



Gli indicatori di risultato

(e non solo)

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Obiettivi

- Alcuni esempi di indicatori per la sanità pubblica
- Considerazioni di metodo

Alcuni esempi

- 
- European Community Health Indicators (ECHI)
 - Compendium of Clinical and Health Indicators del NHS in UK
 - New York State Indicators For Tracking Public Health Priority Areas
 - AHRQ Prevention Quality Indicators
 - Indicatori per i programmi di screening oncologico in Italia



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European Community Health Indicators (ECHI)

European Community Health Indicators (ECHI)

- Monitoring Programme e Community Public Health Programme 2003-2008
- 88 'indicatori' utili per la sanità pubblica, raggruppati secondo una visione concettuale della salute e dei suoi determinanti
- Secondo Health Programme (2008 – 2013): consolidare ed espandere
- Obiettivo: monitoraggio della salute sostenibile in Europa
- http://ec.europa.eu/health/indicators/echi/list/index_en.htm

European Community Health Indicators (ECHI)

- Circa 40 sono già in uso (implemented, I), gli altri under development (D)
- Accesso a dati e metadati attraverso lo strumento Heidi: tabulazione o rappresentazione grafica di indicatori 'I' più una serie di altri indicatori sviluppati da DG SANCO

European Community Health Indicators (ECHI)

Demography and socio-economic situation

1. [Population by sex/age \(I\)](#)
2. [Birth rate, crude \(I\)](#)
3. [Mother's age distribution \(I\)](#)
4. [Total fertility rate \(I\)](#)
5. [Population projections \(I\)](#)
6. [Population by education \(I\)](#)
7. Population by occupation (D)
8. [Total unemployment \(I\)](#)
9. [Population below poverty line and income inequality \(I\)](#)




Determinants of health

42. [Body mass index \(I\)](#)
43. Blood pressure (D)
44. [Regular smokers \(I\)](#)
45. Pregnant women smoking (D)
46. [Total alcohol consumption \(I\)](#)
47. Hazardous alcohol consumption (D)
48. [Use of illicit drugs \(I\)](#)
49. [Consumption of fruit \(I\)](#)
50. [Consumption of vegetables \(I\)](#)
51. Breastfeeding (D)
52. Physical activity (D)
53. Work-related health risks (D)
54. Social support (D)
55. [PM10 \(particulate matter\) expo:](#)

Health status

10. [Life expectancy \(I\)](#)
11. [Infant mortality \(I\)](#)
12. Perinatal mortality (D)
 [European health indicator on perinatal mortality \(I\)](#)
13. [Disease-specific mortality \(I\)](#)
14. [Drug-related deaths \(I\)](#)
15. Smoking-related deaths (D)
16. Alcohol-related deaths (D)
17. Excess mortality by heat waves (D)
18. [Selected communicable diseases \(I\)](#)
 [European health indicator on communicable diseases \(I\)](#)
19. HIV/AIDS (D)
 [European health indicator on HIV/AIDS \(I\)](#)
20. Cancer incidence (D)
- 21(a). Diabetes: self-reported prevalence (D)
- 21(b). Diabetes: register-based prevalence (D)
22. Dementia (D)
 [European health indicator on dementia \(I\)](#)
- 23(a). Depression: self-reported prevalence (D)
- 23(b). Depression: register-based prevalence (D)
24. Acute myocardial infarction (AMI) (D)
25. Stroke (D)
- 26(a). Asthma: self-reported prevalence (D)
- 26(b). Asthma: register-based prevalence (D)
- 27(a). Chronic obstructive pulmonary disease (COPD): self-reported prevalence (D)
- 27(b). Chronic obstructive pulmonary disease (COPD): register-based prevalence (D)
28. [Low birth weight \(I\)](#)
- 29(a). Injuries: home, leisure, school: self-reported incidence (D)
- 29(b). Injuries: home, leisure, school: register-based incidence (D)
- 30(a). Injuries: road traffic: self-reported incidence (D)
- 30(b). Injuries: road traffic: register-based incidence (D)
 [European health indicator on road accidents \(I\)](#)
31. Injuries: workplace (I)

Health interventions: health services

56. [Vaccination coverage in children \(I\)](#)
57. Influenza vaccination rate in elderly (D)
58. Breast cancer screening (D)
 [European health indicator on breast cancer screening \(I\)](#)
59. Cervical cancer screening (D)
 [European health indicator on cervical cancer screening \(I\)](#)
60. Colon cancer screening (D)
61. Timing of first antenatal visits among pregnant women (D)
62. [Hospital beds \(I\)](#)
63. [Physicians employed \(I\)](#)
64. [Nurses employed \(I\)](#)
 [European health indicator on other health professionals \(I\)](#)
65. Mobility of professionals (D)
66. [Medical technologies: MRI units and CT scans \(I\)](#)
67. [Hospital in-patient discharges, limited diagnosis \(I\)](#)
68. Hospital day cases, limited diagnosis (D)
69. Hospital day cases/in-patient discharge ratio, limited diagnoses (D)
70. Average length of stay (ALOS), limited diagnoses (I)
- 71(a). General practitioner (GP) utilisation; self-reported visits (D)
- 71(b). General practitioner (GP) utilisation; registered visits (D)
- 72(a). Selected outpatient visits: self-reported visits (D)
- 72(b). Selected outpatient visits: registered visits (D)
73. [Surgeries: PTCA, hip, cataract \(I\)](#)
74. Medicine use, selected groups (D)
75. Patient mobility (D)
76. [Insurance coverage \(I\)](#)
77. Expenditures on health (D)
78. Survival rates cancer (D)
79. 30-day in-hospital case-fatality of AMI and stroke (D)
80. [Equity of access to health care services \(I\)](#)
81. Waiting times for elective surgeries (D)
82. Surgical wound infections (D)
83. Cancer treatment quality (D)
84. Diabetes control (D)

Health interventions: health promotion

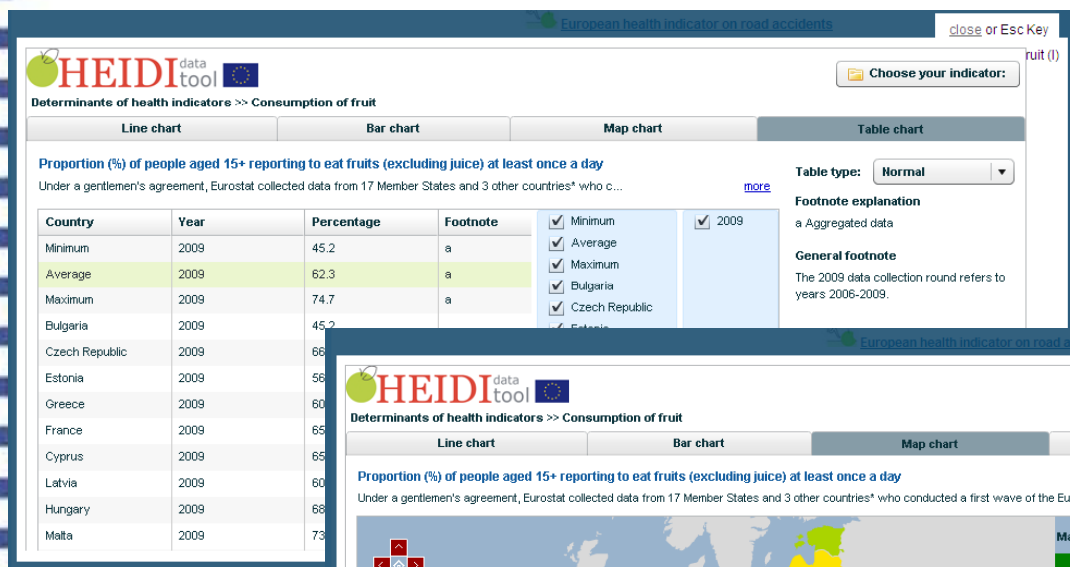
85. Policies on environmental tobacco smoke (ETS) exposure (D)
86. Policies on healthy nutrition (D)
87. Policies and practices on healthy lifestyles (D)
88. Integrated programmes in setting, including workplace, schools, hospital (D)

European Community Health Indicators (ECHI)

The screenshot displays the Heidi Data Tool interface. At the top, there is a navigation bar with the text "European health indicator on road accidents" and a "close or Esc Key" button. Below this, the main header reads "HEIDI data tool" with the European Union flag and the text "Determinants of health indicators >> Consumption of fruit". A "Choose your indicator:" button is visible in the top right. The main content area is divided into four tabs: "Line chart", "Bar chart", "Map chart", and "Table chart". A modal window titled "Heidi Data Tool - Select indicator" is open, showing a "Select Indicator type:" dropdown menu set to "ECHI (European Community Health Indicators)". Below this, a list of indicator categories is displayed, including "Demographic and Socio-economic factors indicators (8)", "Health Status indicators (12)", "Determinants of health indicators (7)", "Body mass index (6)", and "Consumption of fruit (7)". The "Consumption of fruit (7)" category is expanded, showing seven specific indicators related to fruit consumption, such as "Proportion (%) of people aged 15+ reporting to eat fruits (excluding juice) at least once a day".

http://ec.europa.eu/health/indicators/indicators/index_en.htm

European Community Health Indicators (ECHI)



Heidi Data Tool - Description of indicator

Indicator: Proportion (%) of people aged 15+ reporting to eat fruits (excluding juice) at least once a day

Indicator type: ECHI (European Community Health Indicators)

Short Description:

Under a gentlemen's agreement, Eurostat collected data from 17 Member States and 3 other countries* who conducted a first wave of the European Health Interview Survey (EHIS) between 2006 and 2009. The EHIS contains a question on self-reported consumption of 'How often do you eat fruits (excluding juice)? Twice or more a day, once a day, less than once a day but at least 4 times a week, less than 4 times a week but at least once a week, less than once a week and never'. The 'Consumption of fruits' indicator gives the proportion of people reporting to eat fruits excluding juice at least once a day by answering 'Twice or more a day' or 'Once a day' to the EHIS question. Data can be further broken down by sex, age group, level of fruits consumption and educational level. Eurostat foresees a second EHIS round in 2014 under a legal basis.

* Twenty countries have carried out the first EHIS wave:
2006: AT, EE
2007: SI - CH



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UK NHS Compendium Indicators

UK NHS Compendium Indicators

- Set annuale di circa 300 argomenti di indicatori con dati di livello nazionale e subnazionale (fino al singolo ospedale, quando appropriato)
- Lakhani A, Olearnik H, Eayres D (eds).
Compendium of Clinical and Health Indicators.
London: The Information Centre for health and social care / National Centre for Health Outcomes Development
- <http://www.nchod.nhs.uk/>

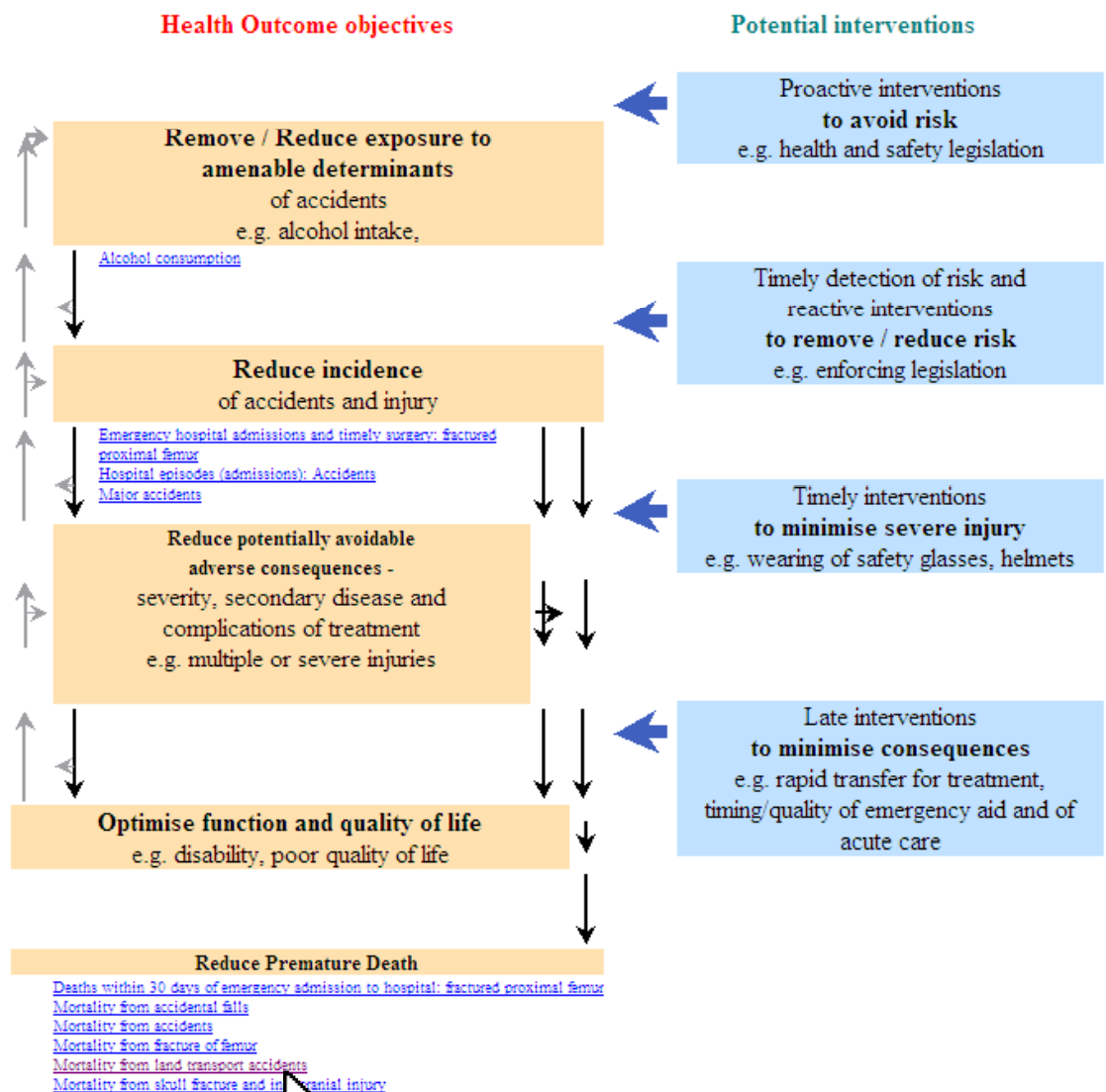
UK NHS Compendium Indicators

Conditions / Health topics:

- [Accident](#)
- [Asthma](#)
- [Breast Cancer](#)
- [Cervical Cancer](#)
- [Chronic Liver Disease](#)
- [Chronic Renal Failure](#)
- [Colorectal Cancer](#)
- [Coronary Heart Disease](#)
- [Diabetes Mellitus](#)
- [General Health](#)
- [Hodgkin's Disease](#)
- [Hypertension / Stroke](#)
- [Infant and Child Health](#)
- [Infectious Diseases](#)
- [Leukaemia](#)
- [Lung Cancer](#)
- [Mental Illness \(MI\)](#)
- [Oral Health](#)
- [Osteoarthritis](#)
- [Osteoporosis](#)
- [Peptic Ulcer](#)
- [Pregnancy](#)
- [Prostate Cancer](#)
- [Rheumatoid Arthritis](#)
- [Skin Cancer](#)
- [Stomach Cancer](#)
- [Surgery](#)
- [Traffic Accidents](#)
- [Tuberculosis](#)

UK NHS Compendium Indicators

MONITORING OUTCOMES - ACCIDENTS: INDICATORS



Clinical and Health Outcomes Knowledge Base, June 2005

National Centre for Health Outcomes Development (www.nchod.nhs.uk, nww.nchod.nhs.uk)

Crown Copyright

UK NHS Compendium Indicators

Mortality from land transport accidents

Specification:

Purpose:

To reduce deaths from land transport accidents.

Definition of indicator and its variants:

Mortality from land transport accidents (ICD-10 V01-V89 equivalent to ICD-9 E800-E829). This indicator replaces the motor vehicle traffic accidents (MVTAs) indicator (ICD-9 E810-E819) which does not have equivalent ICD-10 codes.

Statistic	Sex	Age group	Organisation (see glossary)	Current data	Trend data	File-worksheet name
Number of deaths	MFP	1+, 1-4, 5-14, 15-34, 35-64, 65-74, 75+	E&W, E, GOR, ONS area, SHA, LA, PCO, CTY	2009		22E_175NO_09_V1
Average age-specific death rate per 100,000 resident population	MFP	1+, 1-4, 5-14, 15-34, 35-64, 65-74, 75+	E&W, E, GOR, ONS area, SHA, LA, PCO, CTY	2007-09		22E_175CR_09_V1
Indirectly age-standardised mortality ratio (SMR) and number of deaths	MFP	All ages, <75	E&W, E, GOR, ONS area, SHA, LA, PCO, CTY	2007-09	1993-09	22E_175SM00+_09_V1
		All ages				22E_175SM0074_09_V1
Directly age-standardised mortality rate per 100,000 and number of deaths	MFP	All ages, <75	E&W, E, GOR, ONS area, SHA, LA, PCO, CTY	2007-09	1993-09	22E_175DR00+_09_V1
		All ages				22E_175DR0074_09_V1
		All ages				22E_175DRT00+_09_V1

Numerator:

Numerator data - Deaths from land transport accidents, classified by underlying cause of death (ICD-10 V01-V81, ICD-9 E800-E829), registered in the relevant years.

Source of numerator data - Office for National Statistics (ONS).

Comments on numerator data - Mortality data for years 1993-2006 were extracted by ONS in June 2007 with organisational codes assigned using the postcode of usual residence and the November 2006 edition of the National Statistics Postcode Directory (NSPD). Data for subsequent years were extracted in June of the following year using the respective year's November edition of the NSPD.

In January 2001, the Office for National Statistics implemented a change from ICD-9 to ICD-10 for coding causes of death in England & Wales. As part of an exercise to investigate the effects of this change, the Office for National Statistics also re-coded all deaths registered in 1999. Deaths for years prior to 1999 and for year 2000 have not been re-coded.

For current analysis, therefore, all data are based on ICD-10.

For trend analysis, the numbers of deaths observed in the years 1993-98 and 2000 must be adjusted to give "expected" numbers of deaths which would have been coded to this cause in ICD-10. This is done by multiplying the ICD-9 based death counts by the appropriate ICD-10/9 comparability ratio published by ONS. Trend data cannot include years prior to 1993, because ONS introduced automated coding in 1993, and the comparability ratios are only valid from this point onwards.

For this indicator the following ICD-10/9 comparability ratios were used:

Males All Ages: 1
Females All Ages: 1

Adjusted person counts are the sum of the adjusted male and female counts. Once adjusted, the counts are used to calculate rates in the usual way.

From the 2003 Compendium onwards, data are based on the original causes of death rather than the final causes used in earlier Compendia.

See Annex 2 for more details.

UK NHS Compendium Indicators

Denominator:

Denominator data - 2001 Census based mid-year population estimates for the respective calendar years.

Source of denominator data - ONS.

Comments on denominator data - Data are based on the latest revisions of ONS mid-year population estimates for the respective years, current as at 24 November 2010.

Statistical methods:

Annex 2: Changes to Office for National Statistics mortality data
Annex 3: Explanations of statistical methods used in the Compendium
Annex 5: The European Standard Population

Interpretation of indicators:

Quality of indicator - Annex 12 describes the criteria that should be used to judge the quality of this indicator. The application of the criteria is dependent on the context (e.g. describing a single organisation, comparing several organisations) and the level (e.g. national / regional with numbers of events, local with small numbers of events) at which the data are to be used.

Further reading:

- Griffiths C, Rooney C. The effect of the introduction of ICD-10 on trends in mortality from injury and poisoning in England and Wales. *Office for National Statistics Health Statistics Quarterly*, No. 19, 2003: 10-21. Available at: http://www.statistics.gov.uk/downloads/theme_health/HSQ19.pdf

Updated:

March 2011

Data / illustration files:

Please note: Data that may potentially identify an individual have been removed from the internet version (marked X in the data files) - see DH / ONS disclosure letter. The NHS version allows NHS staff access to such data.

Year	+ Info	Gender	AgeGroups	Organisations	Click on file name to view file	% suppressed
Average age-specific death rates						
2007-09		MFP	1+, 1-4, 5-14, 15-34, 35-64, 65-74, 75+	E&W E GOR ONS SHA LA PCO CTY	22E_175CR_09_V1.xls	82.0
2007-09		MFP	1+, 1-4, 5-14, 15-34, 35-64, 65-74, 75+	E&W E GOR ONS SHA LA PCO CTY	22E_175CR_09_V1_D.xls	82.0
Directly standardised rate						
2007-09		MFP	All ages	E&W E GOR ONS SHA LA PCO CTY	22E_175DR00++_09_V1_D.xls	0.0
2007-09		MFP	<75	E&W E GOR ONS SHA LA PCO CTY	22E_175DR0074_09_V1_D.xls	0.0
1993-2009		MFP	All ages	E&W E GOR ONS SHA LA PCO CTY	22E_175DRT00++_09_V1_D.xls	0.0
Indirectly standardised ratio (SMR)						
2007-09		MFP	All ages	E&W E GOR ONS SHA LA PCO CTY	22E_175SM00++_09_V1_D.xls	0.0
2007-09		MFP	<75	E&W E GOR ONS SHA LA PCO CTY	22E_175SM0074_09_V1_D.xls	0.0
1993-2009		MFP	All ages	E&W E GOR ONS SHA LA PCO CTY	22E_175SMT00++_09_V1.xls	0.0
1993-2009		MFP	All ages	E&W E GOR ONS SHA LA PCO CTY	22E_175SMT00++_09_V1_D.xls	0.0
Number						
2009		MFP	1+, 1-4, 5-14, 15-34, 35-64, 65-74, 75+	E&W E GOR ONS SHA LA PCO CTY	22E_175ND_09_V1_D.xls	82.0

Multi-file attachment:

New York State Indicators



for tracking PH priority areas



New York State Indicators For Tracking Public Health Priority Areas

Indicators For Tracking Public Health Priority Areas Technical Notes - New York State

Indicator	Technical Notes
Access To Quality Health Care	
% of adults with health care coverage ¹	The percent of survey respondents (18+ years of age) with any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare.
% of adults with a regular health care provider ¹	The percent of survey respondents (18+ years of age) with a personal doctor or doctors or health care professional.
% of adults who have seen a dentist in the past year ¹	The percent of survey respondents (18+ years of age) who visited a dentist or a dental clinic for any reason in the past 12 months.
Percent of cancer cases with an early stage diagnosis ² – (breast, cervical and colorectal)	Stage at diagnosis data are based on reports from hospitals and other health facilities that diagnose and treat cancer patients. Early stage is defined as invasive cancers that are limited to the tissue of origin. Patients for whom stage at diagnosis is unknown are not included in the calculation of percent of cancers diagnosed at an early stage.
Tobacco Use	
% of cigarette smoking in adolescents ³	The percent of student (grades 9-12) survey respondents who reported smoking at least one cigarette in the past 30 days.
% of cigarette smoking in adults ¹	The percent of survey respondents (18+ years of age) who have smoked 100 cigarettes in their lifetime and reported smoking every day or some days.
COPD hospitalizations among adults 18+ years ⁴ (per 10,000 pop)	The number of hospitalizations per 10,000 adults aged 18 and over with a primary diagnosis of ICD-9 codes 490-494,496. This is a Prevention Quality Indicator (PQI) (condition for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease)
Lung Cancer incidence ² (per 100,000) (age-adjusted)*	Incidence data are based on reports from hospitals and other health facilities that diagnose and treat cancer patients. All primary tumors receive a ICD-O-3 code indicating the anatomic site of origin. Standard Site Analysis categories for cancer data analysis are available on the SEER Incidence Site Recode web page. These data include only invasive malignant tumors. Data are presented for a five-year time period.
Healthy Mothers/ Healthy Babies/ Healthy Children	
% of births with early prenatal care (1 st trimester) ⁵	The percent of births to women who began prenatal care within the first three months of pregnancy (first trimester). On births to women with a known prenatal care start date are included in the calculation of the percent.
% low birthweight births (<2500 grams) ⁵	The percentage of births with a known birthweight that resulted in infants weighing less than 2500 grams.
Infant mortality per 1,000 live births ⁶	The number of deaths less than 1 year of age per 1,000 live births
% of 2 year old children who receive recommended vaccines ⁷	The % of survey respondents with children 19-35 months of age who reported their children were fully immunized. Fully immunized includes 4 DPT, 3 polio, 1 MMR, 3 Hib and 3 HepB.
% of children with at least one lead screening by age 36 months ⁸	The percent of children who have been screened at least once for lead by age 36 months. (Birth cohort screening rate)

New York State Indicators For Tracking Public Health Priority Areas

Physical Activity/Nutrition

% of obese children aged 2-4 participating in WIC ¹¹	The percent of children participating in the WIC program who are obese. Obese is defined as at or above the 95th percentile based on body mass index (BMI) for age. BMI is defined as weight in kilograms divided by height in meters squared w/h^2 .
% of obese children by grade level 12: (BMI for age > 95 th percentile)	The percent of school children (by grade level) with body mass index at or above the 95 th percentile. BMI is defined as weight in kilograms divided by height in meters squared w/h^2 .
% of adults who are obese (BMI > 30) ¹	The percent of survey respondents (18+ years of age) with body mass index (BMI) greater than 30. BMI is defined as weight in kilograms divided by height in meters squared w/h^2 .
% of adults engaged in some type of physical activity ¹	The percent of survey respondents (18+ years of age) who report they participated in some type of physical activity during their leisure time at least one in the last 30 days
% of adults eating 5 or more fruits or vegetables per day ¹	The percent of survey respondents (18+ years of age) that reported they ate at least five or more servings of fruits and vegetables in the past day.
% of WIC mothers breastfeeding at 6 months ¹¹	The percent of mothers with children participating in the WIC program who were breastfeeding their infants at 6 months of age.

Unintentional Injury

Unintentional injury mortality ¹³ (per 100,000)(age-adjusted)*	The number of deaths per 100,000 population with a primary diagnosis ICD 10 code of V01-X59, Y85-Y86.
Unintentional injury hospitalizations ¹⁴ (per 10,000) (age-adjusted)*	The number of hospitalizations per 10,000 with a primary diagnosis ICD 9 code of E800-E928, (excluding E870-E879).
Motor vehicle related mortality ¹³ (per 100,000) (age-adjusted)*	The number of deaths per 100,000 population with a primary diagnosis ICD 10 code of V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V888,V89.0,V89.2
Pedestrian injury hospitalizations ¹⁵ (per 10,000) (age-adjusted)*	The number of hospitalizations per 10,000 with a primary diagnosis ICD 9 code of E810.7, E811.7, E812.7,E813.7, E814.7, E815.7, E816.7, E 817.7, E818.7, E818.7, E819.7, E820.7, E821.7, E822.7, E823.7, E824.7, E825.7
Fall related hospitalizations age 65+ years ¹⁵ (per 10,000 persons aged 65+)	The number of hospitalizations among persons aged 65+ per 10,000 persons aged 65+ with a primary diagnosis ICD 9 code of E880-E888, (excluding E887).

Healthy Environment

Incidence of children <72 months with confirmed blood lead level ≥ 10 ug/dl ¹⁴ (per 100 children tested)	The proportion of children newly identified with a confirmed elevated blood lead level of 10 μ g/dL or greater per 100 children screened in the given time frame.
Asthma-related hospitalizations among the total population (per 10,000) and among ages 0-17 (per 10,000 ages 0-17) ¹⁶	The total asthma hospitalization rate is the number of hospitalizations per 10,000 with a primary diagnosis ICD 9 code of 493. The ages 0-17 asthma hospitalization rate is the number of hospitalizations among 0-17 year olds (per 10,000 0-17 year olds) with a primary diagnosis ICD 9 code of 493.
Work-related hospitalizations ¹⁴ (per 10,000 employed persons aged 16+ years)	The number of hospital discharges with primary payor coded as workers' compensation for persons age 16 years or older. The hospitalization rates are per 100,000 employed persons age 16 years or older, based on U.S. Department of Labor, Bureau of Labor Statistics, Current Population Statistics.
Elevated blood lead levels (>25 ug/dl) ¹⁴ per 100,000 employed persons age 16+	The number of New York State residents, age 16 years or older, with a blood lead level of ≥ 25 μ g/dL. The prevalence rates are per 100,000 employed persons age 16 years or older, based on U.S. Department of Labor, Bureau of Labor

New York State Indicators For Tracking Public Health Priority Areas

Chronic Disease	
Diabetes prevalence in adults ¹	The percent of survey respondents (18+ years of age) who reported they have been told by a health professional that they have diabetes.
Diabetes short-term complication hospitalization rate, ages 6-17 and 18+ years ¹⁷	The number of hospitalizations among age group of interest per 10,000 in age group of interest with a primary diagnosis ICD 9 code of ICD 9 250.1- 250.3. This is a Prevention Quality Indicator (PQI) (condition for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease)
Coronary heart disease hospitalizations ¹⁴ (per 10,000) (age-adjusted)*	The number of hospitalizations per 10,000 population with a primary diagnosis ICD-9 code of 402, 410-414, and 429.
Congestive heart failure hospitalization rate per 10,000 ¹⁷ (ages 18+)	The number of hospitalizations per 10,000 adults aged ¹⁸ and over with a primary diagnosis of ICD-9 code 428. This is a Prevention Quality Indicator (PQI) (condition for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease)
Cerebrovascular (stroke) disease mortality ¹³ (per 100,000) (age-adjusted)*	The number of deaths per 100,000 with a primary diagnosis of ICD 10 code I60-I69.
Breast cancer mortality ² (per 100,000) (age-adjusted)*	The number of deaths per 100,000 with a primary diagnosis of ICD 10 code C50.
Cervical cancer mortality ² (per 100,000) (age-adjusted)*	The number of deaths per 100,000 with a primary diagnosis of ICD 10 code.
Colorectal cancer mortality ² (per 100,000) (age-adjusted)*	The number of deaths per 100,000 with a primary diagnosis of ICD 10 code.
Infectious Disease	
Newly diagnosed HIV case rate ¹⁸ (per 100,000)	The HIV case rate includes all newly diagnosed HIV, regardless of concurrent or subsequent AIDS diagnosis. HIV case rates are presented as rates per 100,000 population. Data are based on year of diagnosis and exclude prison inmates.
Gonorrhea case rate ¹⁹ (per 100,000)	The number of reported gonorrhea cases per 100,000 population.
Tuberculosis case rate ²⁰ (per 100,000)	The number of reported cases of tuberculosis per 100,000 population. Excludes prison inmates.
% of adults 65+ years with flu shot in past year ¹	The percent of survey respondents age 65 or older who indicated they had had a flu shot in the past 12 months.
% of adults 65+ years who ever had a pneumonia vaccine ¹	The percent of survey respondents age 65 or older who indicated they had a pneumococcal pneumonia vaccination in their lifetime.
Community Preparedness	
% population living within jurisdiction with state –approved emergency preparedness plans ²¹	The percent of the population living in a county with an approved preparedness plan.
Mental Health/ Substance Abuse	
Suicide mortality rate ¹³ (per 100,000) (age-adjusted)*	The number of deaths per 100,000 with a primary diagnosis of ICD 10 code of X60-X84, Y87.0
% adults reporting 14 or more days with poor mental health in last month ¹	The percent of survey respondents (18+ years of age) who report having 14 or more days with poor mental health in the past 30 days.
% binge drinking past 30 days (5+ drinks in a row) in adults ¹	The percent of survey respondents (18+ years of age) who report having five or more drinks on an occasion, one or more times in the past 30 days

Agency for Healthcare Research and Quality Prevention Quality Indicators



AHRQ Prevention Quality Indicators

Ospedalizzazioni potenzialmente evitabili (indicatori di accesso a cure ambulatoriali di qualità a livello di singole aree):

- Diabetes Short-term Complications Admission Rate (PQI 1)
- Perforated Appendix Admission Rate (PQI 2)
- Diabetes Long-term Complications Admission Rate (PQI 3)
- Chronic Obstructive Pulmonary Disease (COPD) Admission Rate (PQI 5)
- Hypertension Admission Rate (PQI 7)
- Congestive Heart Failure (CHF) Admission Rate (PQI 8)
- Dehydration Admission Rate (PQI 10)
- Bacterial Pneumonia Admission Rate (PQI 11)
- Urinary Tract Infection (UTI) Admission Rate (PQI 12)
- Angina without Procedure Admission Rate (PQI 13)
- Adult Asthma Admission Rate (PQI 15)
- Rate of Lower-extremity Amputation among Patients with Diabetes (PQI 16)

Indicatori per i programmi di screening oncologico in Italia



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I. Indicatori strutturali, logistico-organizzativi, funzionali

Indicatore	Standard	
	accettabile	desiderabile
Adesione/Tasso di partecipazione <i>Participation rate</i>	GISMa al primo passaggio e ai passaggi successivi: adesione grezza: $\geq 50\%$ adesione corretta: $\geq 60\%$ European guidelines 2006 al primo passaggio e ai passaggi successivi: $> 70\%$	GISMa al primo passaggio e ai passaggi successivi: adesione grezza: $\geq 70\%$ adesione corretta: $\geq 75\%$ European guidelines 2006 al primo passaggio e ai passaggi successivi: $> 75\%$
Copertura <i>Coverage</i> <i>(vedi capitolo 6)</i>	GISMa non applicabile European guidelines 2006 non previsto	GISMa non applicabile European guidelines 2006 non previsto
Tempo tra la mammografia di screening e l'esito (casi negativi) <i>Delay between screening and negative result</i>	GISMa 90% entro 15 giorni di calendario European guidelines 2006 95% ≤ 15 giorni lavorativi	GISMa 90% entro 10 giorni di calendario European guidelines 2006 $> 90\% \leq 10$ giorni lavorativi
Tempo tra la data di effettuazione del test e la data di effettuazione dell'approfondimento <i>Delay between screening and offered assessment</i>	GISMa 90% entro 20 giorni di calendario European guidelines 2006 non previsto	GISMa 90% entro 11 giorni di calendario European guidelines 2006 non previsto
Tempo tra il richiamo per approfondimenti e la sessione di approfondimento <i>Delay between the call for assessment and the assessment session</i>	GISMa 90% ≤ 5 giorni lavorativi European guidelines 2006 90% ≤ 5 giorni lavorativi	GISMa $> 70\% \leq 3$ giorni lavorativi European guidelines 2006 $> 70\% \leq 3$ giorni lavorativi
Tempo tra la sessione di approfondimento e il suo esito <i>Delay between the assessment and the assessment result</i>	GISMa 90% ≤ 5 giorni lavorativi European guidelines 2006 90% ≤ 5 giorni lavorativi	GISMa $> 90\% \leq 5$ giorni lavorativi European guidelines 2006 $> 90\% \leq 5$ giorni lavorativi
Periodismo degli inviti successivi al primo (%) <i>Women reinvited within the specified screening interval</i>	GISMa $> 95\%$ entro 24 mesi European guidelines 2006 $> 95\%$ entro l'intervallo raccomandato	GISMa 100% entro 24 mesi European guidelines 2006 100% entro l'intervallo raccomandato

Ispirati
ad esperienze
europee:
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II. Indicatori del processo clinico diagnostico

Indicatore	Standard	
	accettabile	desiderabile
Tasso di approfondimento diagnostico totale (Tasso di approfondimento o di richiamo) <i>Recall rate - Further assessment rate</i>	GISMa primi esami: <7% esami successivi: <5% European guidelines 2006 primi esami: <7% esami successivi: <5%	GISMa primi esami: <5% esami successivi: <3% European guidelines 2006 primi esami: <5% esami successivi: <3%
Tasso di ripetizione per motivi tecnici totali <i>Technical repeat rate</i>	GISMa primi esami e successivi: <3% European guidelines 2006 primi esami e successivi: <3%	GISMa Primi esami e successivi: <1% European guidelines 2006 Primi esami e successivi: <1%
Tasso di richiami intermedi anticipati globali <i>Early rescreen + early recall</i>	GISMa <1% European guidelines 2006 non viene preso in considerazione	GISMa 0% European guidelines 2006 non viene preso in considerazione
Richiami intermedi per effettuare una mammografia di primo livello <i>Early rescreen</i>	GISMa 0% European guidelines 2006 non è considerata buona pratica effettuare un richiamo intermedio dopo il primo livello	GISMa 0% European guidelines 2006 non è considerata buona pratica effettuare un richiamo intermedio dopo il primo livello
Richiami intermedi per effettuare una seduta di approfondimento <i>Early recall</i>	GISMa <1% European guidelines 2006 <1%	GISMa 0% European guidelines 2006 0%
Rapporto biopsie benigne/maligne: <i>Benign to malignant open surgical biopsy ratio</i>	GISMa primi esami: $\leq 1:1$ esami successivi: $\leq 0,5:1$ European guidelines 2006 primi esami e successivi: $\leq 1:2$	GISMa primi esami: $\leq 0,5:1$ esami successivi: $\leq 0,25:1$ European guidelines 2006 primi esami e successivi: $\leq 1:4$
Tasso di biopsie benigne <i>Benign biopsy rate</i>	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione
Valore predittivo positivo del test di screening (VPP) <i>Positive predictive value of screening test</i>	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 viene inserito tra le definizioni, nessuno standard	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 viene inserito tra le definizioni, nessuno standard
Valore predittivo positivo della citologia (VPP) <i>Positive predictive value of cytology</i>	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 viene inserito tra le definizioni, nessuno standard	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 viene inserito tra le definizioni, nessuno standard
Valore predittivo positivo di altre procedure diagnostiche invasive (VPP) <i>Positive predictive value of other diagnostic invasive assessments</i>	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione

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III. Indicatori precoci di impatto

Indicatore	Standard	
	accettabile	desiderabile
Rapporto Prevalenza/Incidenza (P/I) <i>Prevalence/Incidence ratio</i> (IR= Incidence Rate)	GISMa primi esami: 3 x IR esami successivi: 1,5 x IR European guidelines 2006 primi esami: 3 x IR esami successivi: 1,5 x IR	GISMa primi esami: > 3 x IR esami successivi: > 1,5 x IR European guidelines 2006 primi esami: > 3 x IR esami successivi: > 1,5 x IR
Tasso di identificazione totale Breast cancer detection rate - DR	GISMa si suggerisce il calcolo, nessuno standard di riferimento (vedi rapporto P/I) European guidelines 2006 viene indicato lo standard per il rapporto P/I	GISMa si suggerisce il calcolo, nessuno standard di riferimento (vedi rapporto P/I) European guidelines 2006 viene indicato lo standard per il rapporto P/I
Tasso di identificazione dei tumori invasivi Invasive screen-detected cancers detection rate	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione
Proporzione di tumori invasivi <15 mm Proportion of invasive screen-detected cancers <15 mm	GISMa primi esami e successivi: 50% European guidelines 2006 primi esami e successivi: 50%	GISMa primi esami e successivi: >50% European guidelines 2006 primi esami e successivi: >50%
Tasso di identificazione dei tumori invasivi <15 mm Invasive screen-detected cancers <15 mm detection rate	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione
Proporzione di tumori invasivi ≤10 mm Proportion of invasive screen-detected cancers ≤10 mm	GISMa primi esami: ≥20% esami successivi: ≥25% European guidelines 2006 primi esami: non applicabile esami successivi: ≥25%	GISMa primi esami: ≥25% esami successivi: ≥30% European guidelines 2006 primi esami: ≥25% esami successivi: ≥30%
Tasso di identificazione dei tumori invasivi ≤10 mm Invasive screen-detected cancers ≤10 mm detection rate	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard European guidelines 2006 non viene preso in considerazione
Proporzione di tumori duttali in situ diagnosticati allo screening Proportion of DCIS screen-detected cancers	GISMa primi esami e successivi: 10% European guidelines 2006 primi esami e successivi: 10%	GISMa primi esami e successivi: 10-20% European guidelines 2006 primi esami e successivi: >15%
Tasso di identificazione dei tumori duttali in situ Screen-detected DCIS detection rate	GISMa viene suggerito il calcolo, nessuno standard di riferimento European guidelines 2006 non viene preso in considerazione	GISMa viene suggerito il calcolo, nessuno standard di riferimento European guidelines 2006 non viene preso in considerazione



Considerazioni


Cos'è un indicatore

una **variabile** che **misura un aspetto**

di un programma o di un progetto

o un outcome di salute

Misure comuni

- 
- **Conte**
 - Numero di soggetti raggiunti dal programma
 - Numero di pasti distribuiti
 - **Calcoli: percentuali, tassi, rapporti**
 - % di scuole partecipanti al programma
 - Tasso di mortalità
 - **Indici, misure composite**
 - Indice di qualità dato dalla somma di punteggi di vari domini della qualità
 - DALY (Disability Adjusted Life Years)
 - **Soglie**
 - Presenza, assenza
 - Livelli o standard predefiniti

Caratteristiche di un buon indicatore

- **Valido**: misura accuratamente un comportamento, una pratica o un'attività
- **Affidabile**: misurabile in maniera coerente, nello stesso modo, da parte di diversi osservatori
- **Preciso**: chiara definizione operativa
- **Misurabile**: quantificabile utilizzando gli strumenti e metodi disponibili
- **Tempestivo**: fornisce una misura ad intervalli di tempo rilevanti ed appropriati in relazione agli obiettivi ed alle attività del programma
- **Importante per la programmazione**: collegato ad un impatto per la sanità pubblica o al raggiungimento degli obiettivi necessari per ottenere un impatto

Fattori da considerare nella scelta di un indicatore

- Logica e collegamento al framework del programma
- Necessità programmatiche e informazioni necessarie per decision making
- Risorse
- Requisiti esterni (governativi, sponsor, agenzie varie)
- Disponibilità di dati
- Esistenza di indicatori standardizzati

Fonti di indicatori

- Anni precedenti del programma
- Programmi analoghi
- Liste di indicatori globali o raccomandati da agenzie e organizzazioni accreditate

Matrice degli indicatori

- Un modo per rappresentare graficamente il legame tra l'indicatore e il programma

Fase del programma	Indicatore	Fonti di dati	Frequenza di raccolta...
Processo			
Impatto			
Risultato			

- Alternativo alla flow chart NHS

Problemi nella selezione degli indicatori

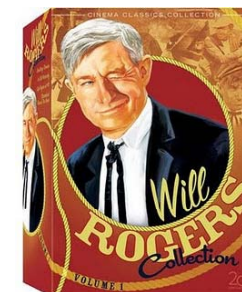
Scegliere:

- Indicatori non collegati alle attività del programma
- Indicatori definiti in maniera poco chiara
- Indicatori che non esistono ancora e per cui non è realistico riuscire a raccogliere i dati
- Indicatori di processo usati per misurare impatti e risultati
- Indicatori non particolarmente sensibili al cambiamento
- Troppi indicatori

Quanti indicatori?

- Almeno 1 o 2 per attività o risultato chiave del programma (possibilmente da fonti di dati diverse)
- Non più di 8-10 indicatori per ogni area su cui il programma si focalizza
- Usare un mix di strategie di raccolta e fonti di dati

Stranezze



- Fenomeno di Will Rogers

'When the Okies left Oklahoma and moved to California, they raised the average intelligence level in both states.'

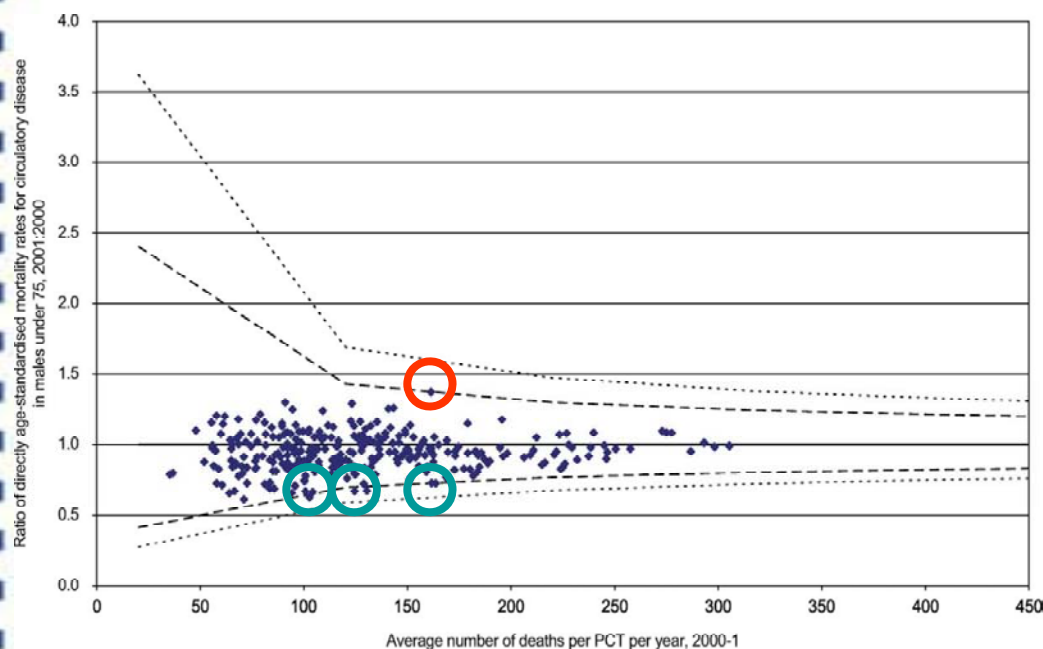
- Regressione verso la media

Misure con valori estremi in una data occasione tendono ad avere valori più vicini alla media in occasioni successive, senza che altri fattori si siano modificati: problema quando si usa il cambiamento da un anno all'altro come indicatore di un trend sottostante.

Presentazione



- No league tables e rankings
- Tener conto dell'incertezza delle stime: limiti normali e variazioni superiori all'atteso (es. funnel plots)



The dotted lines represent 95 and 99.8% control limits; the solid horizontal line represents 'no change', i.e. a rate ratio of 1. Only one area lies above the upper 95% limit indicating probable genuine increase in rate, and a few lie below the lower 95% limit showing probable genuine decrease in rate. No area gives cause for alarm, i.e. none lie outside the upper or lower control limits. Source: compendium of clinical and health indicators 2002

Conclusione

- Avere chiari la **finalità** e il **funzionamento** del programma/fenomeno da monitorare per scegliere gli indicatori giusti
- Possibilmente usare indicatori già **esistenti**
- L'indicatore offre una sommaria informazione sull'andamento di un fenomeno, relativamente rapida da ottenere e da leggere, ma che va **valutata criticamente** ed eventualmente **approfondita** per evitare conclusioni errate

Grazie

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