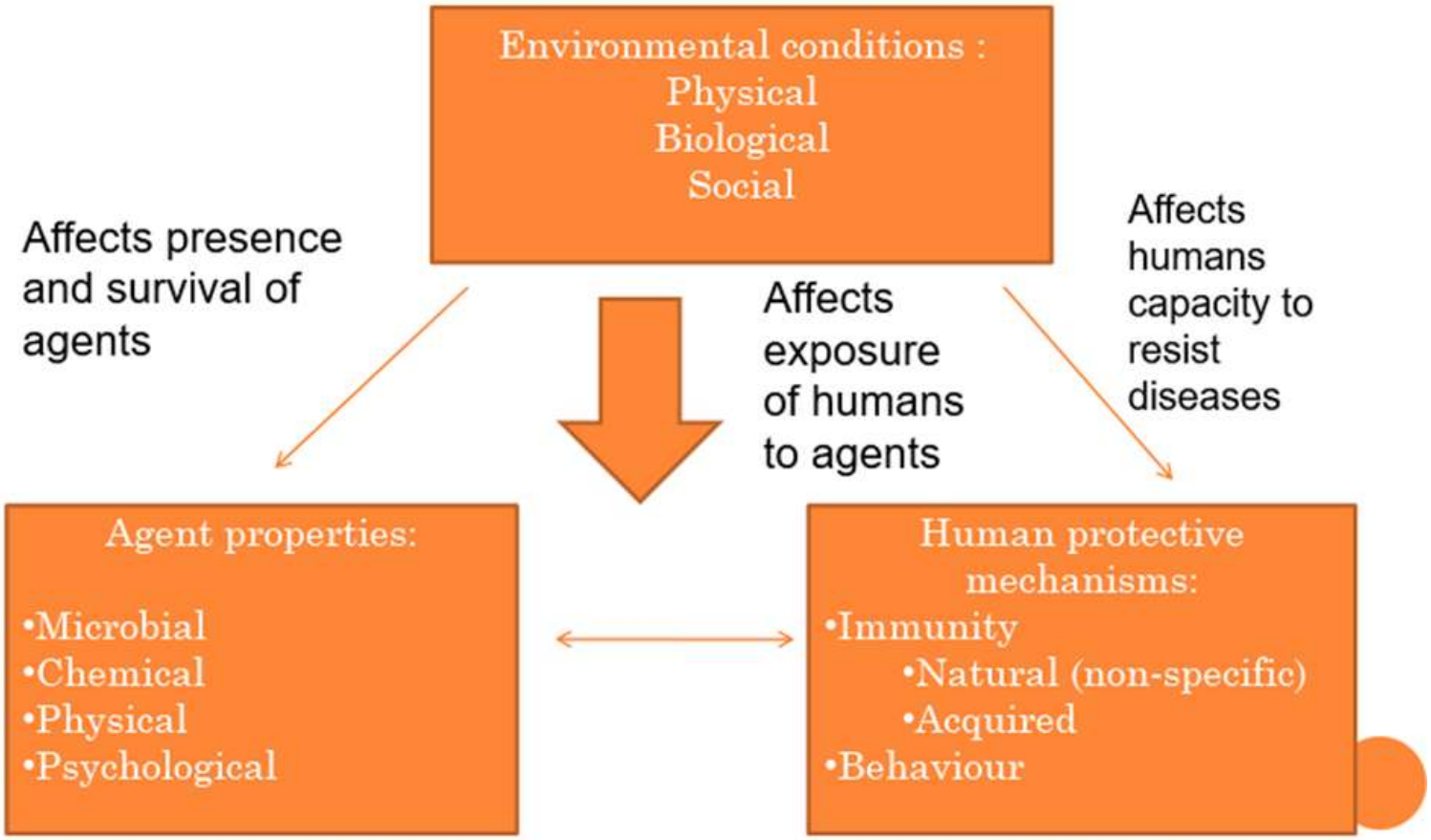
primary prevention . . .

- Achievements of primary prevention:
  - Controlling diseases like cholera, typhoid, dysentry, plague, tuberculosis, by raising standard of living
- Holistic approach
- Modes of intervention:
  - Health promotion
  - Specific protection

Health promotion

- Process of enabling people to increase control over and to improve health
- Not directed against any particular disease
- Interventions in this area:
  - Health education
  - Environmental modifications
  - Nutritional interventions
  - Lifestyle and behavioural changes

Interaction of host, agent & environment causing disease



Prevention strategies related to the environment

- Attention to general environmental factors
  - Standards of housing
  - Nutrition
  - Working conditions
  - Water and Sewerage
  - Control of environmental pollution
- Environmental measures can also be directed at specific causes of individual diseases
  - Hygienic food production methods
  - Barriers to limit spread of malaria by mosquito control
  - Use of specific machine guards in industry

Specific protection

- Efforts directed toward protection against specific diseases

- Interventions
  - Immunization
  - Use of specific nutrients
  - Chemoprophylaxis
  - Protection against occupational hazards
  - Protection against accidents
  - Protection from carcinogens
  - Avoidance of allergens etc.

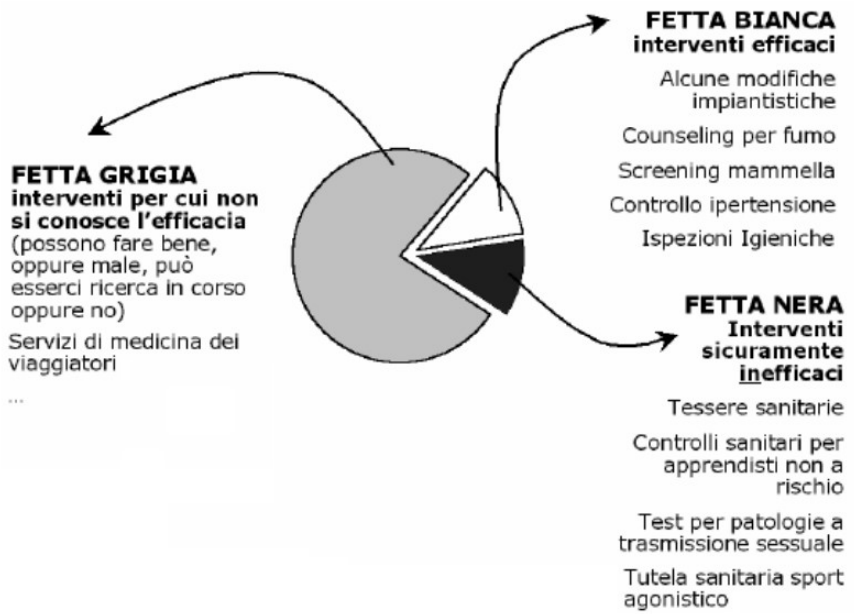
Per patologia

Stages		Disease I	Disease II	Disease III
		Type 2 Diabetes	HIV	Dental caries
1	Exposure Avoidance:	Healthy eating, limit simple carbohydrates, maintain healthy weght, exercise	Abstinence from sex (or screening and monogamy of seronegative partners), no injection drug use	Avoidance of sticky fermentable carbohydrate diet
2	Disease Acquisition Reduction:	Weight loss, consider metformin if insulin resistance/pre-diabetes	Condom promotion and programs to discourage drug abuse, needle sharing	Sealing of pit and fissure, use of fluorides and plaque control
3	Interruption or Delay of Disease Advancement:	Anti-diabetic drugs, monitor hgb A-1C, FBS, proteinuria, lipids; bariatric surgery if indicated	Antibody screening, monitoring CD4, viral load; treatment with antiretrovirals	Preventive resin restorations, conservative restorations, ART
4	Avoidance or Delay of Disease Complications:	ACE Inhibitor/ARB to prevent renal sequelae, strict glucose control (insulin if necessary), lipid control, foot and eye care	Prophylactic treatment for opportunistic infections	Indirect pulp capping, deep caries restorations
5	Delay of Mortality from Disease complications	Renal Dialysis, coronary stent or bypass	Intensive treatment for severe opportunistic infections	Root canal treatment and prosthetic rehabilitation

Cassetta degli attrezzi

- Vaccino
- Consiglio del medico
- Contenuto di sale nei pasti della ristorazione collettiva
- Regolamentazione delle emissioni
- Irreggimentazione e sanificazione delle acque destinate al consumo umano e di scarico
- …

La torta dell'Efficacia in Prevenzione



Esempi da interventi locali

Baldasseroni A et al. 2009

Evidence-based medicine

- use of quantitative estimates of efficacy, including confidence intervals,
- reference to randomized controlled trials as the "gold standard of medical evidence – at least as far as efficacy is concerned - the conduction of systematic reviews of evidence, usually based on metaanalyses (eg, the Cochrane Library),
- the use of scores to assess the qualitative level of the studies, the search for publication bias (use of funnel plots and similar approaches and other sources of bias, and systematic and rational approaches to the transfer of research into practice (evidence-based guidelines)
- evidence-based medicine does not advocate randomized controlled trials for all questions, but it rather values different types of proof according to their own merits

- Vineis P. Evidence-based primary prevention? Scand J Work Environ Health 2000;26:443-448

Evidence-based primary prevention

- the evaluation of evidence on cause-effect relationships (eg, the protective effect of fruits on carcinogenesis) [often lower-level evidence, such as case-referent and cohort studies] and the other referring to the
- efficacy and effectiveness of preventive activities (eg, the different ways in which the consumption of fruit can be modified in living populations) [Randomized-controlled trials sometimes available; however, they are often based on cluster randomization and therefore may be difficult to interpret, are strongly influenced by (cultural) contexts and therefore may give conflicting result]
- The effectiveness of health education and similar preventive tools depends strongly on many aspects of the context, for example, the organization of health services and communities, the cultural background (eg, degree of understanding of and tolerance to risk), and economic and ethical aspect.

To read the *JAMA* Viewpoint "Evidence-based clinical prevention in the era of the Patient Protection and Affordable Care Act: the role of the U.S. Preventive Services Task Force," click here.

Announcements

- Public Comment on Three Draft Research Plans: HIV Screening and Prevention *2/23/2017*
- Final Recommendation Statement: Screening for Obstructive Sleep Apnea in Adults *1/24/2017*
- Free CME for Learning About USPSTF Recommendation on Interventions to Support Breastfeeding *1/13/2017*

Read all News and Announcements »

Opportunity for Public Comment

In an effort to make the U.S. Preventive Services Task Force (USPSTF) recommendations clearer and its processes more transparent, the Task Force started posting draft Recommendation Statements online for public comment in 2010. To further enhance its work, the Task Force began inviting public comment on all its draft Research Plans in December 2011 and its draft Evidence Reviews in March 2013.

To learn more about and comment on USPSTF draft Research Plans, Evidence Reviews, or Recommendation Statements, click the links below.

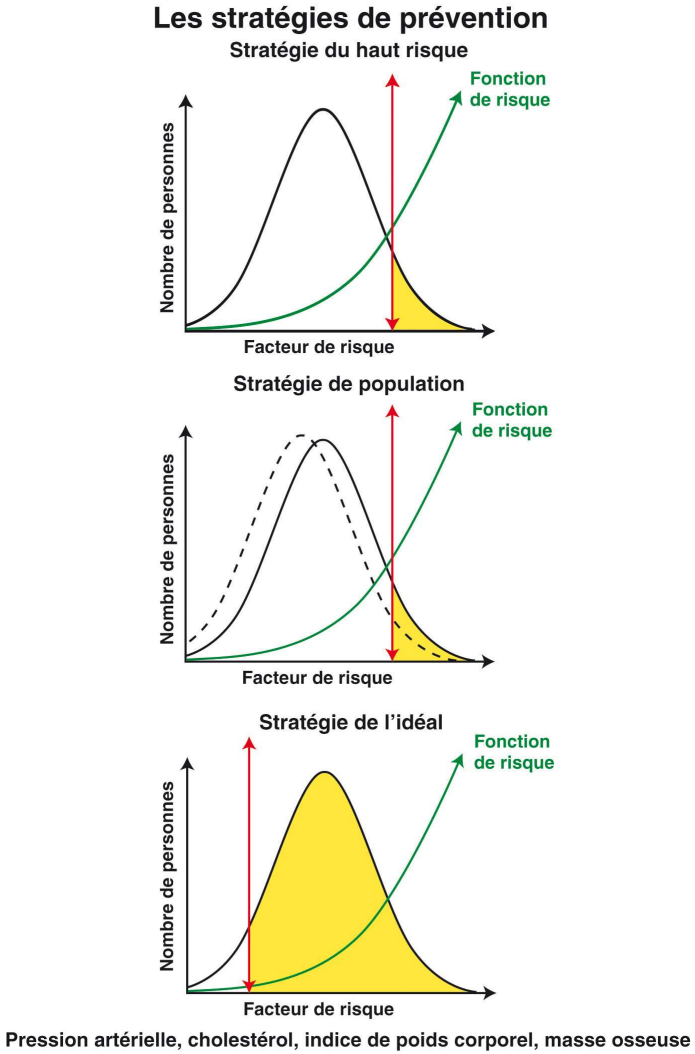
- Draft Research Plan
  Draft Research Plan for Prevention of Human Immunodeficiency Virus (HIV) Infection: Pre-Exposure Prophylaxis
  Comment period ends 3/22/2017 8:00 PM EST
- Draft Research Plan
  Draft Research Plan for Human Immunodeficiency Virus (HIV) Infection in Nonpregnant Adolescents and Adults: Screening
  Comment period ends 3/22/2017 8:00 PM EST
- Draft Research Plan

Get Tools and Resources for Your Primary Care Practice

The work of the USPSTF has helped establish the importance of including preventive services in primary care.

There are many tools and resources available to help you implement USPSTF recommendations in your practice.

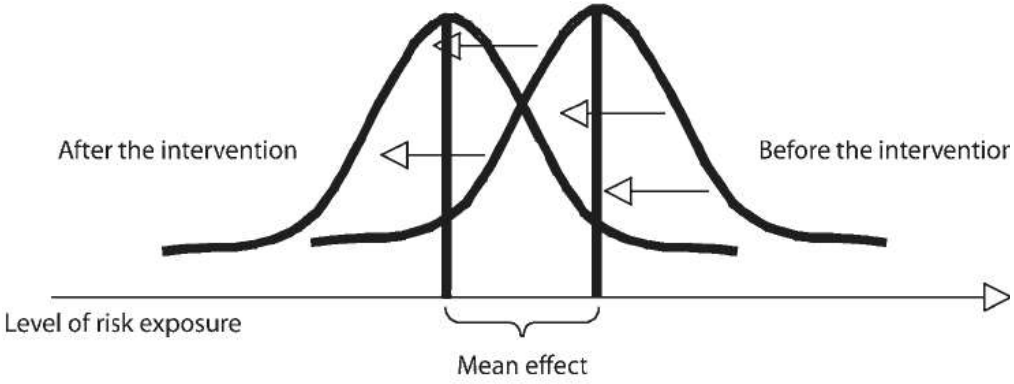
See all information for health care professionals »



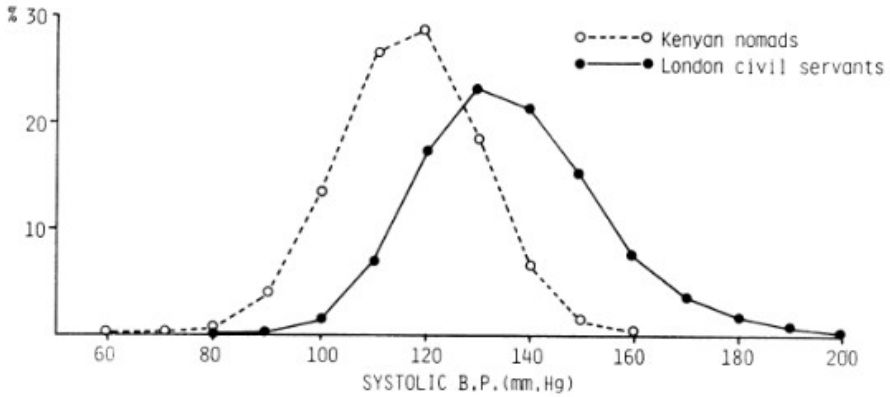
Le strategie della medicina preventiva

- Rose G. Sick individuals and sick populations. *Int J Epidemiol*. 2001;30:427-32; discussion 433-4.

Approccio di popolazione



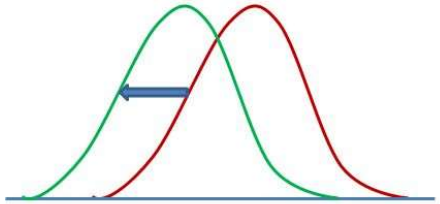
Note. Arrows indicate where the lines of the distribution would be after a population-level approach.



Rose G 2001

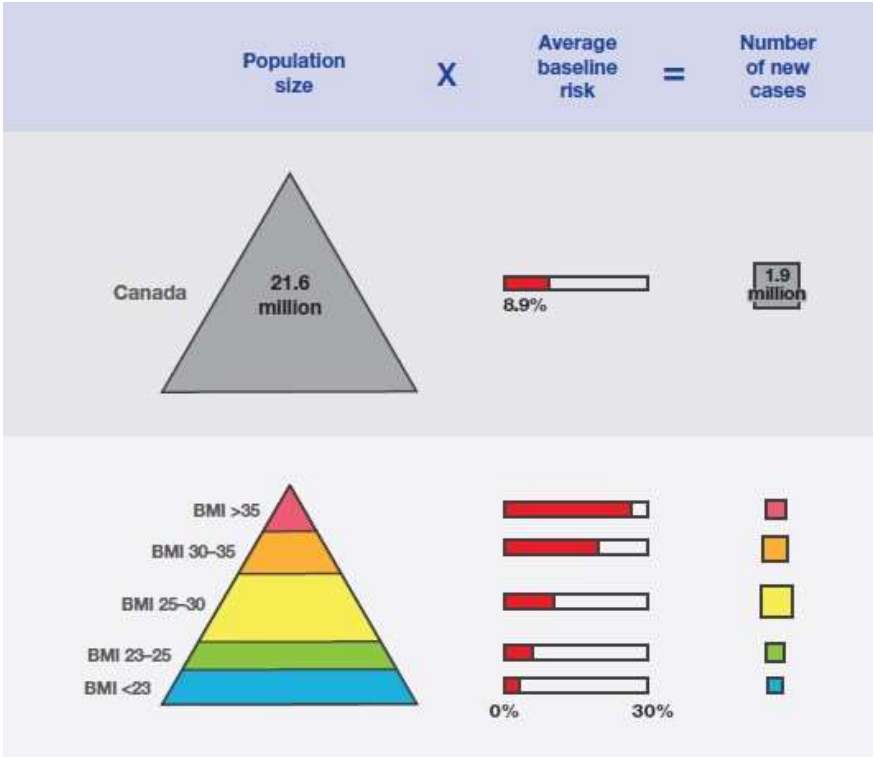
Strategies for Prevention:

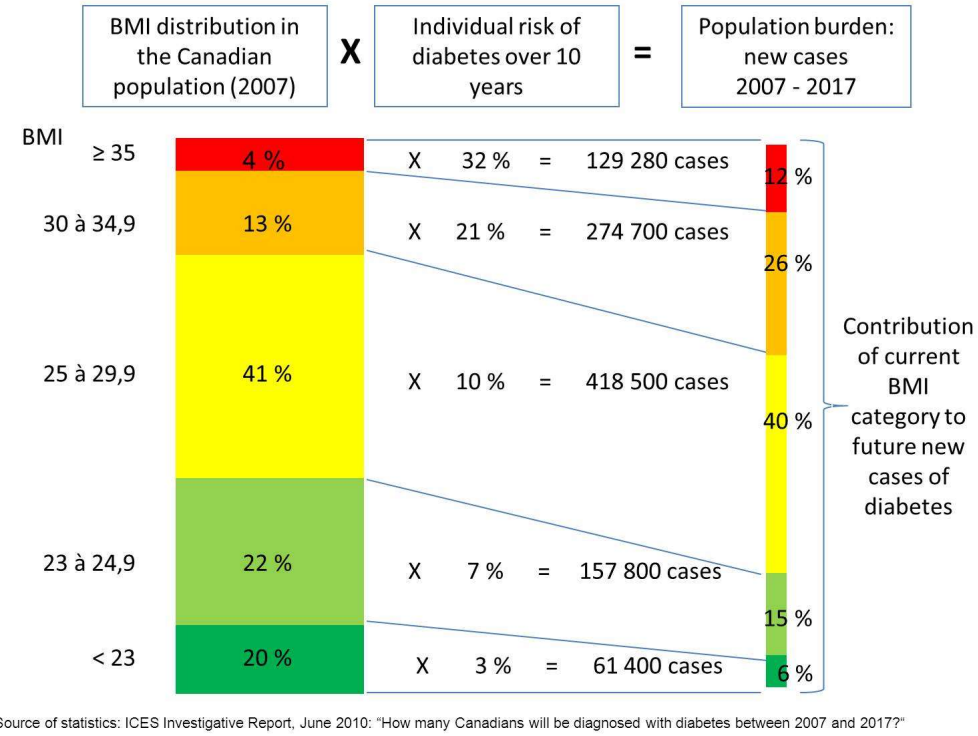
Population Approach



- Attempts to shift distribution of risk factor in the whole population
- Tackles root of the problem
- Avoids prejudice for high risk people
- Shades into health promotion
- In theory it benefits most people
- Ethical dilemma: not all who change will benefit

Quali canadesi sviluppano il diabete?





Source of statistics: ICES Investigative Report, June 2010: "How many Canadians will be diagnosed with diabetes between 2007 and 2017?"

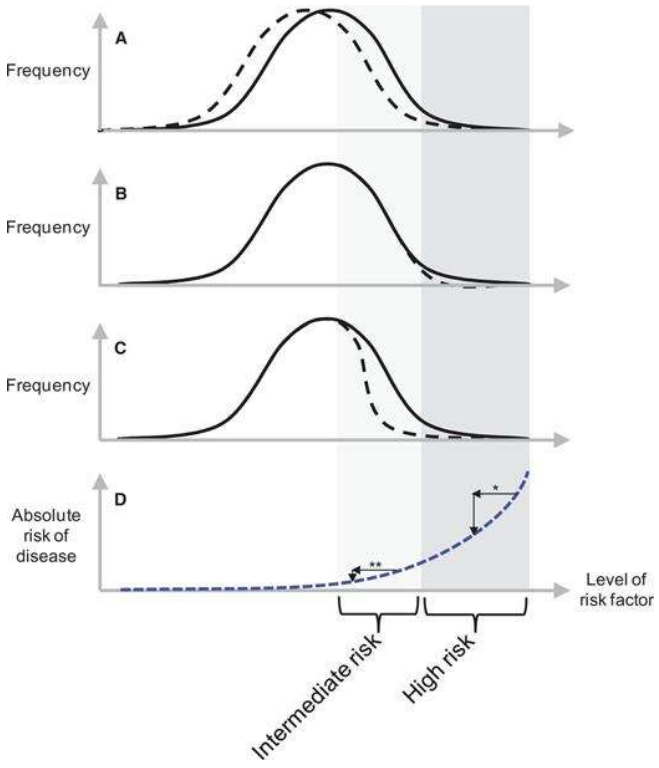
The ‘High-Risk’ Strategy

- This is the traditional and natural medical approach to prevention. If a doctor accepts that he is responsible for an individual who is sick today, then it is a short step to accept responsibility also for the individual who may well be sick tomorrow.
- Thus **screening** is used to detect certain individuals who hitherto thought they were well but who must now understand that they are in effect patients.
- This is the process, for example, in the detection and treatment of symptomless hypertension, the transition from healthy subject to patient being ratified by the giving and receiving of tablets.
- (Anyone who takes medicines is by definition a patient.)

The Population Strategy

- This is the attempt to control the determinants of incidence, to lower the mean level of risk factors, to shift the whole distribution of exposure in a favourable direction
- In its traditional 'public health' form it has involved mass environmental control methods; in its modern form it is attempting (less successfully) to alter some of society's norms of behaviour

Varianti

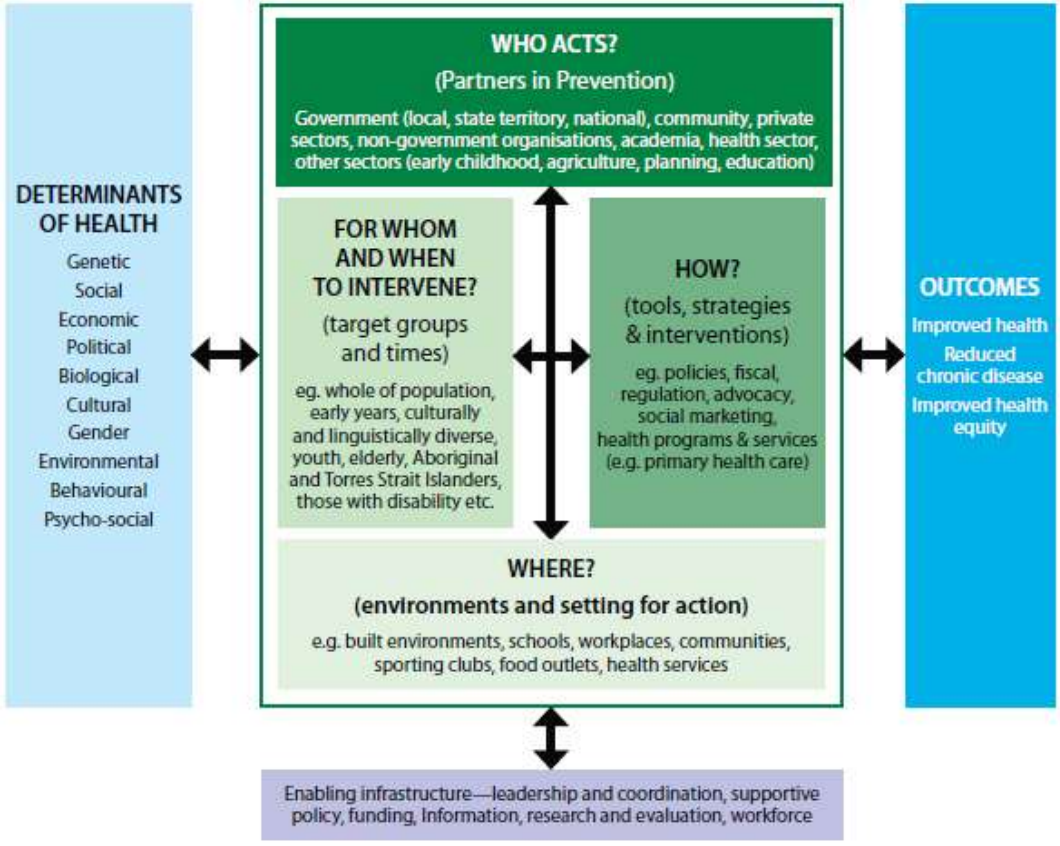


- A) Population-based prevention strategies aim at shifting the whole distribution of risk factors toward lower values;
- B) High-risk prevention strategies aim at treating the individuals at the highest risk in the population;
- C) Pseudo-high-risk strategies aim at treating the individuals at intermediate and high risk in the population;
- D) The line shows the log-linear relationship often observed between a risk factor and the absolute risk of the disease. A change in the level of risk factor for individuals within the high-risk range (*) is associated with a substantial change in the absolute risk of disease. By contrast, a similar change in the level of risk factor for individuals within the intermediate-risk range (**) is associated with a small change in the absolute risk of disease.

Stile di vita e azioni individuali

- «Peraltro nelle nostre società a impronta individualistica è molto forte la tendenza verso approcci individuali di prevenzione e di promozione della salute, quali strategie personali per perdere peso, fare esercizio fisico e scegliere diete salutari»

Materia E, Perria C I modelli di prevenzione in Calamo Specchia 2015



Balancing collective and individual responses

- A comprehensive strategy should include an appropriate **balance of actions** to prevent disease acting **at the individual and the collective and the local and the global levels**. All are important;
- there will always be a need for **individual-level interventions**, **especially for those at high risk** or with established disease, while there are some determinants of disease, such as air pollution and inadequate water supply that can only be tackled by collective action.
- However, interventions at the population level often achieve much greater benefits at lower cost. Similarly, policies must be tailored to local contexts while tackling shared regional or global threats.
- The need for balance between the individual and the collective can be illustrated with tobacco-attributable disease [10].

McKee M et al. Towards a comprehensive global approach to prevention and control of NCDs. Global Health. 2014;10:74.

Vision PNP

- 1.2.1 Vision nel campo della promozione della salute umana e della prevenzione
- Questo Piano intende rispondere a una vision i cui elementi sono:
- affermare il **ruolo cruciale della promozione della salute e della prevenzione come fattori di sviluppo della società e di sostenibilità del welfare** in particolare alla luce delle dinamiche demografiche che la caratterizzano;
- adottare un approccio di sanità pubblica che garantisca **equità e contrasto alle diseguaglianze**;
- esprimere la visione culturale nei valori, obiettivi e metodi della sanità pubblica (maturata anche attraverso le esperienze dei due precedenti PNP) di una "prevenzione, promozione e tutela della salute" che pone le popolazioni e gli individui al centro degli interventi con la finalità di conseguire il più elevato livello di salute raggiungibile;
- **basare gli interventi di prevenzione, promozione e tutela della salute sulle migliori evidenze di efficacia**, implementati in modo equo e che siano programmati per ridurre le diseguaglianze;
- accettare e gestire **la sfida della costo-efficacia degli interventi, dell'innovazione, della governance**;
- perseguire per i professionisti, la popolazione e gli individui lo sviluppo di competenze per un uso appropriato e responsabile delle risorse disponibili.

Macro obiettivi

- **Rafforzare e confermare il patrimonio comune di pratiche preventive**.
- Si tratta di investire in un patrimonio culturale di grande rilevanza sociale e che nel corso degli anni, anche in relazione agli atti di pianificazione nazionale e ai conseguenti sforzi attuati dalle istituzioni e dai professionisti del sistema sanitario, ha portato il nostro Paese a considerare come bene comune la pratica di interventi preventivi quali
- quelli a salvaguardia della salute dei lavoratori,
- quelli relativi alla prevenzione oncologica e
- alle vaccinazioni

- Ridurre il carico di malattia. Come è evidente anche dai motivi delle scelte in tale senso fatte a livello dell'OMS, si tratta di **sollevare il nostro sistema paese da un carico prevenibile di eventi morbosi e mortali**, rafforzando il contributo da parte del servizio sanitario al sistema di welfare e rendendo questo più sostenibile, anche in relazione agli andamenti demografici tipici del nostro Paese.
- Ciò è particolarmente proprio dell'obiettivo sulla riduzione della mortalità prematura da malattie croniche non trasmissibili. Ma sono valorizzabili in tal senso anche gli obiettivi sulla riduzione degli incidenti e delle malattie professionali nonché la Promozione dell'invecchiamento attivo (compresa la prevenzione delle demenze).

Bisogni e domanda di salute locali

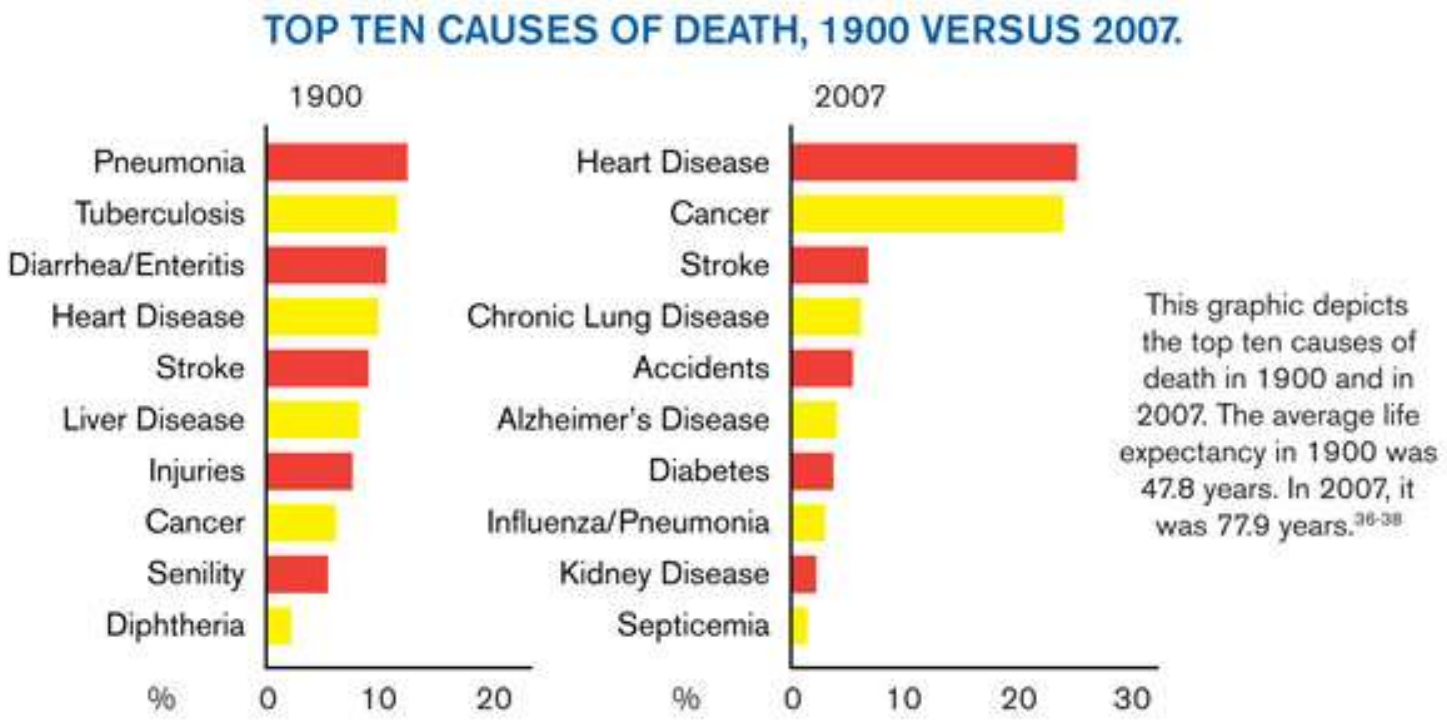
- Sistemi di sorveglianza
  - Informazioni specifiche relative alla comunità
  - Utilizzo di dati relativi a popolazioni diverse
- Rilevanza di informazioni locali
  - Caratteristiche della comunità e/o dell'ambiente
  - Capacità di supporto e adattamento degli interventi
  - Eccessiva variabilità dovuta ai piccoli numeri, ritardo nell'azione

Demand for local evidence on health effects of air pollution

- Arguments for
  - Local exposure or health conditions differ from thosein other settings
  - Need to convince local authorities and the public about the priority of intervention on air pollution
- Arguments against
  - Insufficient power/quality of local studies
  - Time, costs, resources needed for the effort
  - **Delay in coping with the problem**

modificato

Principali cause di morte negli US nel 1900 e nel 2007



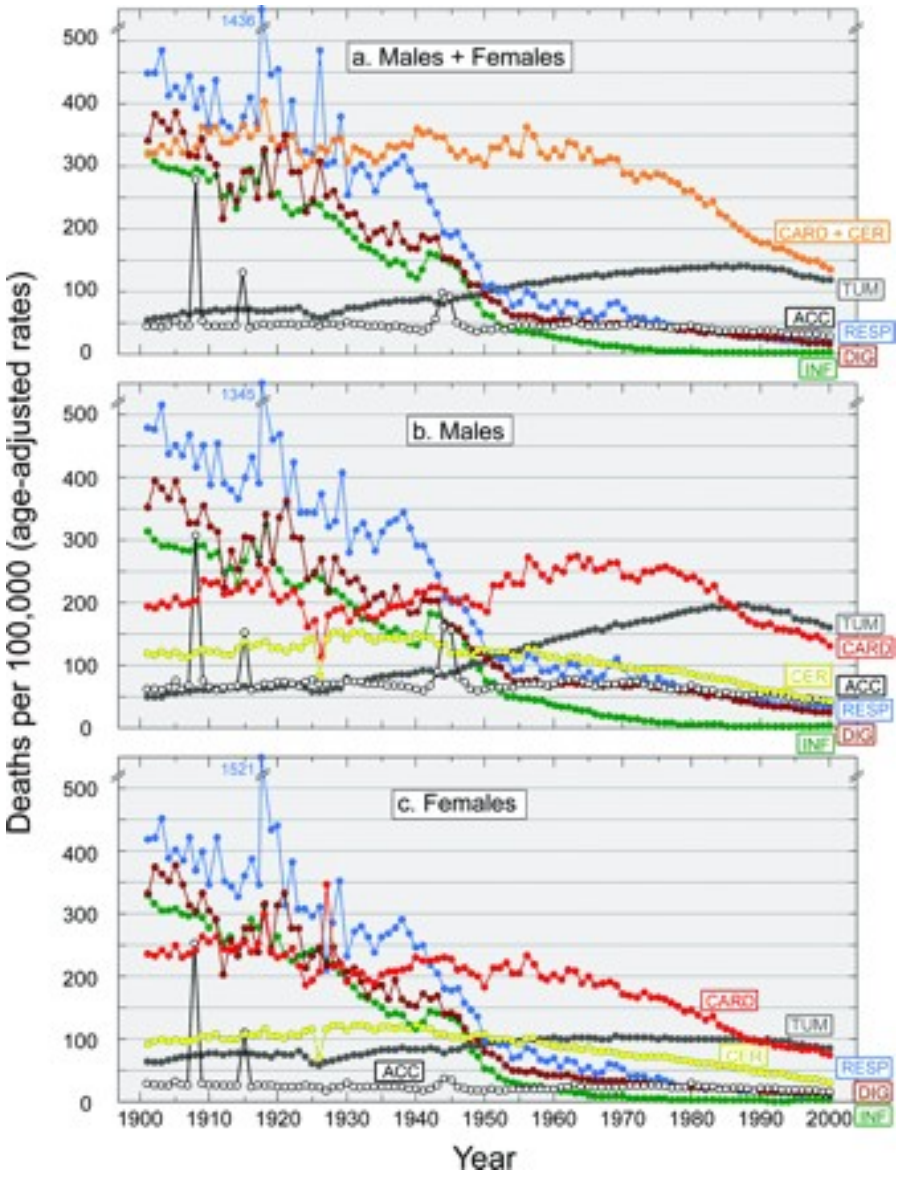


Figure 2. Mortality rates (age-adjusted data) in Italy from 1901 to 2000, year by year, for the main diseases responsible for death in the population. The reported diseases include infectious and parasitic diseases (INF), malignant tumors (TUM), cardiovascular diseases (CARD), cerebrovascular diseases (CER), respiratory diseases, including influenza (RESP), digestive system diseases (DIG), and accidents (ACC). See text for the ICD-10 categories of diseases included in the analysis and for the procedure used for age-adjustment. De Flora S, Quaglia A, Bennicelli C, Vercelli M. The epidemiological revolution of the 20th century. *FASEB J.* 2005;19:892-7.

Controllo delle patologie infettive

- Improved sanitation and living conditions are thought to have been major factors of the reduction in incidence of infectious diseases in the nineteenth and the early twentieth centuries in most industrialised countries
- But the other public health intervention that has had the biggest impact on a global scale has been vaccination

Trasmissione dell'infezione

- La malattia infettiva trasmissibile si mantiene in una popolazione grazie al passaggio da soggetti contagiosi a soggetti suscettibili

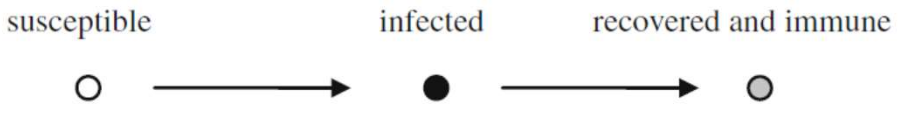


Fig. 12.1 Transition of an individual through different stages of infection

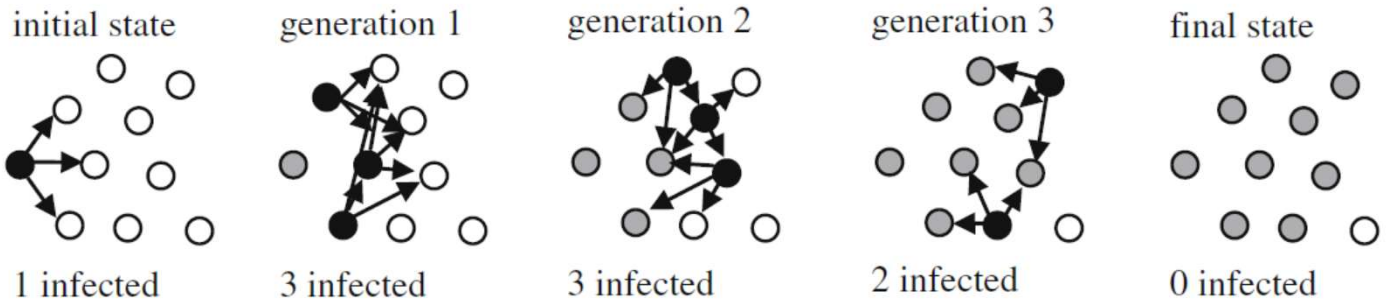


Fig. 12.2 Propagation of infection through a small population

Effective reproduction number (*R*)

Effective reproduction number (*R*): is the average number of secondary cases that result from an infectious case in a particular population

R depends on the level of susceptibility in the population (in contrast to the basic reproduction number R_0). In a completely susceptible population $R=R_0$

- $R = 1$: This is a state of endemic equilibrium in which, on average, one case results in one secondary infection.
- $R > 1$: The number of cases increases from one generation to the next, potentially resulting in an epidemic.
- $R < 1$: The number of cases decreases with each generation; if the decrease is maintained, elimination occurs.

Table 14.1 The impact of the national vaccination programme in the United States. Impact of vaccination programme, United States

Disease	Pre-vaccine era[a]	Year	1998[b]	% change
Diphtheria	206,939	1921	1	−99.99
Measles	894,134	1941	89	−99.99
Mumps	152,209	1968	606	−99.60
Pertussis	265,269	1934	6,279	−97.63
Polio (wild)	21,269	1952	0	−100.00
Rubella	57,686	1969	345	−99.40
Congenital rubella syndrome	20000[c]	(1964–65)	6	−99.98
Tetanus	1560[c]	1948	34	−97.82
Invasive Hib disease	20000[c]	1948	51	−99.75
Total	1,639,066		7,411	−99.55
Vaccine adverse events	0		(10,236)5,522	

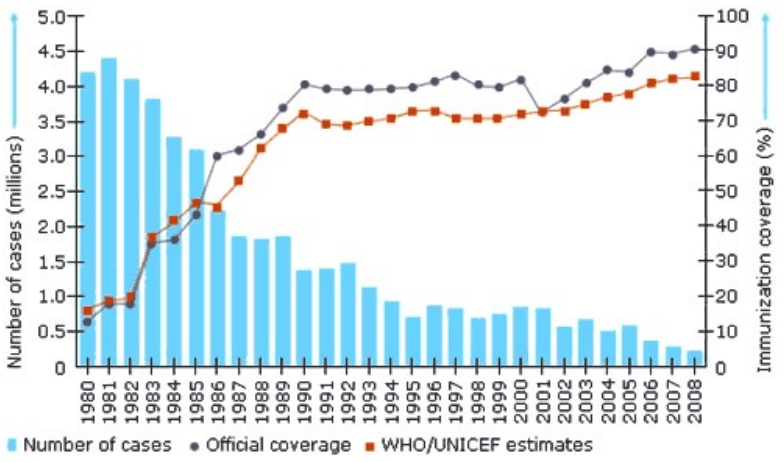
Source: Chen R. Vaccine risks: real, perceived and unknown. Vaccine 1999; 17(3): S41–46

[a]Maximum cases reported in pre-vaccine era and year

Poliomielite

- Poliomyelitis is an acute communicable disease caused by any of 3 poliovirus serotypes (types 1, 2 or 3).
- Polioviruses are spread by faecal-to-oral and oral-to-oral transmission. Where sanitation is poor, faecal-to-oral transmission predominates, whereas oral-to-oral transmission may be more common where standards of sanitation are high. In most settings, mixed patterns of transmission are likely to occur.
- In the pre-vaccine era when poliovirus was the leading cause of permanent disability in children, almost all children became infected by polioviruses, with on average 1 in 200 susceptible individuals developing paralytic poliomyelitis.[2]


The history of polio



Verso l'eradicazione

…drop in the global incidence of poliomyelitis by >99% and the number of countries with endemic polio from 125 to just 2 in 2015 (Afghanistan and Pakistan)

In 1988, when the annual global burden of paralytic poliomyelitis was estimated to be >350 000 cases, with wild poliovirus (WPV) transmission reported in >125 countries

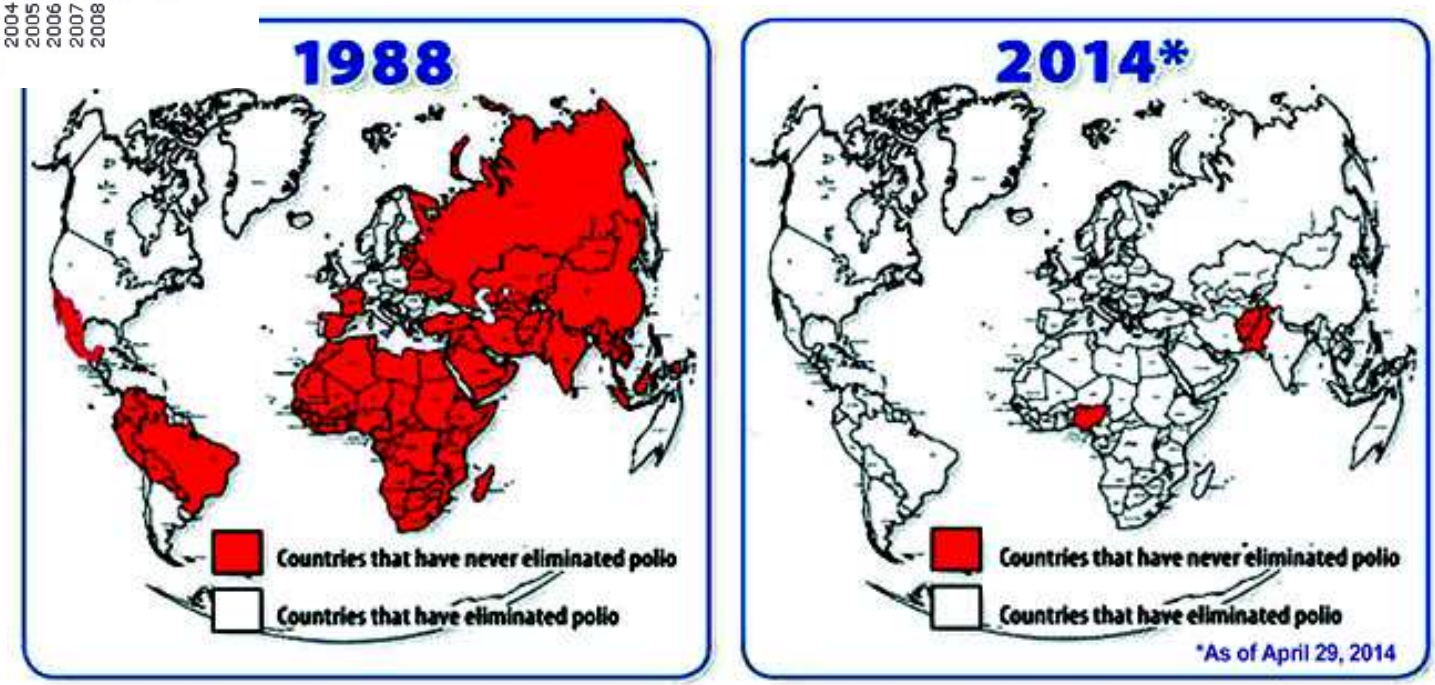


Figure-1: Progress Against Polio Elimination throughout world from 1988-2014.

OPV

- Bivalent oral poliovirus vaccine (bOPV)
- Following April 2016, the trivalent oral poliovirus vaccine was replaced with the bivalent oral poliovirus vaccine (bOPV) in routine immunization around the world.

- Disadvantages
- OPV is extremely safe and effective. However, in extremely rare cases (approx. 1 in every 2.7 million first doses of the vaccine) the live attenuated vaccine-virus in OPV can cause paralysis. In some cases, it is believed that this may be triggered by an immunodeficiency. The extremely low risk of vaccine-associated paralytic poliomyelitis (VAPP) is well accepted by most public health programmes.
- Very rarely, when there is insufficient coverage in a community the vaccine-virus may be able to circulate, mutate and, over the course of 12 to 18 months, reacquire neurovirulence. This is known as a circulating vaccine-derived poliovirus.

VAPP

- The nearly exclusive use of OPV led to elimination of wild-type poliovirus from the United States in less than 20 years.
- However, one case of VAPP occurred for every 2 to 3 million doses of OPV administered, which resulted in 8 to 10 cases of VAPP each year in the United States.
- From 1980 through 1999, VAPP accounted for 95% of all cases of paralytic poliomyelitis reported in the United States.

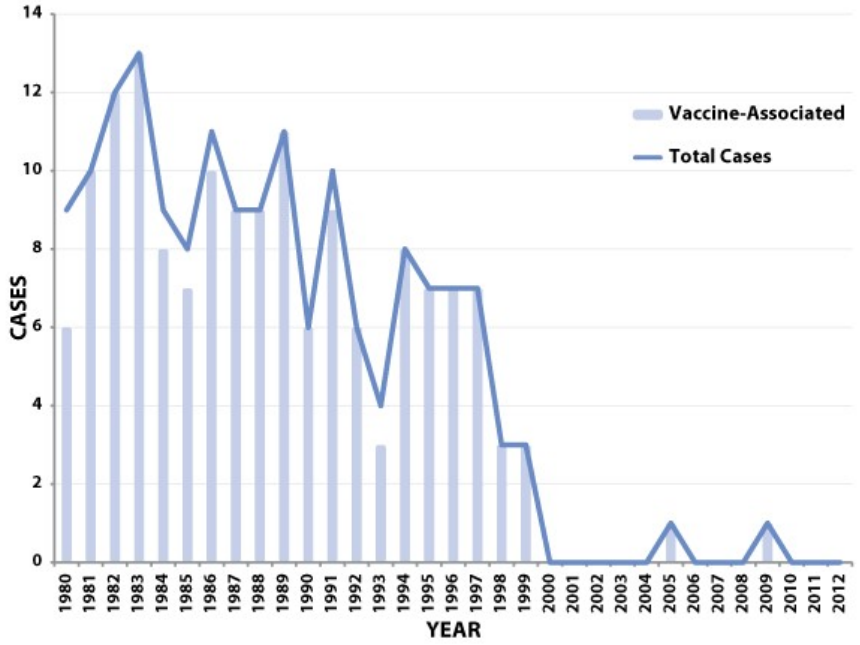
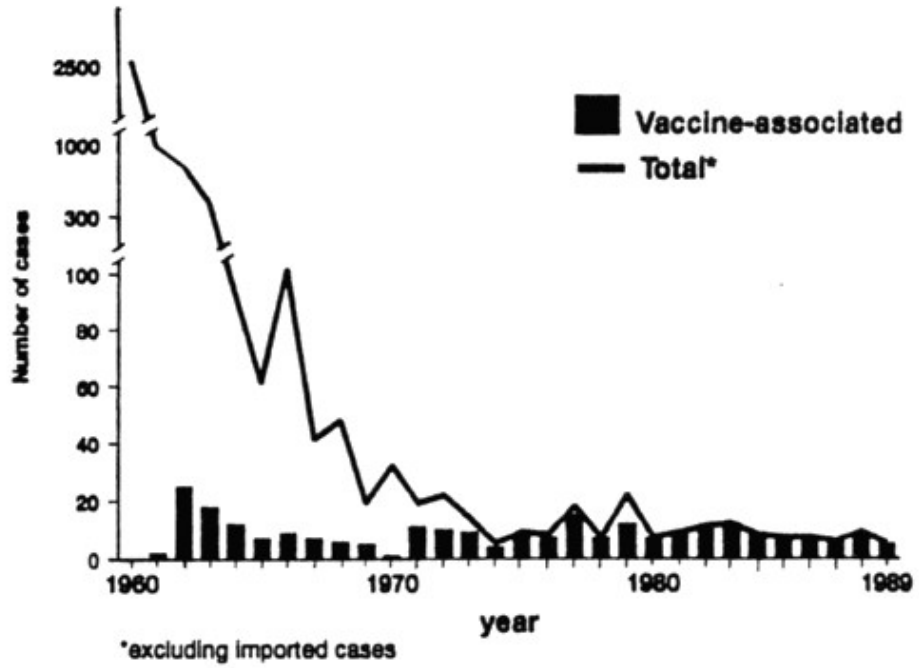


Figure: Total number of reported paralytic poliomyelitis cases (including imported cases) and number of reported vaccine-associated cases—United States, 1980-2012

VAPP in un periodo più lungo



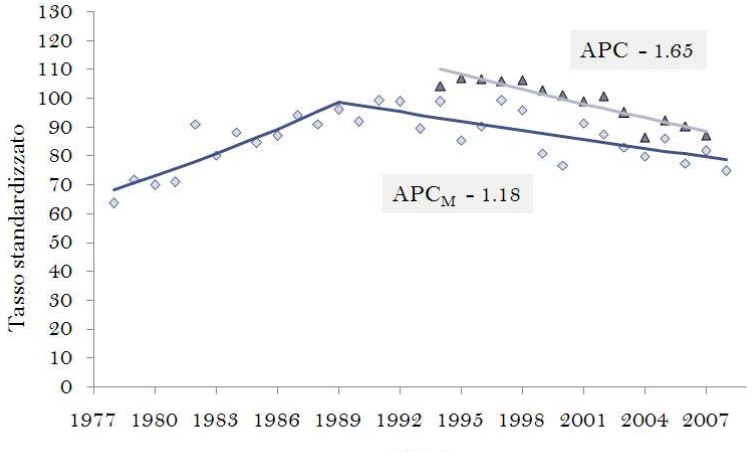
Polio Vaccine Causes Unprecedented Surge In Paralysis Worldwide

http://yournewswire.com/polio-vaccine-causes-unprecedented-surge-in-paralysis-worldwide/

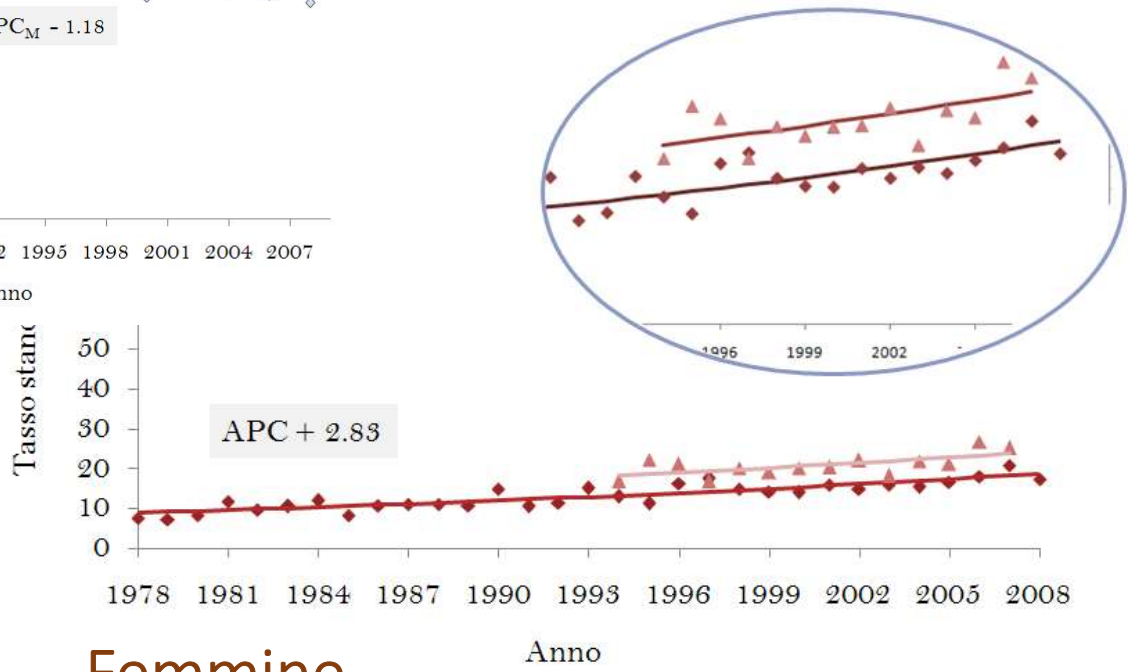
January 18, 2012 Polio Vaccinations Are Now The Number One Cause of Polio Paralysis

http://preventdisease.com/news/12/011812_Polio-Vaccinations-Are-Now-The-Number-One-Cause-of-Polio-Paralysis.shtml

Trend di incidenza e mortalità per cancro del polmone



Maschi

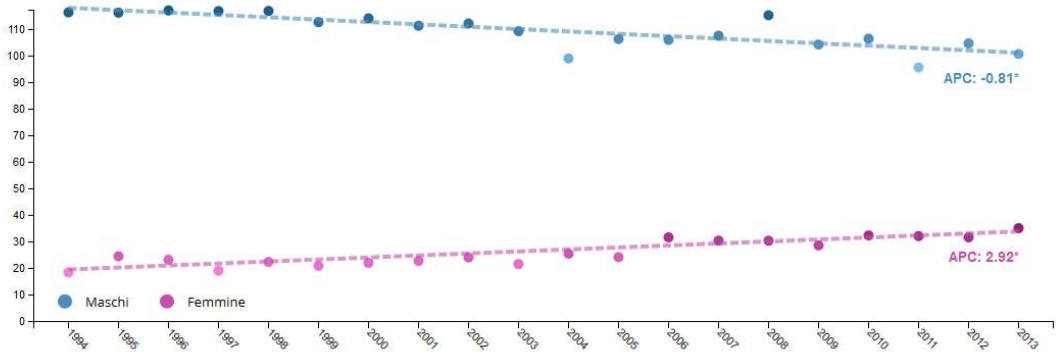


Femmine

Nuovi casi | Decessi

Trend temporale del tasso di incidenza dal 1994 al 2013 - bronchi e polmoni

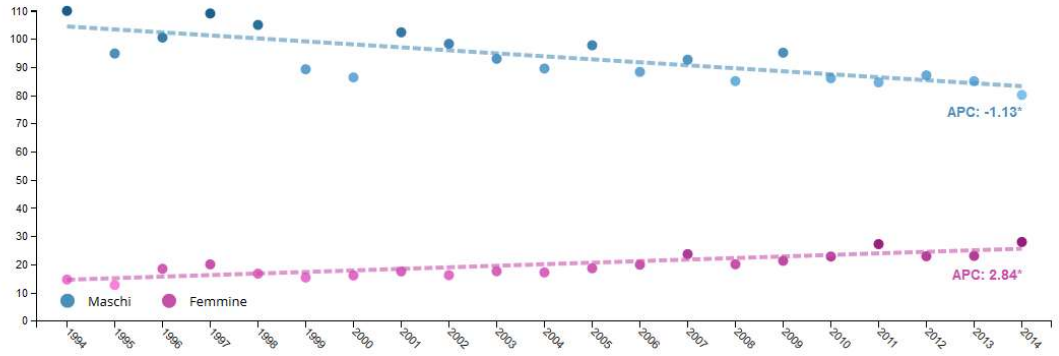
Tasso per 100.000 abitanti - Popolazione standard Italia 2011



Nuovi casi | Decessi

Trend temporale del tasso di mortalità dal 1994 al 2014 - bronchi e polmoni

Tasso per 100.000 abitanti - Popolazione standard Italia 2011



* p<=0,05.

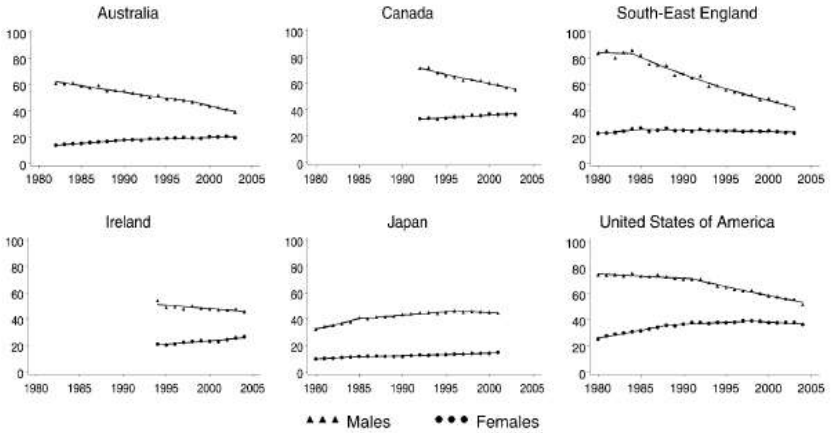
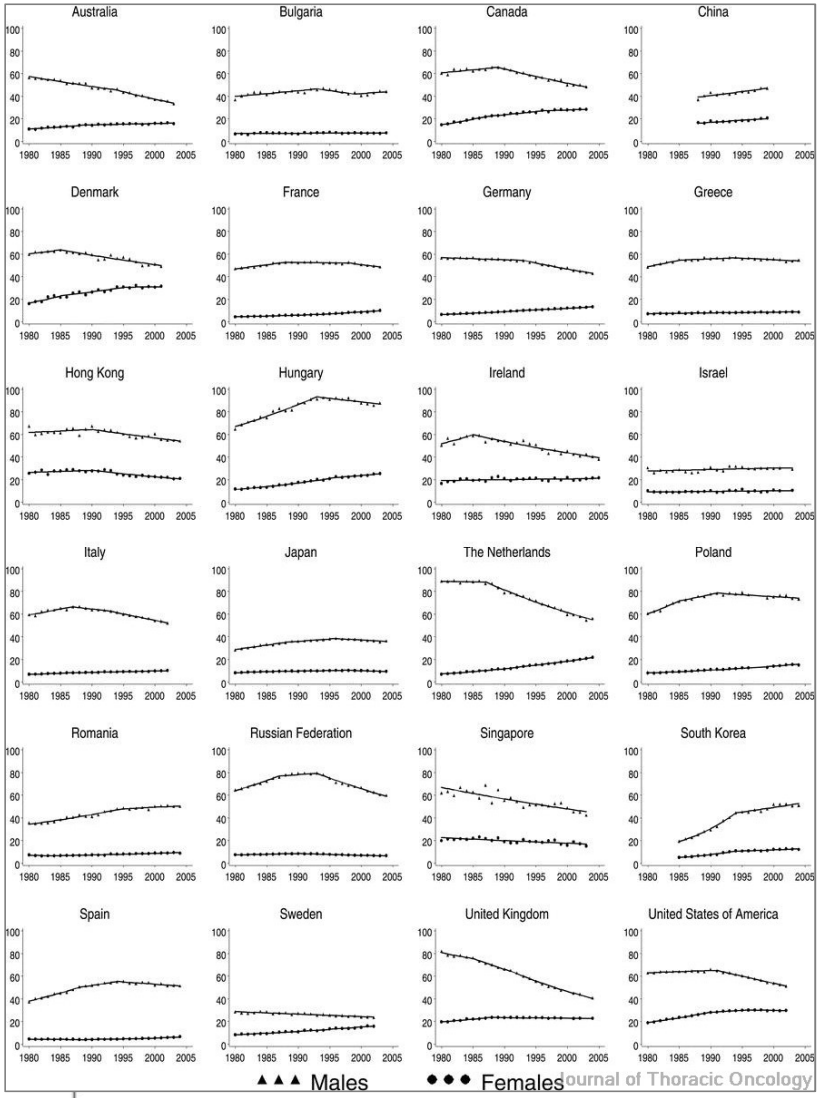


FIGURE 2. Recent trends in lung cancer incidence by sex for selected countries/registry areas, 1980–2004. Data sources: Australian Institute of Health and Welfare (Australia); Public Health Agency of Canada (Canada); Thames Cancer Registry (South-East England); National Cancer Registry of Ireland (Ireland); National Cancer Centre (Japan); National Cancer Institute (USA). Notes: 1. *y* axis represents 'Incidence rate per 100,000 population per year' and *x* axis represents 'Year'. 2. Incidence rates have been age-standardized to the WHO World Standard Population.[25] 3. Trends modeled using Joinpoint software (version 3.0), National Cancer Institute.[43]



Trend di mortalità per cancro del polmone per sesso e nazione

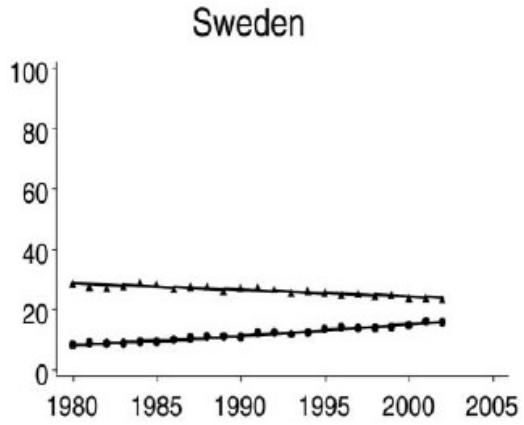
The International Epidemiology of Lung Cancer: Geographical Distribution and Secular Trends

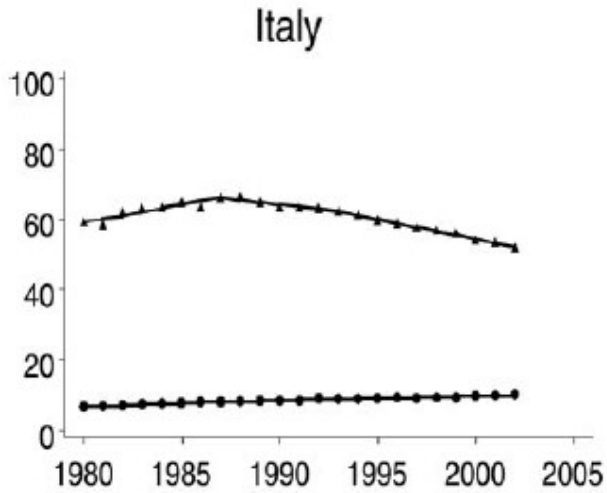
Youlden, Danny R.; Cramb, Susanna M.; Baade, Peter D.

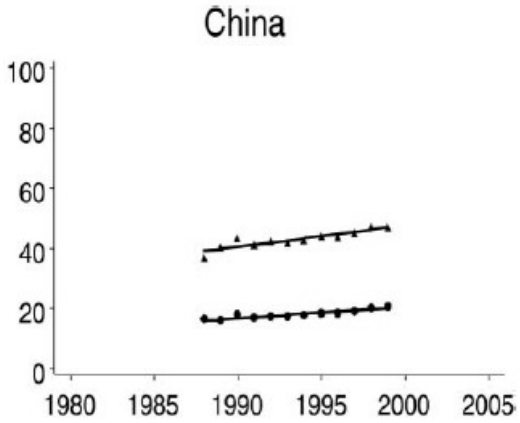
Journal of Thoracic Oncology. 3(8):819-831, August 2008.

doi: 10.1097/JTO.0b013e31818020eb

FIGURE 4. Recent trends in lung cancer mortality by sex for selected countries, 1980-2005 Data source: World Health Organization (WHO).102 Notes: (1) Countries were selected on the basis of having lung cancer mortality data of sufficient quality (at least 80% of all deaths registered, except China, which was based on a sample of less than 10% of all deaths) and quantity (average of at least 300 lung cancer deaths per year for males and 250 deaths per year for females). (2) y axis represents 'Incidence rate per 100,000 population per year' and x axis represents 'Year.' (3) Rates age-standardized to the WHO World Standard Population.25 (4) Trends modeled using Joinpoint software (version 3.0), National Cancer Institute.43

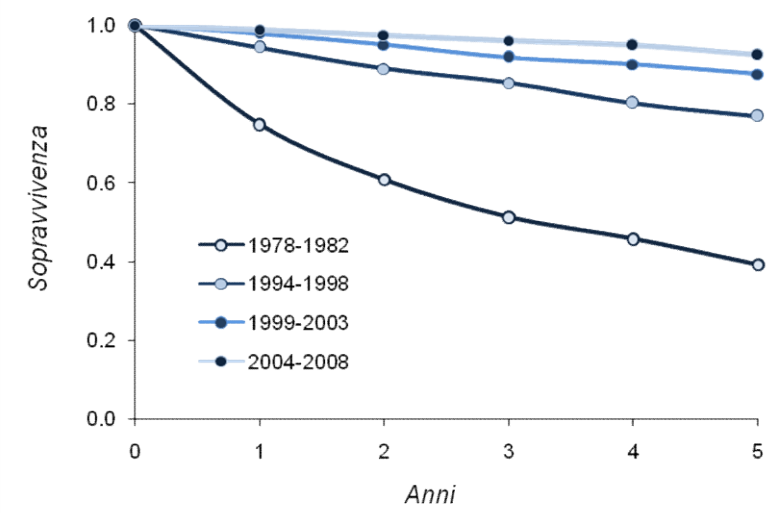






Andamenti della mortalità differenti solo nel sesso maschile

Sopravvivenza complessiva per cancro del polmone e della prostata

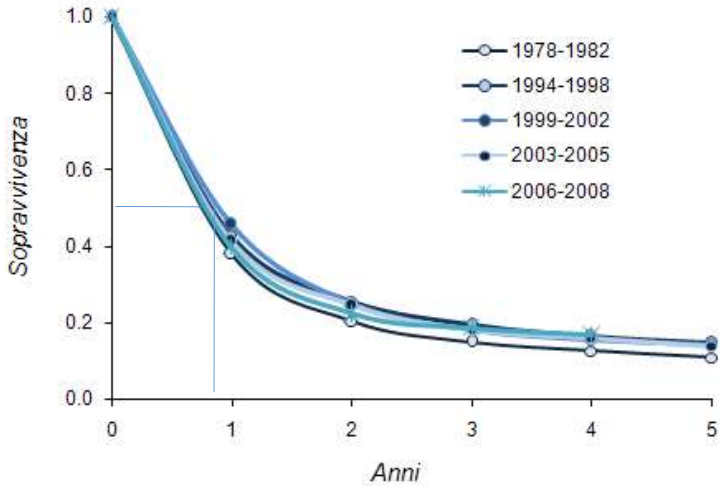


Polmone maschi

Periodo	*sopravvivenza a 5a*
1978-82:	*11%*
1994-98:	15%
1999-02:	14%
2003-05	14%

Prostata

Periodo	*sopravvivenza a 5a*
1978-82:	*39%*
1994-98:	77%
1999-03:	88%
2004-08	92%



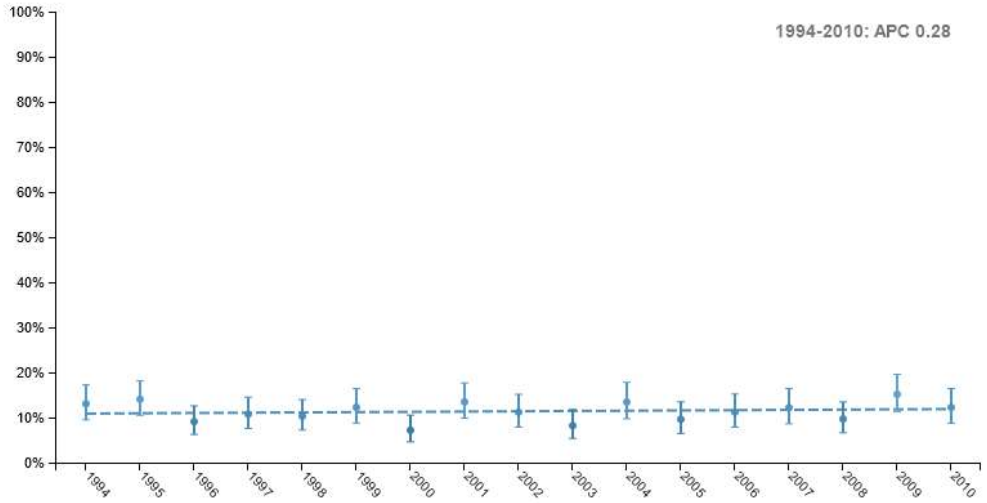
Trend sopravvivenza relativa a 1, 3, 5 anni.

Trend di sopravvivenza con intervalli di confidenza

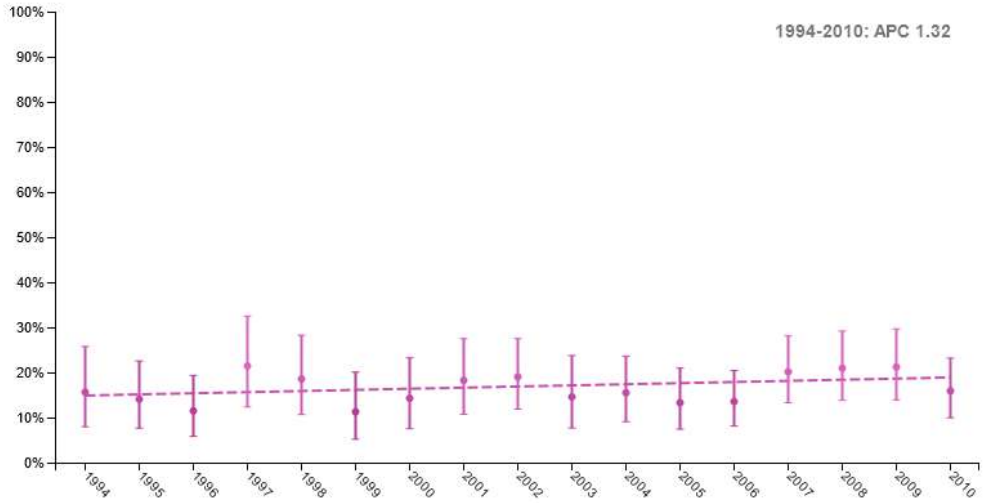
Bronchi e polmoni

Sopravvivenza a 1 anno | Sopravvivenza a 3 anni | Sopravvivenza a 5 anni

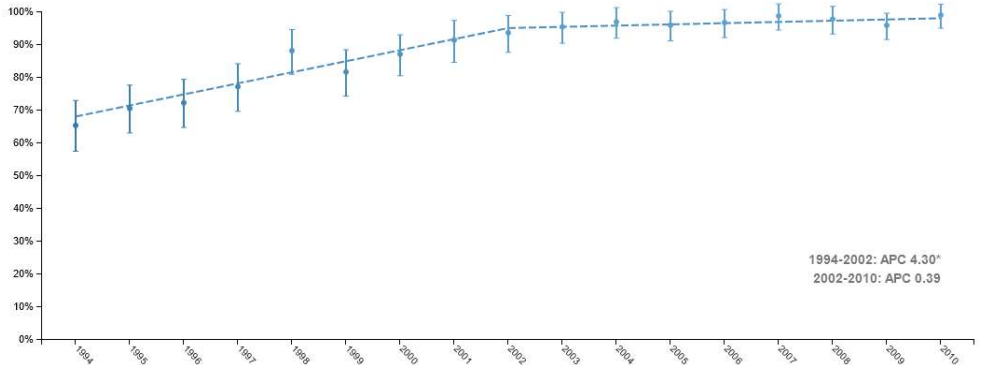
Maschi



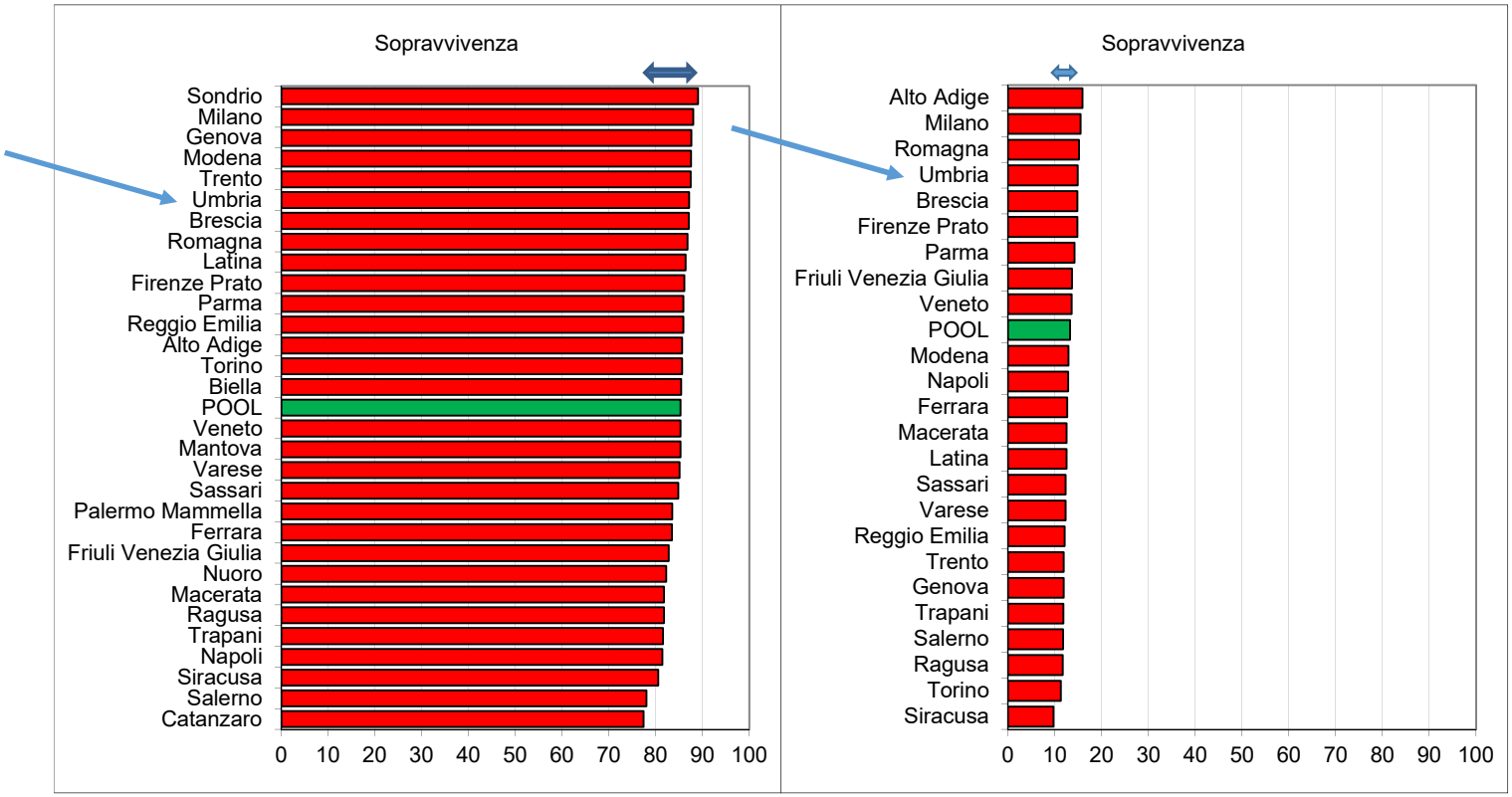
Femmine



Prostata



Sopravvivenza per cancro della mammella (F) e del polmone (M) nei rt italiani (casi 2000-04)



* Dati provvisori – anticipazione prossima monografia AIRTUM

TABLE 3. Lung Cancer 5-yr Relative Survival for Selected Countries

Country	Yr	Method	5-Year Survival (%) (95% Confidence Interval) Male	Female
Australia	1992–1997	Cohort	11.0 (10.6–11.4)	14.0 (13.3–14.7)
Austria	1990–1994	Cohort	13.4 (11.0–16.4)	16.0 (11.9–21.6)
Canada	1997–2002	Period	13.3 (12.6–14.0)	18.5 (17.5–19.4)
Czech Republic	1990–1994	Cohort	6.3 (5.0–7.8)	8.2 (5.1–13.1)
Denmark	1990–1994	Cohort	6.1 (5.5–6.7)	5.9 (5.3–6.6)
England	1990–1994	Cohort	7.4 (7.2–7.6)	7.7 (7.4–8.0)
Estonia	1990–1994	Cohort	6.8 (5.5–8.4)	11.9 (9.0–15.9)
Finland	1990–1994	Cohort	7.8 (7.2–8.6)	10.9 (9.4–12.7)
France	1990–1994	Cohort	13.1 (11.6–14.8)	15.9 (12.2–20.7)
Germany	1990–1994	Cohort	10.8 (9.4–12.5)	10.5 (8.0–13.7)
Iceland	1990–1994	Cohort	8.0 (5.2–12.4)	10.6 (7.0–16.0)
Italy	1990–1994	Cohort	9.8 (9.4–10.2)	10.5 (9.6–11.5)
Japan	1993–1996	Cohort	20.7 (21.1–20.3)	27.6 (28.2–27.0)
Netherlands	1990–1994	Cohort	11.7 (10.9–12.6)	12.4 (10.8–14.2)
New Zealand	1994–2003	Cohort	9.5 (8.8–10.4)	11.1 (10.1–12.1)
Norway	1990–1994	Cohort	8.0 (7.2–8.9)	10.5 (9.2–12.0)
Poland	1990–1994	Cohort	6.1 (5.3–6.9)	6.8 (5.7–8.2)
Scotland	1990–1994	Cohort	7.0 (6.5–7.6)	6.8 (6.2–7.4)
Slovakia	1990–1994	Cohort	6.9 (6.2–7.8)	12.0 (9.9–14.5)
Slovenia	1990–1994	Cohort	8.0 (6.8–9.3)	9.3 (7.2–12.0)
Spain	1990–1994	Cohort	12.4 (11.6–13.2)	12.8 (10.4–15.8)
Sweden	1990–1994	Cohort	8.5 (7.8–9.2)	11.5 (10.4–12.6)
Switzerland	1990–1994	Cohort	9.7 (7.9–11.9)	16.2 (12.5–20.9)
USA	1996–2003	Cohort	13.0 (12.8–13.2)	17.4 (17.0–17.8)
Wales	1990–1994	Cohort	8.0 (7.3–8.7)	7.5 (6.5–8.5)

Data sources: Australia,[61] Canada,[62] Europe,[63] Japan,[64] New Zealand,[65] USA.[66]
Confidence intervals are provided to indicate the precision of the estimate, but are not meant for comparative purposes (see Text Box 3).

[The International Epidemiology of Lung Cancer: Geographical Distribution and Secular Trends]

Youlden, Danny R.; Cramb, Susanna M.; Baade, Peter D.

Journal of Thoracic Oncology. 3(8):819-831, August 2008.

doi: 10.1097/JTO.0b013e31818020eb

Interpreting survival data

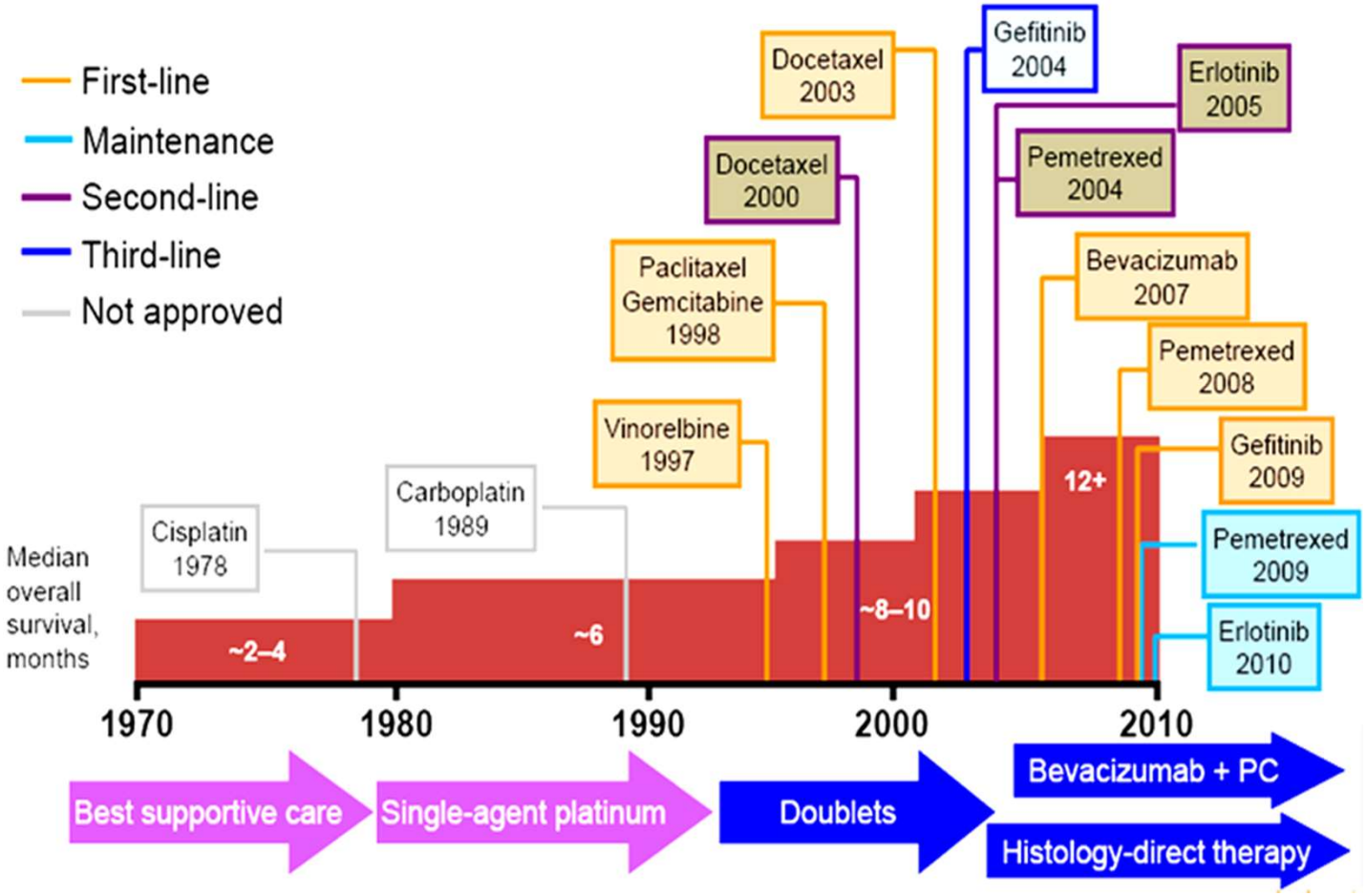
Reported differences in lung cancer survival between countries do not necessarily translate into real differences, but may be due to characteristics of the underlying data…

TABLE 3. Lung Cancer 5-yr Relative Survival for Selected Countries

- Survival for patients with lung cancer has shown only modest, if any, improvement over the last two or three decades…
- …However, it is anticipated that the development of more effective and well-tolerated chemotherapy drugs…

Youlden, Danny R.; Cramb, Susanna M.; Baade, Peter D.The International Epidemiology of Lung Cancer: Geographical Distribution and Secular Trends. Journal of Thoracic Oncology. 3(8):819-831.

Terapia sistemica nel NSCLC



European Medicines Agency

Lotta al tabagismo

- At an individual level, existing smokers can be helped with **individual or group behavioural interventions**.
- Yet the main drivers of both smoking initiation and cessation lie at the **population level**, related to price, availability and marketing. Thus, increases in cigarette prices are effective in reducing smoking, [11] including in low- and middle-income countries [12]. Bans of point-of-sale displays reduce perceived availability [13] and bans on advertising in print media, radio and television serve to de-normalise the act of smoking [14].
- The population-level interventions are either cost neutral or, in the case of tax rises, revenue raising, while individual approaches always incur costs associated with their delivery.

McKee M et al. Towards a comprehensive global approach to prevention and control of NCDs. Global Health. 2014;10:74

La valutazione degli interventi

La situazione in Italia

- A survey of prevention interventions carried out during 2008 showed
  - ***1501 different interventions carried out against the 4 risk factors*** of ***Gaining Health*** (Tobacco, alcohol, diet and physical activity)
  - Around 14 were evaluated by observational studies,
  - 1 was evaluated by a RCT
  - ***1486 didn't have any evaluation!***

Faggiano 2010

DORS 2010

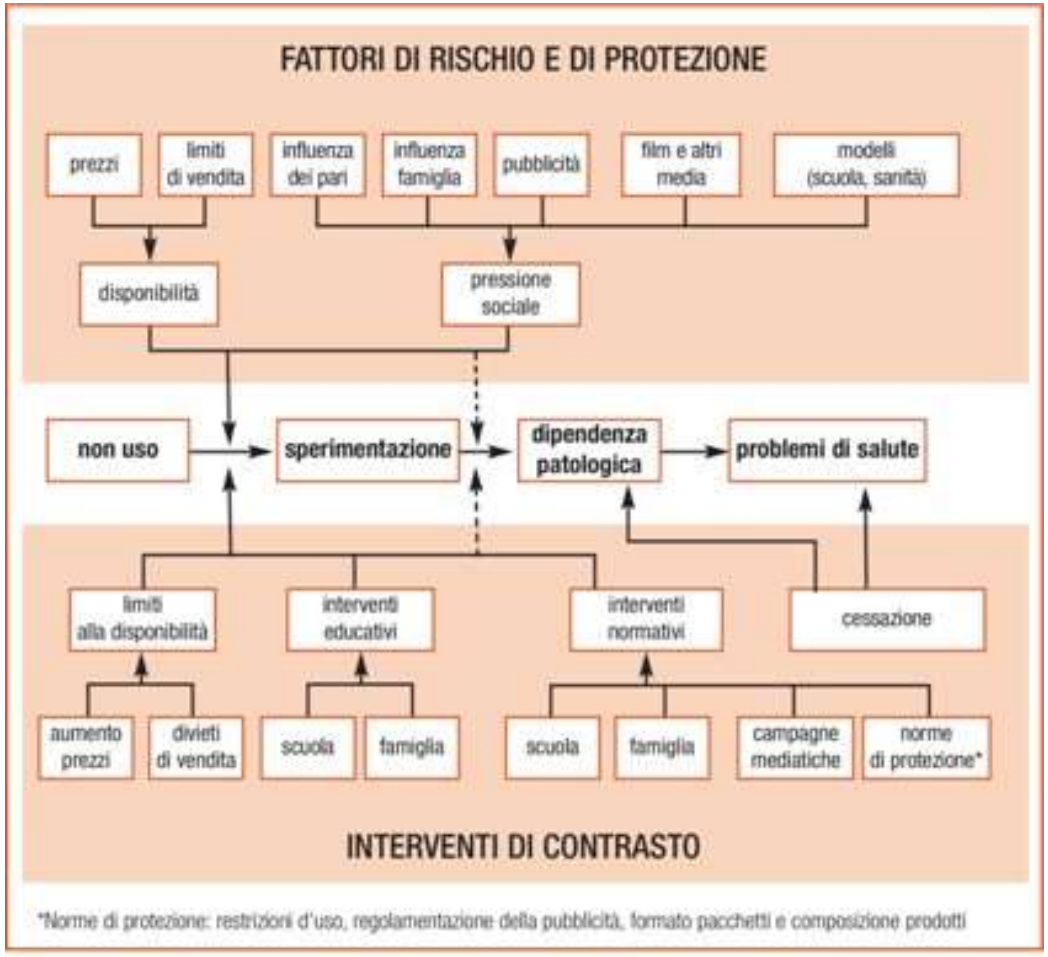
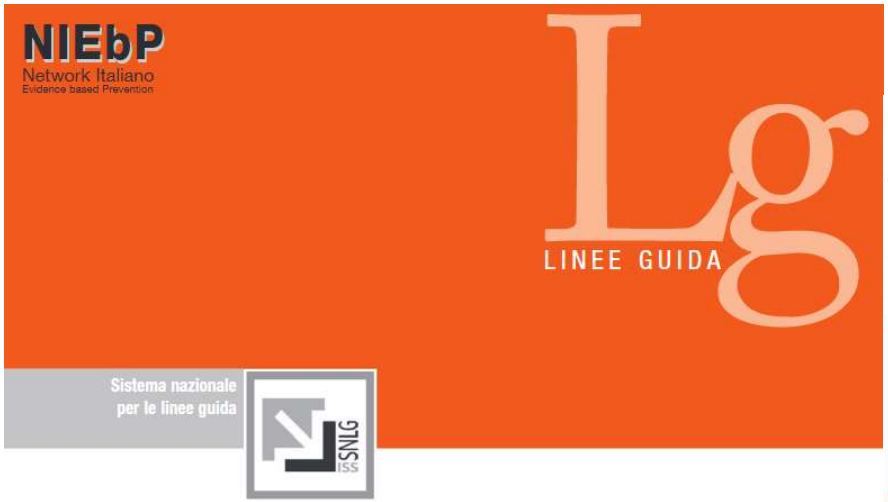


Figura 1. Framework logico delle strategie di intervento per la prevenzione del fumo di tabacco

Quadro logico degli interventi di lotta al tabagismo



Prevenzione primaria del fumo di tabacco
Faggiano F et al. ottobre 2013

Il documento completo è scaricabile dal sito www.snlg-iss.it/lgp

	Testo della raccomandazione	Qualità dell'evidenza / Livello di rilevanza	Forza della raccomandazione	Destinatari
Politiche di prezzo e tassazione				
1	Il prezzo dei prodotti del tabacco deve essere sottoposto a un aumento progressivo e costante mediante tassazione	++++ / 2	A	Legislatore nazionale
2	L'aumento dei prezzi deve essere accompagnato dalla persistenza delle azioni di contrasto del contrabbando di tabacco	+ / 2	C	Legislatore nazionale e forze dell'ordine
3	Le autonomie locali (regioni, province autonome e comuni) dovrebbero poter utilizzare tasse aggiuntive sui prodotti del tabacco come strumento di politica di prevenzione	+ / 1	C	Legislatore nazionale e regionale

LEGENDA

Qualità dell'evidenza (si veda box 2 a pag. 25 per maggiori dettagli)

++++ la maggior parte dei criteri di qualità è soddisfatta
+++ molti criteri soddisfatti
++ alcuni criteri soddisfatti
+ pochi o nessun criterio soddisfatto

Livello di rilevanza

Giudizio del gruppo di consultazione allargato su livello medio di rilevanza trasformato in terzili:

1 terzile più basso
2 terzile medio
3 terzile più alto

Forza della raccomandazione

A L'esecuzione di quella particolare procedura o intervento è fortemente raccomandata. Indica una particolare raccomandazione sostenuta da prove scientifiche di buona qualità, con un'adeguata rilevanza

B Si nutrono dei dubbi sul fatto che quella particolare procedura o intervento possa sempre essere raccomandata, ma si ritiene che la sua esecuzione debba essere attentamente considerata

C Esiste una sostanziale incertezza a favore o contro la raccomandazione di eseguire la procedura o l'intervento

Disegno dello studio

- 4: RCT di buona qualità o una revisione di RCT
- 3: RCT di qualità sub-ottimale
- 2: studio osservazionale di buona qualità (coorte, ITS) o revisione di studi osservazionali
- 1: studio di qualità sub-ottimale (B&A, trasversale)

Qualità dello studio

- -1 o -2: bias
- -1 o -2: inconsistenza
- -1 o -2: outcome indiretti
- -1 o -2: imprecisione
- +1 o +2: dimensione dell'effetto
- +1: gradiente dose-risposta
- +1: aggiustamento per tutti i confondenti plausibili

Qualità dell'evidenza

- ++++: la maggior parte dei criteri di qualità è soddisfatta
- +++: molti criteri soddisfatti
- ++: alcuni criteri soddisfatti
- +: pochi o nessun criterio soddisfatto

Tabella 4 Livelli di forza delle raccomandazioni

		Interventi randomizzabili	Interventi NON randomizzabili
Forza della raccomandazione	A	Richiede almeno uno studio randomizzato controllato (RCT) come parte di una letteratura nel complesso di buona qualità e consistenza focalizzata sulla raccomandazione specifica (livello di evidenza Ia, Ib)	Richiede almeno la presenza di studi di buona qualità con gruppo di controllo (livello di evidenza IIa, IIb)
	B	Richiede la presenza di studi clinici di buona qualità ma non di studi controllati randomizzati sull'argomento della raccomandazione (livello di evidenza IIa, IIb, III)	Richiede la presenza di studi descrittivi senza gruppo di controllo o studi di casi (livello di evidenza III)
	C	Richiede evidenza derivante da rapporti di comitati di esperti o opinioni e/o esperienze cliniche di esperti del settore. Indica l'assenza di studi clinici di buona qualità direttamente applicabili (livello di evidenza IV)	Richiede evidenza derivante da rapporti di comitati di esperti o opinioni e/o esperienze cliniche di esperti del settore. Indica l'assenza di studi di buona qualità direttamente applicabili (livello di evidenza IV)

Caratteristiche locali Cancro del polmone – Terni verso Umbria