

Good practice in the field of health promotion and primary prevention

Italy Country Review

Prepared by the Ministry of Health and the Istituto Superiore di Sanità of Italy



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THIS REPORT ARISES FROM THE JOINT ACTION ADDRESSING CHRONIC DISEASES AND HEALTHY AGEING ACROSS THE LIFE CYCLE (JA-CHRODIS) WHICH HAS RECEIVED FUNDING FROM THE EUROPEAN UNION, UNDER THE FRAMEWORK OF THE HEALTH PROGRAMME (2008-2013).

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This Country Review has been developed based on the questionnaire ‘Good practice in the field of Health Promotion and Primary Prevention’ developed by EuroHealthNet, as part of Work Package 5, Task 1 of JA-CHRODIS.

Background

JA-CHRODIS is a European collaborative initiative that brings together over 60 partners from 26 European Union Member States. The collaborative partners are from areas including the national and regional departments of health and research institutions. They work together to identify, validate, exchange and disseminate good practice approaches for chronic diseases across EU Member States, and facilitate the uptake of these approaches across local, regional and national borders. The focus of JA-CHRODIS is on health promotion and primary prevention, with an additional focus on the management of diabetes and multi-morbid chronic conditions. One of the key deliverables will be a 'Platform for Knowledge Exchange', which will include both an online help-desk for policy makers and an information portal which provides an up-to-date repository of best practices and the best knowledge on chronic care.

Work Package (WP) 5 focuses on these objectives in relation to the package's theme: *Good Practice in the Field of Health Promotion and Primary Prevention*. Furthermore, **the objectives of WP 5 are to promote the exchange, scaling up, and transfer of highly promising, cost-effective and innovative health promotion and primary prevention practices for older populations**. This will involve the identification, review, and validation of health promotion and primary prevention interventions for **cardiovascular diseases, stroke, and type 2 diabetes and their modifiable behavioural and social risk factors**. WP 5 will not only take into account lifestyles and health-related behaviours, but also the wider social and economic determinants that influence them.

The following **Country Review** provides an **overview of the health promotion and primary prevention situation and approaches for cardiovascular disease, stroke and type 2 diabetes in Italy**. This review outlines relevant policies; implementation mechanisms; good practices, and whether and how they have been identified; and forecasting and cost-effectiveness studies that have been undertaken on the topic in Italy. The authors of this report have also identified current gaps and needs of promotion and primary prevention of chronic diseases. The information in this report will contribute to subsequent WP tasks, namely the identification, exchange and transfer of promising practices to promote health and prevent strokes, cardiovascular disease and type 2 diabetes in Italy.

The Health Promotion and Chronic Disease Prevention Landscape

Policy design and implementation

History and Background

The Italian Constitution (1948) enshrined the right to health in Article 32, which states that “The Republic safeguards health as a fundamental right of the individual and as a collective interest, and guarantees free medical care to the indigent”. In 1958, the Ministry of Health (Ministero della Sanità) was instituted to give full effect to Article 32 of Constitution.

In 1978, The National Health Service (Servizio Sanitario Nazionale, or NHS) was established in Italy under Law 833 to provide universal health care coverage. In the same year (1978), the Istituto Superiore di Sanità, established in 1934, became the leading technical and scientific body of the Italian National Health Service. Since the 1990s, each Italian region became responsible for the planning, organisation and management of health services. In 2001, with the modification of the Italian Constitution, the management of the NHS health services moved from the central to the regional level of government. The state’s role as central administrator of health has gradually transformed from a role as prominent organizer and manager of services to that of guaranteeing fairness for the delivery of health services at a regional level.

Role of Central Government

In accordance with the Legislative Decree 300/1999, in 2001, under Law 317, the Ministero della Sanità was renamed Ministero della Salute; the central administration of the state carries out functions of the Ministry of Health in the following issues:

- protection of human health
- coordination of the national health system
- veterinary health
- health protection in the workplace
- hygiene and food safety

More specifically, the Ministry of Health carries out state level functions in the following areas:

- 1) general direction and coordination in the prevention, diagnosis, treatment and rehabilitation of human and animal diseases, including infectious and contagious diseases and zoonosis;
- 2) programming national technical health activities and guidance, coordination and monitoring of regional technical health activities in consultation with the Ministry of Economy and Finance;
- 3) relationships with international organisations and the European Union; and
- 4) scientific research in health.

In addition, the central (state level) government controls the distribution of tax revenue for publicly financed health care. On 23 February 2002 the “Essential levels of care” (*livelli essenziali di assistenza*, or LEA), was implemented, which offered a national minimum statutory benefits package to all residents of every region. The LEA defines that the NHS, through the central government, is

required to provide funds raised through taxation for facilities and services to all citizens, free or with cost-sharing, while the regional governments hold the responsibility to provide the facilities and services.

Role of Regional Governments

The 19 regions and two autonomous provinces hold significant autonomy in determining the macro structure of their health systems and delivery of health services through local health units (LHUs). Some regional governments have established agencies to evaluate and monitor local health care quality, provide technical comparative effectiveness assessments, and provide scientific support to regional health departments (see below). Regional governments also write annual “Pacts for Health” that provide links to additional resources which are focused on achieving health care planning and expenditure goals.

National Centre for Disease Prevention and Control

In 2004, the *National Centre for Disease Prevention and Control* (CCM) was established by the Ministry of Health (MoH). The CCM’s main objective is active prevention, which it pursues through the promotion of healthy lifestyles and screening, and by addressing several health emergencies.

National Prevention Plans

In 2005, through agreements between the state and regional governments, the MoH and regions defined the National Prevention Plans (NPPs), developed at the regional level. The NPP involves not only the whole health system but also other stakeholders in order to achieve established objectives. The NPP includes activities in the following fields:

- Chronic non communicable diseases (including oncology screenings);
- Communicable diseases and vaccinations;
- Accidents in workplaces, at home, and on the road.

The NPP follows the principles of the national programme “Guadagnare Salute” (Gaining Health) and represents, with its articulated approach and innovative outlook, a concrete opportunity to implement effective actions in the area of prevention and to reach common goals. *Guadagnare Salute is further described in Section 2.3.*

The NPP fully involves not only the whole health system but also other stakeholders in order to achieve established objectives.

Implementation of Health Promotion and Primary Prevention Policies

National Health Plan Implementation

The national and regional administrations, which are responsible for upholding quality, ensure that LEA services are provided and waiting times are monitored. Several regions have introduced effective programmes for prioritizing delivery of care on the basis of clinical appropriateness of prescribed services and patient severity. The regional governments have the important role of fulfilling the objectives of the National Health Plan at the regional level. They are responsible for

planning and organizing health care facilities and activities through the regional health departments. Moreover, they coordinate and manage the LHUs and public and private accredited hospital activity.

Health Service Charts

In 1995, national legislation stated that all public health care providers should issue a “health service chart” that provides the public with information on service performance, waiting times, and highlights quality indicators, as well as providing a strategy for quality assurance which outlines the process of how patients can bring complaints forward. These charts have been adopted by the private sector for its accreditation process and must be published annually, although dissemination methods are decided regionally.

National Plan for Clinical Guidelines

The National Plan for Clinical Guidelines has been implemented in recent years and has produced guidelines on topics ranging from cardiology to cancer prevention and from appropriate use of antibiotics to abdominal delivery.

Shifts from Institutional Services to Community Care

In recent years, significant inroads have been made to better integrate health and social care services, with the aim of shifting long-term care from institutional services to community care, with an emphasis on home care services. The community home care scheme was included in the National Health Plan 1998–2000, and establishes a home care network that integrates the competencies of nurses, general practitioners (GPs), and specialist physicians together with the needs and involvement of families. GPs oversee the home care network, coordinate with social workers and other sectors of care, and take responsibility for patient outcomes.

Models of Practice for Physicians

All physicians under contract with the NHS must be certified, and all NHS staff participates in a compulsory continuous training programme. In the past few years, general practice has witnessed a transformation, with the solo practice model being progressively modified by new organisational forms (networks, groups, etc.).

Specifically, recent legislation encourages multidisciplinary teams to work in three ways:

- 1) *base group practice*, where general practitioners (GPs) from different offices share clinical experiences, develop guidelines, and participate in workshops that assess performance;
- 2) *network group practice*, which works like ‘base group practice’ but allows GPs to access the same patient electronic health record system; and
- 3) *advanced group practice*, where GPs share the same office and patient health record system, and are able to provide care to patients beyond individual catchment areas.

Main public bodies and other organisations

The MoH is responsible for ensuring access to adequate health care for all citizens and thus collaborates with regional administration to evaluate and guide improvements in care, take action to improve health equality, and develop plans to handle serious health risks.

The MoH draws on the expertise of various institutions for technical support. Key non-governmental entities include:

The Istituto Superiore di Sanità is the leading technical and scientific body of the Italian National Health Service. Its activities include research, clinical trials, control and training in public health; it also serves as a major national clearing-house for technical and scientific information on public health issues. The institute is involved in collaboration and consultation with the Ministry of Health and other institutions responsible for public health, including, regional health authorities, local health agencies and hospitals. It cooperates with those responsible for the design and implementation of health and scientific programs at local and national level and also plays a leading role in several major international research projects.

The National Health Council provides support for national health planning, hygiene, public health, pharmacology and pharmacoepidemiology, continuous medical training for health care professionals, and information systems.

The National Committee for Medical Devices (created in 2003) develops cost-benefit analyses and determines reference prices.

The Agency for Regional Health Services is the main institution responsible for conducting comparative effectiveness analysis, and is accountable to the regions and the Ministry of Labor.

The National Drugs Agency (Agenzia Italiana del Farmaco), founded in 2003, is responsible for all matters related to the pharmaceutical industry, focusing on quality, production, distribution, scientific research, and prescription drug pricing and reimbursement policies. It is accountable to the MoH and the Ministry of Economy and Finance.

Local Health Units (LHUs), the 197 LHUs, which operate in 934 districts, are responsible for protecting and promoting public health and achieving the health objectives and targets established by national and regional planning. Each LHU has a health promotion division in charge of hygiene and public health (infectious and parasitic disease, prophylaxis, health promotion and education), food control (prevention of food-related disease and nutritional surveillance), occupational diseases and accidents, and veterinary medicine.

The National Centre for Disease Prevention and Control (CCM), the action of the CCM, as mentioned above, is aimed towards the creation of synergies between the different regional initiatives, through the identification and dissemination of best practices, to promote sharing objectives and tools across regions.

Trade Unions, the payment levels, duties, and responsibilities of GPs are determined in a collective agreement signed every three years by consultation between the central government and the GPs' trade unions.

Solo and Group Practices, the majority of GPs operate in solo practices, although the central government and the regions have offered economic incentives to encourage group practice and greater integration between GPs and social care, home care, health education, and environmental health services.

Strategies and Programmes

As a priority in Italy, the prevention of major health risk factors needs an approach that is not only health-related, but also includes cooperation and coordination with many organisations and institutions/administrations.

National Strategies

Gaining Health: Making healthy choices easy

Italy adopted the national strategy: “Gaining Health: making healthy choices easy”, which promotes a cross-sectoral approach in accordance with the principles of a “Health in All Policies” approach and developing intersectoral actions to promote health and make healthy lifestyles and healthy life environments easier for people.

Gaining health is an **ethical programme to reduce health inequalities**, promote better social conditions, protect vulnerable people (children, old people and poor people), and to make healthy choices easier for people. The programme involves different stakeholders and several partners, including ministries, regions, public health services, and also food industries, consumers associations, trade unions, etc. These partners also participate in a National Platform on nutrition, physical activity and tobacco, set up at the Ministry of Health.

The National Platform consists of representatives from various institutions and other fundamental stakeholders such as representatives from civil society, food-related associations (producers, processing companies, distributors), as well as voluntary and consumer associations. These collaborations constitute an important element of achieving the goals set out and implementing interventions in areas other than the health sector. The Platform has identified several actions for developing measures and processes to encourage healthy behaviours and choices and for promoting good nutrition, physical activity, reduction of tobacco smoke and reduction of alcohol consumption.

Intersectoral Approaches

Health and Education Collaborations

An effective intersectoral approach in promoting health requires a strong partnership between the health and education sectors. Indeed, schools and families are the places where all individuals, from

the earliest years of life, can receive help and guidance for the development of their behaviour. At school, not only do children receive educational content, but they are also formed as persons and citizens.

In line with these views, in Italy, a constructive collaboration has been established between health and education sectors with the aim of raising health awareness and of training both school and health workers. In this connection, educational interventions are being carried out both at schools and in other contexts concerning some of the main areas of health (healthy diet, physical activity, smoking and drug addiction, oral hygiene), using the teaching and information materials produced on the basis of the data collected through the monitoring systems.

Population Surveillance Systems

Effective prevention and health promotion strategies should be based on solid knowledge and evidence. It is therefore necessary to develop population surveillance systems which, through continuous and systematic data collection, can provide useful information for all stakeholders (decision-makers, administrators, health workers, citizens). These systems would monitor the trends of behavioural risk factors and of the actions being implemented, tracking them over time, and hence allowing comparisons with other countries.

National Monitoring Systems

To meet this need, Italy has, in recent years, set up national monitoring systems for the data collection required to plan and assess the implemented actions. Such systems provide data on:

Nutrition and behaviour of children in primary schools:

“OKkio alla salute” - Keep an Eye on Health (see below and www.epicentro.iss.it/okkioallasalute/default.asp)

Lifestyles of children between the ages of 11 and 15, which is collected through the:

International Health Behaviour in School-Aged Children - HBSC Study (<http://www.hbsc.unito.it/it/>) and the *Global Youth Tobacco Survey (GYTS)*, promoted by WHO and CDC-USA (www.who.int/tobacco/surveillance/gyts/en/index.html, <http://www.cdc.gov/tobacco/global/gtss/index.htm>)

Adults and older persons:

PASSI (Steps) System “Health Progresses by the Local Health Units in Italy” which gathers crucial information on risk factors, people’s perception of health, and the delivery of health services to people 18-69 years old and over 70 (<http://www.epicentro.iss.it/passi/> - PASSI System; <http://www.epicentro.iss.it/passi-argento/default.asp> - PASSI d’Argento [Silver Steps System])

Surveillance System Example: Monitoring Obesity

The development of surveillance systems with national and local representation forms the basis of the Italian strategies for prevention and health promotion. For example, obesity is reaching epidemic proportions and is particularly worrying because it affects not only adults but also children. Information systems allow the opportunity to obtain data on the prevalence of overweight and

obesity, to monitor the trends over time and to assess the real needs of intervention and the effectiveness of implemented actions in different geographical areas of the country.

The monitoring tools are thus essential to define the priorities in public health. To know the problem and be able to guide the choices of decision makers and citizens through the promotion of physical activity, it is necessary to have a system of collection, analysis, interpretation and communication of data that is able to provide accurate information on practiced physical activity, implemented measures, and achieved results.

Since 2008, the surveillance system “OKkio alla salute”, promoted by the Ministry of Health - Centre for Disease Control and Prevention (CCM) has made it possible to draw a map of overweight and obesity in primary school children. Before this initiative, the data collected in Italy were fragmentary and difficult to compare because of the variety of methods used. The launch of “OKkio alla salute”, was possible thanks to the collaboration of several institutions, including the Ministry of Health; the Ministry of Education, University and Research; the National Research Institute for Food and Nutrition (INRAN); the Italian Regions, and the National Institute of Health (ISS).

Data collection, carried out by Local Health Units in collaboration with schools, has given the opportunity to obtain comparable data from more than 45,000 third-graders in all Italian regions. Information on dietary habits and physical activity were collected for children aged 8-9 years. Data were collected using questionnaires addressed to children and their parents and the children were weighed and measured by trained local health staff, using standardized equipment. The International Obesity Task Force cut-offs were used to classify the children as underweight, normal weight, overweight, and obese. The prevalence of behaviours associated with obesity was evaluated.

To communicate the results and provide general advice, a leaflet for parents, a kit for teachers, and a poster for paediatricians was produced.

Coronary and Cerebrovascular Disease Prevention

The CUORE Project

Coronary and cerebrovascular disease prevention is one of the priorities of the NPP and is supported by the CUORE Project, led by the National Institute of Health (ISS), launched thanks to the 1% of the National Health Fund. The aims of the project are: to estimate the impact of cardiovascular diseases in the general population through indicators like prevalence, attack, incidence, and mortality rates; to evaluate the distribution of cardiovascular risk factors, the prevalence of high risk conditions (hypertension, hypercholesterolemia, smoking habit, physical inactivity, obesity, diabetes) and of cardiovascular disease of atherosclerotic origin, such as angina pectoris, myocardial infarction, TIA (Transient Ischaemic Attack), stroke, intermittent claudication, and atrial fibrillation in representative samples of the Italian population, and to evaluate the cardiovascular risk in the Italian population.

The CUORE Project resulted in:

- *a national register* of coronary and cerebrovascular events on persons aged 35-74 years including about 5 million of resident population under surveillance;
- *two editions of the Osservatorio Epidemiologico Cardiovascolare/Health Examination Survey (OEC/HES)* implemented in random samples of the general adult population of all Italian

regions (the study was also part of the EHES-European Health Examination Survey). The OEC/HES data collected through standardized questionnaires and measurements provided the opportunity to evaluate the health status of the Italian adult population and to assess trends of cardiovascular disease prevalence and risk factors (9712 persons in the first edition 1998-2002, and 8714 persons in the second edition 2008-2012);

- *the cardiovascular risk chart* to assess the likelihood of experiencing a major fatal and non-fatal coronary and cerebrovascular event in the following 10 years when the level of some main cardiovascular risk factors is known (10-CR).

The National Prevention Plan (NPP) of 2005-2009 included 10-CR of the general population aged 35-69 years using the CUORE project risk score. GPs were encouraged to collect data on risk factors and 10-CR, to counsel their patients and to contribute to the Cardiovascular Risk Observatory (CRO), the national database including all the cardiovascular risk evaluations delivered by physicians using CUORE.EXE, the specific software for cardiovascular risk assessment. Data were collected using CUORE.EXE software, easily and freely downloadable by GPs from the CUORE project website (www.cuore.iss.it). The CRO also provides a web platform to analyse and compare data on 10-CR and risk factors at regional and national levels with the aim of supporting health policy decision processes. The CCM has launched a national training plan aimed at increasing GPs' awareness about the key role of cardiovascular prevention, the importance of cardiovascular risk assessment and of assessing tools.

National Training Plan on Cardiovascular Risk

Within the CCM, a task force was established with the aim of setting up the National Training Plan on Cardiovascular Risk as part of the National Prevention Plan 2005-2009. The task force consists of representatives from the Ministry of Health, the National Institute of Health, and the Italian Drug Agency, and is also open to representatives from the Italian regions.

Diabetes Prevention

National Prevention Plans: Disease Management

Regarding diabetes, health promotion and primary prevention are under the scope of the programme "Gaining Health". Moreover, the National Prevention Plans (NPPs) 2005-2009 and 2010-2013 have identified 'Disease Management' as the best strategy to improve the quality of care and to prevent the complications of diabetes.

In addition, disease management, through the creation of shared care pathways, is an organisational prototype model aiming to improve care and prevent complications. This approach – organized, pro-active and multidisciplinary – is essentially based on the integration and co-ordination among different health care levels, and on the active involvement of patients in the treatment pathway.

To fulfil the agreement, all Italian regions had to provide Disease Management projects on the basis of the operative lines prepared by CCM. Furthermore, in order to support and co-ordinate the

regional projects of NPP, in 2006 CCM began the IGEA project, led by the ISS and aiming at developing tools for the implementation of Disease Management.

The IGEA project provided:

- *a dedicated website* (www.epicentro.iss.it/igea);
- *guidelines for the Disease Management of Type 2 Diabetes in adults*. The recommendations provided by the document are aimed at improving the quality of care for persons with diabetes through an integrated and shared approach among all stakeholders involved. The recommendations include identification of persons at high risk of diabetes, prevention, and treatment of complications;
- *a training manual and training courses* for practitioners of Disease Management of T2D;
- *a guideline document* on the requirements of an information system for the Disease Management of T2D;
- *a document on clinical pathways* for diabetes.

The next NPP 2014-2018, on the way to get final approval, will be, instead, focused on:

- health promotion
- primary prevention
- early detection of diabetes

Italian National Diabetes Plan

On December 6th, 2012, the Italian National Diabetes Plan was approved. This plan outlines a number of strategic goals in order to improve prevention, treatment and rehabilitation of diabetes. For diabetes prevention, the Plan refers to the activities listed above, aiming at both primary prevention (*Gaining Health* and intersectoral policies), and the prevention of the development and complications of the disease (early diagnosis and disease management).

Dialogue with the Food Industry and Salt Reduction

In order to provide concrete responses in terms of healthy nutrition and lifestyles, the Ministry of Health has, in recent years, created and maintained a constant and constructive dialogue with the food industry. This dialogue has the opportunity of taking an active role in improving people's health, intercepting the emerging demand of citizens for acquiring and maintaining healthy lifestyles, as well as acting as a "health promoter".

Hence, in Italy, some food production and distribution companies have volunteered to take on initiatives which aim at improving the nutritional quality of some of their products, at progressively reducing the serving sizes, and at eliminating less healthy products from automatic dispensers in school settings.

Technical Table for Food Reformulation

For example, according to "Gaining Health", in 2008 a Technical Table for food reformulation was established at the Ministry of Health with the goal of reducing the added salt content in bread and of other major sources of food. The Group was also made up of representatives of the *Interdisciplinary Working Group for Reduction of Salt Intake in Italy – GIRCSI* (started in 2007 and committed to by

eight Italian scientific societies included as partners). Thanks to the work of the Group, in 2009 the Minister of Health and the bakers' associations signed a Memorandum of Understanding that committed craft bakers and food industry to reduce the content of salt in the bread and in other bakery products.

MINISAL-GIRCSI Project

In 2010, the Ministry of Health promoted, through the CCM, the implementation of the MINISAL-GIRCSI Project, aiming at the baseline evaluation and subsequent monitoring of habitual salt intake of the Italian adult, paediatric, and hypertensive population; and at the evaluation of the salt content of selected commercially available food items.

Meno Sale Piu' Salute

In 2012, the Ministry of Health also promoted, through the CCM, the implementation of the Meno Sale Piu' Salute (Less salt more health) Project, that has the objective to test and evaluate the effectiveness of an integrated intervention to reduce salt consumption in a local community, compared to a control community.

Educational Initiatives in Salt Reduction

Among the educational initiatives carried out in Italy in the field of salt reduction, the most significant were:

- 1) the promotion of the annual World Hypertension Day with special commitment of the Italian Society of Hypertension;
- 2) the promotion of the Salt Awareness Week, launched each year by the international WASH organisation and supported in Italy by GIRCSI and, in particular, by the Italian Society of Human Nutrition (website: <http://www.sinu.it>);
- 3) the organisation of thematic conferences on: salt and health; the compatibility of policies of salt intake reduction; prevention of thyroid disorders by iodophylaxis; and other educational initiatives by the GIRCSI partner societies; and
- 4) dissemination of the MINISAL-GIRCSI Program preliminary results among Italian specialist physicians and general practitioners.

Discouraging Unhealthy Lifestyles

Smoking Laws

In order to discourage unhealthy lifestyles, other initiatives were taken through different legislations. In accordance with recommendations from the World Health Organization (WHO) and European Union, from 16 January 2003, smoking in Italy has been banned in public places including bars, restaurants, discotheques and offices. This legislation extended the prohibition of smoking that was already applied to: public venues (hospitals, cinemas, theatres, and public administration offices open to the public), all premises open to the public (bars, restaurants) with the exception of private premises not open to the public, and premises reserved for smokers. Since September 2013 smoking has been banned outdoors in outside areas belonging to public and private schools. Since November 2013 the ban has been extended to electronic cigarettes.

Environmental, Social and Economic Prevention Strategies

The complex Italian strategy for the prevention and control of noncommunicable diseases is also backed by a NPP that is not limited to promoting actions in specific health areas, but also involves other sectors (environment, social and economic) that significantly influence individual behaviour and the quality of living and working environments.

In order to ensure continuity with previous years, the NPP recommends several interventions to be implemented at the regional level, within the framework of an integrated approach for tackling risk factors related to noncommunicable diseases (inter alia prevention of obesity). In particular, the Plan recommends the strengthening of partnerships with the education sector through intersectoral and multidisciplinary interventions including: implementation of programmes promoting fruit and vegetable consumption in the general population; promotion of breastfeeding; improvement and control of nutritional quality of food served at schools and at workplace cafeterias; and promotion of physical activity.

It should be emphasized that all Italian regions have developed interventions for the prevention and surveillance of unhealthy lifestyles and related diseases, with particular reference to unhealthy diet, lack of physical activity, alcohol abuse, tobacco smoke and drug addiction. This demonstrates that noncommunicable disease prevention represents a top priority for Italy.

Interregional Inequity

Interregional inequity is a long-standing concern. The less affluent southern regions trail behind the northern regions in the number of beds and availability of advanced medical equipment, a higher number of private facilities, and less-developed community care services.

The National Health Plan for 2006–2008 cites overcoming large regional discrepancies in care quality as a key objective for future reform. The Ministry of Health and the Ministry of Economics and Finance signed an agreement in April 2007 to direct EU resources towards health services in eight regions in the south as a first step towards reducing the persistent discrepancies. Regions receive a proportion of funding from an equalization fund (the National Solidarity Fund), which aims to reduce inequalities between northern and southern regions. Aggregate funding for the regions is set by the Ministry of the Economy and Finance, and the resource allocation mechanism is based on capitation adjusted for demographic characteristics and use of health services by age and sex.

Financing

Public Financing

In Italy, primary and inpatient care are free at the point of use. The public system is financed primarily through corporate tax that is pooled nationally and allocated back to the regions. In 2012, public financing accounted for 78.2 percent of total health spending (Organisation for Economic Co-operation and Development, 2013). Private health insurance plays a limited role in the health system, accounting for roughly 1 percent of total health spending in 2009.

Funding of LEAs and LHUs

Every year the *Standing Conference on Relations between the State, the Regions and the Autonomous Provinces* sets the criteria (population size and age demographics) used to allocate the funding for delivering the “Essential levels of care” (LEAs) among the regions. Local health units (LHUs) are funded mainly through capitated budgets.

Funding of Health Programmes and Research Projects

Health programmes and research projects are mainly funded by the MoH and CCM through annual competitions among research projects regarding different aspects of health care and prevention. Some surveillance systems are funded by funds of the MoH and CCM (e.g. Okkio alla Salute, HBSC, PASSI, Passi d’Argento).

Regional Funding

The CCM also funds and supports actions of the regions towards the realization of the NPPs. Several millions euros per year have been assigned to reinforce organisational and professional resources involved in the implementation of activities coordinated or financed by the CCM, including planning, monitoring and evaluating Regional Prevention Plans. To receive funding, the regions must agree with the CCM on a plan of activities for the realization of these functions, precisely specifying objectives, timeframes and indicators, monitoring of the implementations, and allowing a proper evaluation of achieved results. While the CCM covers all aspects related to the coordination and evaluation of the regional plans, the economic management is left up to the regions.

EU Funds

Other economic support to prevention actions or chronic diseases research projects came from European Union structural funds or competitions (e.g. Horizon 2020).

Identifying Good Practice and existing databases

FORMEZ Best Practice Database

To promote the implementation of the programme “Gaining Health”, the Ministry of Health funded a project coordinated by the FORMEZ (Centre for Educational Studies) in 2007, with the aim of supporting local communities with the identification, selection, strengthening and dissemination of “Best Practices” aimed at promoting physical activity for people of all ages; encouraging a proper and balanced diet; preventing and curbing smoking; and preventing and fighting alcohol abuse. The first step of the project was identifying and cataloguing experiences that had a cross-sectoral approach and the involvement of several institutions (regional and local health authorities, local authorities) and that operate in various areas (health, social, environmental, educational, etc.).

For the collection of the experiences, the FORMEZ developed a questionnaire that could be filled in online. It was necessary to involve the regions actively through several seminars, and to help them to detect the experiences. FORMEZ provided the regions with updated and comprehensive feedback on what was achieved in the prevention field within their borders. A database, available to all interested parties, was created on the website of the FORMEZ to collect the selected experiences. The database, that collected 330 experiences related to preventive actions on the four main risk factors (poor diet, smoking, alcohol abuse, lack of physical activity), enabled an initial comparison between similar experiences implemented within the same region or in other regions. The 330 experiences were submitted to an initial review to evaluate some of the main aspects (ongoing cross-sectoral experiences, public property, adoption of evaluation methods, sustainability, reproducibility, transferability); those which were found to meet the required criteria (286 of 330), were then submitted to a second questionnaire, administered via telephone, aiming at investigating the quality aspects related to the design of the interventions and the effectiveness of the adopted preventive actions. Site-visits were carried out to better understand the two best practices identified in each region. Particular attention has been devoted to the dissemination of the validated “Best Practices” in order to promote their transferability in the territories where they can be implemented, through the creation of possible partnerships and a climate conducive to experimentation.

The governance of the project was provided by the Working Group of Technicians and Investigators of FORMEZ, and was supported by the Ministry of Health and a Scientific Committee made up of national experts from the topics of interest, who each had specific tasks in the process of validation of the best practices. They developed a set of 18 accredited methodological criteria as well as a specific procedure, described below.

The experiences contained in the database have been transferred to the database of health promotion projects (Pro.Sa), where available.

Pros.Sa Database

In Italy, the “Pro.Sa” data-base of health promotion projects: (<http://www.retepromozionesalute.it>; <http://www.guadagnaresalute.it/progetto/progettoProsa.asp>) is the result of a multi-year collaboration between the Piedmont Region, Ministry of Health, and National Institute of Health.

Pro.Sa is grounded in theories of evidence and best practice translation and exchange (knowledge translation and exchange) among different actors (practitioners on health promotion and prevention, stakeholders, decision makers). The aim is to support evidence-informed decision making processes; that the importance of integrating best evidence and practices with every action and decision on health promotion and prevention is taken at different levels.

Through the Pro.Sa database, project managers can submit their project to be evaluated as “Good Practice”. Two independent readers, who are experts in the field of health promotion and also trained in the use of the assessment tool, read the project and give it a scaled score. Currently Pro.Sa contains 2796 interventions from 12 of the 20 Italian regions.

The focus on good practices aims at:

- highlighting strength factors for the effectiveness of an intervention;
- promoting sustainability and transferability in other settings or contexts;
- building a professional network (community of practice) in the field of health promotion and prevention

The Good Practice criteria are:

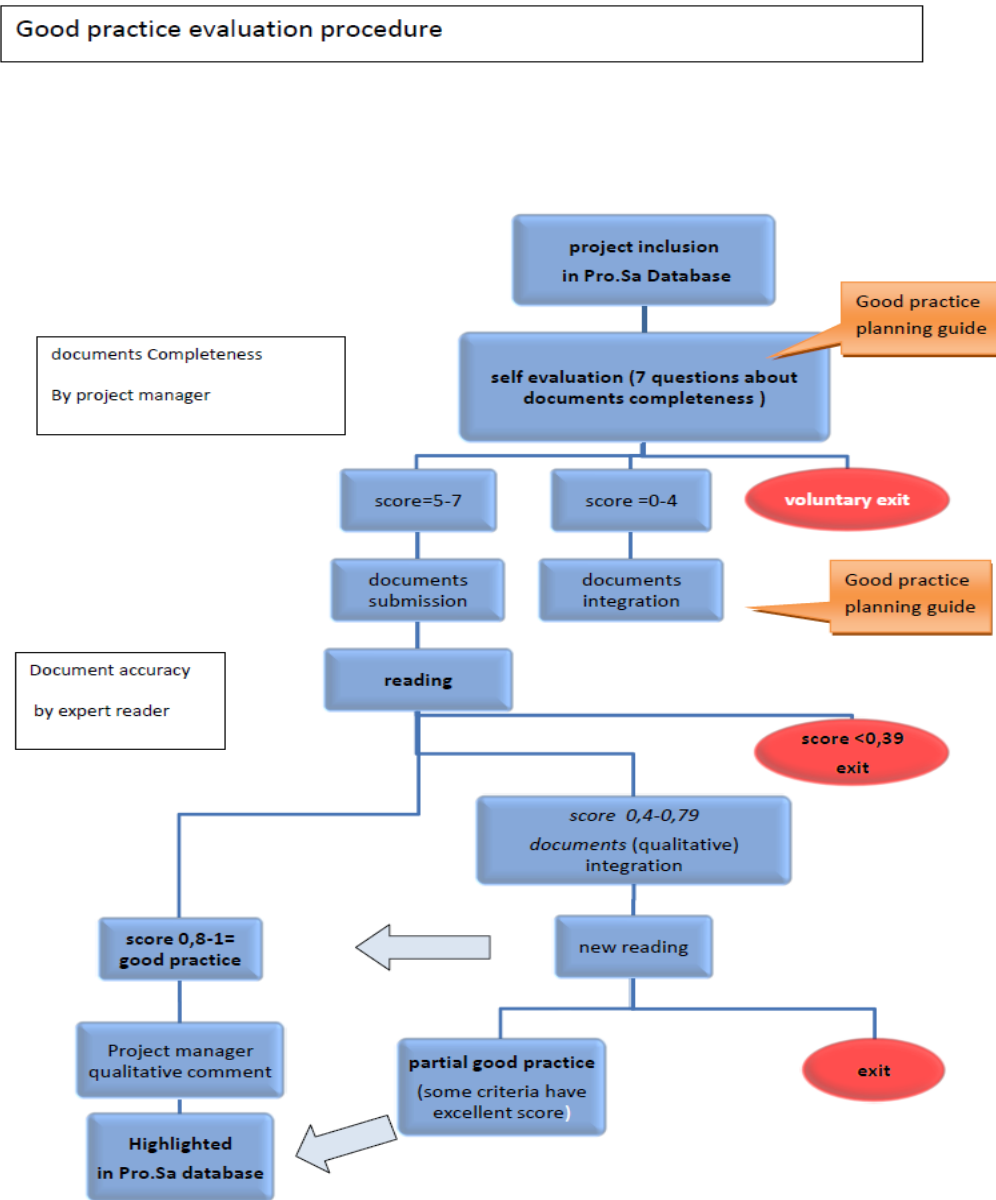
1. Working group (multidisciplinary, multi-sector, including representatives of target groups)
2. Equity in health
3. Empowerment
4. Involvement/ participation
5. Setting
6. Theoretical models and theories of design and behaviour change
7. Evidence of effectiveness and good practice examples
8. Context analysis
9. Determinants analysis
10. Resources, time and limits
11. Partnership and alliances
12. Objectives
13. Process evaluation
14. Interventions/ activities description
15. Output and outcome evaluation
16. Sustainability
17. Communication
18. Documentation

Overview of Pro.Sa Functionality and Procedure

- an open access web database to collect, analyse, and spread health promotion and prevention programmes and interventions at national, regional and local levels;
- possibility to create maps and reports on the implemented actions;
- a tool useful to write a project and to document its implementation and its results;
- allows the identification and definition of good practices on the basis of criteria stated above.

Pro.Sa's Good Practice Evaluation Procedure

See diagram of good practice evaluation procedure on the next page.



The Mattone Internazionale Project

To promote the internationalization of regional health systems, the MoH, in close cooperation with the State-Regions Conference, founded the *Mattone Internazionale Project*. This project aims to increase the role of the regional health systems and policies in Europe by strengthening their ability to investigate opportunities offered by the European Union and other international organisations

("bringing the health system and policies of the Italian regions in Europe and Europe in the health systems of the Italian regions").

The project oversees the implementation of educational and information activities addressed to ministry organisations, Italian regions, local social-health authorities, hospitals, as well as other stakeholders involved in health topics, in order to promote the dissemination of EU policies and opportunities to access EU financed programmes in the framework of health, research and innovation in the national territory.

In addition, the project activates specific mechanisms for the promotion of qualified stakeholders to participate in European and international health policies.

Database of Regional Good Practices Presented at the European Level

A database has been developed for the collection of good practices that the Italian regions and autonomous provinces have presented at the European level in the context of the European Innovation Partnership on Active and Healthy Ageing. The database is aimed at collecting regional good practices but does not intend to examine internal evaluation procedures and related validation as each Italian region has developed an internal evaluation system for good practices assessment.

Forecasting Studies

Explaining the decrease in coronary heart disease mortality in Italy between 1980 and 2000 (IMPACT study)

Luigi Palmieri, Kathleen Bennett, Simona Giampaoli, and Simon Capewell

Am J Public Health. 2010; 100:684–692. doi:10.2105/AJPH.2008.147173

Objectives: We examined the extent to which the decrease in coronary heart disease (CHD) mortality rates in Italy could be explained by changes in cardiovascular risk factors versus the use of medical and surgical treatments.

Methods: We used a validated model to combine data on changes in risk factors and uptake and effectiveness of cardiac treatments among adult men and women in Italy between 1980 and 2000. Data sources included results of published trials, meta-analyses, official statistics, longitudinal studies, and national surveys. The difference between observed and expected CHD deaths in 2000 was partitioned among treatments and risk factors.

Results: From 1980 to 2000, the age-adjusted CHD mortality rate in Italy fell among persons aged 25 to 84 years, resulting in 42930 fewer CHD deaths in 2000. Approximately 40% of this decrease was attributed to treatments and 55% to changes in risk factors.

Conclusions: Over half of the CHD mortality fall in Italy between 1980 and 2000 was attributable to reductions in major risk factors, mainly cholesterol and blood pressure, and less than half to evidence-based medical therapies. These results are becoming increasingly important, both for understanding past trends and for planning future prevention and treatment strategies.

Inclusion of the Study in Italy:

Results of the IMPACT study were included in the Italian National Health Report 2009 and 2011 (Relazione sullo Stato Sanitario del Paese).

Features and initial assessment of the Italian Behavioral Risk Factor Surveillance System (PASSI), 2007-2008

Sandro Baldissera, Stefano Campostrini, Nancy Binkin, Valentina Minardi, Giada Minelli, Gianluigi Ferrante, Stefania Salmaso, and the PASSI Coordinating Group

<http://www.epicentro.iss.it/passi/> and <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3044035/>

Prev Chronic Dis. Jan 2011; 8(1): A24.

Introduction: Surveillance systems on health status and behaviours of populations are fundamental for planning, implementing and monitoring preventive interventions. In 2006, the Italian Ministry of Health provided funding to the National Institute of Public Health to develop an ongoing surveillance system of adult behavioural risk factors. In this paper, we describe the main features of the system (known as “PASSI”) and provide a preliminary assessment of its activity.

Methods: PASSI is conducted by participating local health units (LHU), which use a common questionnaire and methodology. Each month, LHU staff conducts telephone interviews of a random sample of resident adults 18-69 years of age. Data are transmitted to the national coordinating center, where they are cleaned, managed, and made available for local, regional, and national analysis. Training, data analysis and communications are centrally supervised, and data quality is routinely monitored.

Results: From 2007 more than 140,000 interviews were done. From 2008 no significant difference resulted for prevalence of physical inactivity, obesity, consumption of 5 portions of fruits and vegetables. Smoking habit significantly decrease from 2008 to 2012 by 2.5% (1,6% in North regions, 2,9%, in Central regions and 2,4 % in South regions). Regarding the indicator “patients asked about alcohol consumption habits” the analysis of trend shows a substantial stability over time in the period 2007-2010.

Conclusions: The organisational model of PASSI may be of interest to countries that are developing surveillance systems as well as those with systems already in place.

Inclusion of the Study in Italy

PASSI data were included in the Italian National Health Report 2012 and 2013 (Relazione sullo Stato Sanitario del Paese), and in the Italian Observatory on Health Care Systems (Osservasalute) from 2011 to 2013. PASSI data were considered in national, regional and LHUs’ prevention plans.

The Italian Health Examination Survey: trends from 2000 to 2010 of cardiovascular risk factors, risk conditions and cardiovascular diseases.

Giampaoli S, Vanuzzo D, and the Research Group of the Osservatorio Epidemiologico Cardiovascolare/Health Examination Survey.

Giornale Italiano di Cardiologia 2014; 15 (4 Suppl 1): 7S-31S.

Background: Monitoring trends of cardiovascular risk factors serves to reinforce political commitment for stronger and coordinated global actions on non-communicable diseases prevention and control. The main objective of this analysis is to assess trends from 2000 to 2010 of cardiovascular risk factors, risk conditions and cardiovascular diseases.

Methods: Two independent resident population samples, examined in 1998-2002 (N=9712) and in 2008-2012 (N=8714), were made up of men and women aged 35-74 years within the Osservatorio Epidemiologico Cardiovascolare/Health Examination Survey (OEC/HES) involving all Italian regions. Cardiovascular risk factors were measured with comparable standardized procedures and methods. Data were adjusted by direct method with the Italian census population of 2000 and 2010 respectively. Participation rate was 55%, ranging from 40% in Rome to 85% in a small city Aosta.

Results: Mean systolic blood pressure declines from 135mmHg (95% CI 135-136) to 132 (CI 132-133) in men and from 132mmHg (CI 132-133) to 127 (CI 126-127) in women; mean diastolic blood pressure declines from 86mmHg (CI 85-86) to 84 (CI 84-85) in men and from 82mmHg (CI 82-82) to 79 (CI 78-80) in women; prevalence of hypertension declines from 52% (CI 51-54) to 51% (CI 50-53) in men and from 44% (CI 43-46) to 37% (CI 36-39); the proportion of those properly treated increases from 7.3% to 15.5 in men and from 11.5% to 26.2% in women. Mean total cholesterol increases from 205 mg/dl (CI 204-206) to 211mg/dl (CI 210-212) in men and from 207 mg/dl (CI 206-208) to 217 (CI 215-218) and the prevalence of hypercholesterolemia increases from 20.8% (CI 20-22) to 34.3% (CI 33-36) in men and from 24.6% (CI 23-26) to 36.6% (CI 35-38) in women; mean fasting blood glucose was 101mg/dl (CI 100-102) in men and 94 mg/dl (CI 93-94) in women with no difference in the trend as well as for the prevalence of diabetes: 11% (CI 11-12) in men and 8% (CI 7-8); BMI increases from 27 kg/m² (CI 27-27) to 28 (CI 28-28) in men and from 26 kg/m² (CI 26-27) to 27 (CI 27-27) in women. The prevalence of smoking declines from 32.3% to 23.8 in men and from 22.5% to 20.1 in women. The 10-years absolute risk of fatal and non-fatal major cardiovascular events assessed in the age range 35-69 years by the risk function of the CUORE project declines from 8.1% (CI 7.9-8.3) to 7.6 (CI 7.1-8.1) in men and from 3.2% (CI 2.8-3.6) to 2.7 (CI 2.6-2.8.).

For prevalence of cardiovascular diseases (myocardial infarction, stroke, transient ischemic attack, claudicatio intermittens, atrial fibrillation, left ventricular hypertrophy, angina pectoris, revascularization surgery or coronary artery bypass surgery) no significant temporal variation were found except for the decrease of atrial fibrillation and the increase of revascularization surgery and coronary artery bypass surgery.

Conclusions: The decrease of mean blood pressure and of the prevalence of smoking habit are significant and can explain partly the risk reduction in the general population despite the increasing BMI, although further confirmation is needed through the observation of possible decline in incidence and mortality from cardiovascular diseases. The OEC/HES provides public health authorities with useful information to plan and evaluate interventions for chronic disease prevention.

Inclusion of the Study in Italy

OEC/HES data were included in the Italian National Health Report 2009, 2011, 2013 (Relazione sullo Stato Sanitario del Paese), in the Italian Observatory on Health Care Systems (Osservasalute) 2008 and 2012. OEC/HES data were considered in national and regional prevention plans.

Stroke mortality and trends from 1990 to 2006 in 39 countries from Europe and Central Asia: implications for control of high blood pressure.

Josep Redon, Michael H. Olsen, Richard S. Cooper, Oscar Zurriaga, Miguel A. Martinez-Beneito, Stephane Laurent, Renata Cifkova, Antonio Coca, and Giuseppe Mancía

Eur Heart J. 2011 Jun; 32(11):1424-31. doi: 10.1093/eurheartj/ehr045. Epub 2011 Apr 12.

Aims: The aim of the present study was to extend our understanding of international trends in stroke and major sequelae in Europe and countries peripheral to Europe by assessing: (1) current mortality rates, (2) the most recent 15-year prevalence trends, and (3) the relationship between systolic blood pressure in community surveys and national stroke mortality.

Methods: Data were obtained from the World Health Organization (WHO www.who.int/whosis/database/mort/table.cfm), and represent national vital statistics as reported by 39 countries (European and Central Asian countries) using a standard format and population-based cardiovascular surveys. Total numbers of deaths by stroke (International Classification of Diseases 430-438, 444) and the age, sex-adjusted incidence rates were obtained and grouped according to three standard demographic categories: A, B, and C (WHO). A Bayesian linear mixed effect model was fitted to the annual mortality rates.

Results: Higher rates of stroke mortality were observed for B and C group countries as compared with those countries belonging to Group A (e.g. Bulgaria 273.9 and 281.1; Israel 37.7 and 45.4 per 100 000 men and women, respectively). Even though the mortality rates within the country groupings were relatively similar, countries with marked deviation from the average were observed, mainly in Groups B and C. Stroke mortality decreased sharply in Group A during the period of study; conversely it had increased substantially in Group B and to a lesser extent in Group C. For both sexes markedly higher rates were noted moving from west to east, with some exceptions.

Italy was part of the A group. Age-adjusted stroke mortality per 100,000 inhabitants in 2002 was 95.9 for men and 133.5 for women. Age-specific stroke mortality (45-54y, 55-64y, 65-74y, over 75y) was 14.1, 41.1, 168.5 and 1129.2 in men and 9.8, 24.3, 101.4 and 1113.7 in women respectively.

Annual rate of change in Italy per 100,000 inhabitants in stroke mortality from 1990 to 2002 was from -2 to -1 in men and -1 in women.

Conclusions: We have entered a period of rapidly increasing international inequality in stroke risk, where countries with low adult mortality in the latter 20th century extended their downward trend and countries with moderate as well as high mortality have on average seen unprecedented increases in death rates from stroke.

Inclusion of the Study in Italy

Data of this study were not explicitly reported in the Italian National Health Report or in the National Prevention Plan, but represent the background of many studies on stroke, such as the CUORE Project in Italy.

Temporal trend in hospitalizations for acute diabetic complications: a nationwide study, Italy, 2001-2010

Lombardo F, Maggini M, Gruden G, Bruno G.

PLoS One. 2013 May 23; 8(5):e63675

Background: We investigated temporal trends and geographic variations in both hospitalizations and in-hospital mortality rates for acute diabetic complications (ADC) in the Italian universal health care system.

Methods and findings: A retrospective review of the medical records of patients with either primary or secondary discharge diagnosis of hyperglycaemic acute complications (ICD-9-CM codes 250.1, 250.2, 250.3) or hypoglycemic coma (ICD-9-CM code 251.0) was performed in period 2001-2010. Standardized rates by age and gender on 2001 Italian population and by diabetic population were calculated. We identified 7,601.883 diabetes-related hospital discharges. Out of them, 266,374 (3.5%) were due to ADC, either ketoacidosis/hyposmolality (94.4%) or hypoglycemic coma (5.6%). The rate of discharge for ADC decreased by 51.1% from 2001 to 2010 (14.4 vs. 7.1 discharge rate/1,000 diabetic people; 5.7% decrease per year, test for trend, $p < 0.001$) with a similar trend for both hyperglycemic and hypoglycemic complications. Diabetic people in the younger age groups (≤ 19 and 20-44 years old) had a significantly greater rate of discharge for ADC than people aged 65 years and over (≤ 19 10-fold increase; 20-44: 2-fold increase). In-hospital mortality rate was 7.6%, with 211 preventable deaths in younger diabetic people (≤ 44 years old). There was a large variability among Italian Regions and the ratio between the highest and the lowest regional discharge rate reached 300% in 2010.

Conclusions: Decreasing temporal trend in hospitalizations for preventable ADC suggests improving outpatient care. In younger diabetic patients, however, both hospitalization rates and in-hospital mortality are still a matter of concern.

Inclusion of the Study in Italy

Data from this study were included in the Italian Observatory on Health Care Systems (Osservasalute) of 2012. Data were considered in National Prevention Plans.

Cost-effectiveness studies

Diabetes expenditure, burden of disease and management in 5 EU countries

Panos Kanavos, Stacey van den Aardweg and Willemien Schurer

LSE Health, London School of Economics; January 2012

Background and Aims: Diabetes mellitus (DM) is associated with a high risk of developing complications and severe co-morbidities. Over the past few years, diabetes (Type 1 and 2) and its associated costs have risen, particularly those related to treatment of complications.

Our aims are to identify and compare the diabetes burden of disease, costs (direct and indirect) and diabetes outcomes, focusing on complications across France, Germany, Italy, Spain, and the UK (EU5). We will then have an understanding of the state of diabetes management in EU5 from which to make informed policy options.

Materials and methods: A survey was designed and sent to health economists in the EU5 countries. In turn, key diabetes clinicians, decision makers and health officials were interviewed in order to answer the survey. In addition, secondary data was collected from PubMed, diabetes association publications and health government publications and websites, including national statistics.

Results: Diabetes prevalence resulted variable across the EU5: France 6.39% (Type 1/2 >18y), Germany 8.9% (Type 1/2, 0-99y), Italy 4.8% (Type 1/2, 0-99y), Spain 8.1% (Type 2, >18y), and the UK 6.1% (Type 1/2, 0-99y); based on medium-size studies and extrapolated to the national level.

In Italy, the estimate of diabetes relates to, both, Type 1 & 2. This is based on telephone interviews conducted in 2009 with a randomly selected sample of the population (approximately 54,000 individuals in 850 cities).

The study estimates that in 2010, the direct cost burden of people with diabetes was highest in Germany, in part due to the greater diabetes population, at €43.2 billion, followed by the UK (€20.2 [£13.8] billion), France (€12.9 billion), Italy (€7.9 billion) and Spain (€5.4 billion).

The total per patient costs are highest in Germany (€5,899) (€2,684 if only incremental costs are taken into account), followed by France (€5,432), the UK (€4,744-€5,470), Italy (€2,756) and Spain (€1,708-€3,015 depending on the study and approach).

The inpatient costs are in some instances more than double the outpatient costs (France inpatient €2,022 and outpatient €1,950, the latter including injection devices, self-blood glucose monitoring equipment, insulin pumps and other medical devices, Germany in- €1,985 out-patient €1,672; Italy in- €1,569 out-patient €373; Spain in- €829 out-patient €247; UK in- €2,681-3,786 out-patient €439 - €530).

Examination of outcomes data finds that tight glycaemic control can be variable (HbA1C ≤6.5%: France 24-32%; Italy 24-44%; England 25%) and slightly more with good glycaemic control (HbA1C ≤7.5%: France 24-52%; England 28-66.5%; Scotland 22-64%).

Organisation for Economic Cooperation and Development estimated that every year, approximately 27,000 Italian citizens (approximately 3 people per hour) die from diabetes (International Diabetes

Federation 2009). Type 2 diabetes accounts for 90% of diabetes in Italy (Mladovsky et al. 2009). In terms of diabetes-related complications, 10% of patients with Type 2 diabetes suffer from coronary heart disease (DAI Study Group 2004); 32% suffer from neuropathy (Fedele et al. 1997) and about 34% of diabetics suffer from retinopathy (Giuffre et al. 2004). Formal patient education programmes for new patients have been instituted nationally in Germany, Italy, Spain and the UK (content and intended audience varies regionally).

Conclusions: Worldwide surveillance of diabetes is a necessary first step toward its prevention and control, which is now recognized as an urgent priority. Only France, Italy and the UK regularly collect and publish monitoring data. France do so intermittently (2001, 2007) and Italy and the UK annually. Only three countries have national diabetes programmes (Italy, Spain, UK), while France's has not been operational since 2005. In Italy, National Diabetes Programmes includes: National Diabetes Prevention Plan (2010/12) and other lifestyle programmes (Guadagnare Salute), National and Regional programmes (IGEA, chronic disease management guideline (Maggini 2009). In Italy, national treatment guidelines are produced by the Associazione Medici Diabetologici (AMD), in conjunction with the Società Italiana di Diabetologia (SID) (Associazione Medici Diabetologi (AMD) - Società Italiana di Diabetologia 2010). These cover screening, prevention and treatment of Type 1, 2 and gestational diabetes. In general, GPs are responsible for diagnosis of Type 1, Type 2 and pre-diabetic patients, particularly in the UK, Italy and Spain, although diabetologists/endocrinologists may be involved, particularly if the patient is first diagnosed with diabetes in emergency care.

European Cardiovascular Disease Statistics 2012

Nichols M, Townsend N, Luengo-Fernandez R, Leal J, Gray A, Scarborough P, Rayner M

European Heart Network and European Society of Cardiology, September 2012

<http://www.escardio.org/about/documents/eu-cardiovascular-disease-statistics-2012.pdf>

Background: This is the fourth edition of European Cardiovascular Disease (CVD) Statistics. This fourth edition is published jointly by the European Heart Network, the European Society of Cardiology and the British Heart Foundation Health Promotion Research Group, Department of Public Health, University of Oxford. It is part of the European Heart Health Strategy II (EuroHeart II) project and benefits from co-funding from the European Union in the framework of the health programme.

The European Heart Network (EHN) is a Brussels-based alliance of heart foundations and likeminded nongovernmental organisations throughout Europe with member organisations in 26 countries.

Methods: In compiling the first 11 sections of European Cardiovascular Disease Statistics we have only consulted international sources: that is the World Health Organization (WHO), the WHO MONICA (monitoring trends in cardiovascular disease) Project, the Food and Agriculture Organization of the United Nations (FAO), the EU, the European Society of Cardiology, etc. In the final section on economic costs, we have also consulted national sources. It should be noted that the data presented are extremely variable in quality and are only a selection of those available. The original sources need to be consulted for further information.

Results: CVD has major economic costs as well as human costs for Europe.¹ Overall CVD is estimated to cost the EU economy almost €196 billion a year. Of the total cost of CVD in the EU, around 54% is due to direct health care costs, 24% to productivity losses and 22% to the informal care of people with CVD. CVD cost the health care systems of the EU just over €106 billion in 2009. This represents a cost per capita of €212 per annum, around 9% of the total health care expenditure across the EU. The cost of inpatient hospital care for people who have CVD accounted for about 49% of these costs, and that of drugs for about 29%.

Italy, in 2009, the health care costs of (CVD) were 1,148,231€ thousands for primary care, 1,056,688€ for outpatient care, 6,863,073€ for inpatients care and 5,148,000€ for medications, with a cost pro capita of 241€ and a percentage of total health care expenditure of 10%. In particular, for coronary heart diseases: 280,668€ thousands for primary care, 258,292€ for outpatient care, 1,282,952€ for inpatients care and 683,928€ for medications, with a cost pro capita of 43€ and a percentage of total health care expenditure of 2%. For cerebrovascular diseases: 218,466€ thousands for primary care, 201,049€ for outpatient care, 2,014,216€ for inpatients care and 220,555€ for medications, with a cost pro capita of 45€ and a percentage of total health care expenditure of 2%. The non health-care costs in 2009 due to CVD were: 2,097,533 € thousands for production losses due to mortality, 181,741€ for production losses due to morbidity, 6,864,506€ for informal care.

Conclusions: The data presented in the fourth edition of European Cardiovascular Disease Statistics show that our efforts to reduce mortality from cardiovascular diseases have been successful. Most noticeably, following steep increases in CVD mortality in some Central and Eastern European countries, these countries are now since the mid-2000 experiencing a decrease. However, the cost to the European Union economies of CVD is not decreasing.

The role of anti-smoking legislation on cigarette and alcohol consumption habits in Italy

Luca Pieroni, Manuela Chiavarini, Liliana Minelli, Luca Salmasi

Health Policy 111 (2013) 116–126

Background: The short-term effects of public smoking bans on individual smoking and drinking habits were investigated in this paper. In 2005, a smoking ban was introduced in Italy, and we exploited this exogenous variation to measure the effect on both smoking participation and intensity and the indirect effect on alcohol consumption.

Aim and methods: Using data from the Everyday Life Aspects survey, for the period 2001–2007, we assessed the short-term effect of introduction of smoke-free legislation in Italy on smoking behaviour and performed a cost-effectiveness analysis of the anti-smoking legislation in Italy.

We used the incremental cost-effectiveness ratio (ICER) to compare the monetary cost-benefits from a given treatment, corrected for quality-adjusted life-years.

Results: The estimates listed in Table 1 indicate a significant and negative decline in both numbers of cigarettes smoked and percentage of smokers after the application of the smoking ban in Italy. We estimate a reduction of cigarette consumption of 0.36 (s.e. = 0.075) and about 2 points (s.e. = 0.446)

in the percentage of smokers. Women as well as individuals with high education or practicing physical exercise are less likely to be smokers. Employed and married individuals are more likely to be smokers than unemployed or single individuals. In addition, having a strenuous job increases the probability of smoking. Conversely, strenuousness of work at home and a better financial situation negatively affect smoking habits.

The estimates from our sample indicate that the anti-smoking policy reduced the number of smokers by 314,000 individuals. Even in the most drastic scenario (B), in which the price of cigarettes increases by 11.26% yearly, the number of quitters necessary to maintain ICER under 25,000 euro is 260,426. In all the other cases, estimates are even lower, and amount to 170,406 for base-line scenario (A) and 114,377 for the most parsimonious case (C). We can also determine the minimum ICER, necessary to breakeven, given the estimated number of quitters from our model, which is 10,075 euro in the baseline case (A) and ranges from 6105 euro in scenario (B) to 16,454 euro in scenario (C).

We also document significant indirect effects on alcohol consumption for the main alcoholic beverage categories.

Conclusions: We find that clean indoor air laws increases the probability of quitting smoking by about 2 percentage points and reduces the daily number of cigarettes smoked by slightly less than half a cigarette. The estimated social savings of quitting smoking deriving from our results appear to be substantial. Although we use conservative parameters, one great benefit of the smoking ban is shown by the cost-effectiveness analysis, with positive implications in terms of costs to the health service.

The impact of diabetes mellitus on healthcare costs in Italy

Giorda CB, Manicardi V, Diago Cabezudo J.

Expert Rev Pharmacoecon Outcomes Res. 2011 Dec; 11(6):709-19

Diabetes mellitus is an increasingly common chronic disease that has a great impact not only in terms of clinical effects, but also in terms of economic burden worldwide. Expenditures due to diabetes derive essentially from direct and indirect costs. Current estimates of global healthcare expenditures due to diabetes are US\$376 billion and are expected to increase to US\$490 billion by 2030. In particular, costs associated with diabetes-related complications represent the most relevant part of the national healthcare expenditure for diabetes and are higher than the costs of managing diabetes itself. The major expenditure depends on the type and the number of complications: cardiovascular complications increase direct costs, especially for hospitalization. Moreover, diabetic comorbidity has a greater economic impact on the health expenditure in comparison with those patients without diabetes. In Europe, the CODE-2 study was the first attempt to evaluate the costs of diabetes: the annual costs per patient were estimated at €2384 and the highest value, €2991, was registered in Italy. This indicates an overall annual cost of €5170 million for the whole Italian population with diabetes. Current estimates for 2010 healthcare expenditure for diabetes are US\$105 billion (10% of total healthcare expenditure, US\$2046 per person) for the whole European region, and US\$11 billion (9% of total healthcare expenditure, US\$2087 per person) for Italy. More studies are needed in order to better define the real significance of the healthcare costs of diabetes

in Italy. An effective therapy with a good metabolic control can reduce the risk of complications and represents a valid strategy from an economic point of view.

A standardized vascular disease health check in Europe: a cost-effectiveness analysis

Schuetz, C. Andy; Alperin, Peter; Guda, Swathi; van Herick, Andrew; Cariou, Bertrand; Eddy, David; Gumprecht, Janusz; Nicolucci, Antonio; Schwarz, Peter; Wareham, Nick J.; Witte, Daniel R.; Smith, Ulf

PLoS ONE; Jul2013, Vol. 8 Issue 7, p1

Background: No clinical trials have assessed the effects or cost-effectiveness of health check strategies to detect and manage vascular disease. We used a mathematical model to estimate the cost-effectiveness of several health check strategies in six European countries. Methods: We used country-specific data from Denmark, France, Germany, Italy, Poland, and the United Kingdom to generate simulated populations of individuals aged 40-75 eligible for health checks in those countries (e.g. individuals without a previous diagnosis of diabetes, myocardial infarction, stroke, or serious chronic kidney disease). For each country, we used the Archimedes model to compare seven health check strategies consisting of assessments for diabetes, hypertension, lipids, and smoking: *control* (no health checks offered), *base health check* (all individuals received assessments for diabetes, hypertension, lipids, and smoking), *health check without lifestyle interventions*, *health check with gated HbA1c test*, pre-screening scenarios targeting patients meeting the additional criteria (*age 50 years or greater, body mass index (BMI) 30 kg/m² or greater*). For patients diagnosed with vascular disease, treatment was simulated in a standard manner. We calculated the effects of each strategy on the incidence of type 2 diabetes, major adverse cardiovascular events (MACE), and microvascular complications in addition to quality of life, costs, and cost per quality-adjusted life-year (QALY).

Results: Compared with current care, health checks reduced the incidence of MACE (6-17 events prevented per 1000 people screened) and diabetes related microvascular complications (511 events prevented per 1000 people screened), and increased QALYs (31-59 discounted QALYs) over 30 years, in all countries. The cost per QALY of offering a health check to all individuals in the study cohort ranged from €14903 (France) to cost saving (Poland). Pre-screening the population and offering health checks only to higher risk individuals lowered the cost per QALY. Pre-screening on the basis of obesity had a cost per QALY of €10200 (France) or less, and pre-screening with a non-invasive risk score was similar.

In Italy, 25,000 persons has eligible criteria (ages 40 to 75 years and no prior diagnosis of vascular disease) for the health check. The base-case model assumptions for cost, in euros, were: 22.85 outpatient visit included BMI and smoking assessment, no cost for blood pressure measurement, 12.66 for HbA1c test, 25.55 for lipid panel. The base-case assumption for treatment costs, in euros, were: 1.18 for intensive lifestyle advice, 558.45 for smoking cessation (per quitter), 0.34 for ACE-inhibitor, 0.12 for beta blocker, 0.89 for insulin, 1.03 for statin. The expected number of events in the control per 1000 individuals screened after 30 years of follow-up were 127.1 for diabetes and 286.8 for MACE on all eligible participants, 112.4 and 321.6 respectively for those 50 years and over years old, 312.7 and 324.9 respectively for obese persons, 221.8 and 362.1 respectively for those in the top quartile of risk. The expected number of MACE prevented by each screening strategy compared with control, per 1000 individuals screened, after 30 years of follow-up was 14.8 with

base-case health check, 14.2 with gated HbA1c test, 13.0 without lifestyle, 14.3 for age 50 years or over, 23.5 for obese, 17.3 for top quartile risk; the number of persons needed to screen was 76, 82, 95, 67, 44, 46 respectively; the QALYs gained at 30 years per 1000 individuals offered a health check were 41, 40, 24, 48, 62, 64; estimates for the cost per quality-adjusted life-year (QALY) gained by offering health checks (discounted), compared with control after 30 years of follow-up was 11113, 13733, 10344, 6482, 9001, 4413.

Conclusions: A vascular disease health check would likely be cost effective at 30 years in Denmark, France, Germany, Italy, Poland, and the United Kingdom.

Gaps and Needs

The National Platform: Establishing Constructive Collaboration

At the national level of advocacy for health promotion, primary prevention, and healthy and active ageing, the Ministry of Health is in the lead role to position these issues as a priority in the political agenda. This role has been developed through the programme “Gaining health: making healthy choices easy”, which promotes a cross-sectoral approach in line with the principles of the “Health in All Policies”; develops cross-sector actions to promote health; and to make healthy lifestyles and healthy life environments easier for people. The programme involves several stakeholders such as Ministries, Regions, Public Health Services, and also Food Industry, Consumers Associations, Trade Unions, etc. and partners that participate in a National Platform on nutrition, physical activity, and tobacco, set up at the Ministry of Health.

The National Platform, constituted by decree of the Minister of Health, is chaired by the Minister of Health and consists of representatives from the central administration, from regional and local entities, from research institutes, from public and private sector, and from medical professionals (including GPs and paediatricians). The platform is used as a forum for exchange, where the cross-sector strategies are defined according to the principle of health in all policies.

A strong partnership has been established between the health and educational sectors, with an effective cross-sector approach in promoting health. However, it is still difficult to establish a constructive collaboration with other partners even if they are already involved in the Platform.

Then, the role of the Platform should be reinforced to improve the cross-governmental action through improved coordination. In fact, other actions with a potential impact for population health are being developed by several Ministries and Institutions at the regional and local level, but there is a lack of synergies in institutional planning.

Strategy on NCD Prevention and Control: Incorporating a Multi-Stakeholder Approach

The Italian strategy on NCD prevention and control aims to encourage changes in lifestyles by facilitating access to healthy choices or by informing and educating people, so that healthy options may be more appealing to them. However, this “discreet” approach may be expensive and difficult to achieve and it also necessitates strong involvement from the private sector, including the food industry, the pharmaceutical industry and the sports industry, which can all play an important role.

Population strategies (health promotion campaigns, regulatory interventions) must be accompanied by strategies targeted to groups at risk (for instance through GPs). Therefore, the solution to be pursued is the “multi-stakeholder” approach in which the Government must maintain the overall control of prevention initiatives, while, at the same time, encouraging engagement and contributions from the private sector.

Cross-Sector Approaches which Reflect the Numerous Determinants of Health

For a long time, “prevention” and “care” have been considered to be separate strategies, with prevention being the exclusive prerogative of public health authorities, while treatment would be in the charge of physicians. In actual fact, the strategies for fighting against noncommunicable diseases must take into account all the socio-cultural, environmental, relational and emotional determinants that influence lifestyles; and identify effective health-promoting actions through a cross-sector approach associated with health care delivery. In addition to primary prevention and health promotion interventions, it is also necessary to set up an integrated network of prevention, diagnosis, treatment, and rehabilitation services.

Building an Organisational Model Based on Sharing of Knowledge and Objectives

All areas of competence need to be involved and must operate harmoniously with the various actions as part of a continuum: a network of individuals and services but, above all, an organisational model based on the sharing of knowledge and objectives.

In building such a network, the following aspects must be ensured:

- integration of health and social services of public and private institutions;
- involvement of GPs and family paediatricians;
- appropriate information provided to people on available services and relevant problems;
- health workers’ training
- clear therapy-care pathways integrated within the various healthcare levels;
- multidisciplinary patient management with integration of the various competencies;
- continuity of care and rehabilitation.

The overall goal of an effective network of services is the achievement of an integrated system of activities that operate through shared protocols and is tailored to the growing number of patients and to the complexity of prevention and treatment interventions.

Surveillance Systems: Funding Mechanisms

The surveillance systems, developed in recent years, monitor trends of behavioural risk factors and the implementation of actions, tracking them over time, and, hence, allowing comparisons to other countries (see Section 2.3 for more information on the currently operating surveillance programmes in Italy). Such systems provide data on nutrition and on behaviours of children in primary schools (“OKkio alla salute” - Keep an Eye on Health), while data on lifestyles of children aged 11-15 years are being collected through the international HBSC (Health Behaviour in School-aged Children) study, and the Global Youth Tobacco Survey (GYTS) promoted by WHO and by CDC-USA. As regards adults, the PASSI system collects crucial information about self-reported risk factors, people’s perception of health, and delivery of health services to people aged 18-69 years and over 70.

Collected data is periodically published in reports that describe the situation both at the national and regional level.

In regards to monitoring and prevention of cardiovascular diseases, the ISS coordinates the CUORE Project that includes a National Register of coronary and cerebrovascular events, the Osservatorio Epidemiologico Cardiovascolare/Health Examination Survey. This register measures several risk factors; assesses trends in cardiovascular disease prevalence and the development of tools for cardiovascular risk assessment; and provides support to programmes and actions to assess cardiovascular risk in the population through the 10-year risk chart and score.

These surveillance systems and cancer registers require structural funding. Furthermore, longitudinal studies, that are very important to estimate chronic disease incidence, should receive institutional funding. It also should be necessary to increase the computerization of medical services and the centralization of information.

Producing Evidence and Outcomes

The National Prevention Plan (NPP) 2010-2013 emphasizes the importance of evaluation through the support to the implementation and use of monitoring systems and through the use of process indicators for monitoring progress of planned interventions.

However, it is necessary to have and produce "evidence" in three principal moments of action: 1) theoretical evidence of effect (efficacy), 2) monitoring and evaluation of interventions, and 3) extent of the impact on outcomes (effectiveness). To do this, the new Prevention Plan has promoted the construction of an integrated impact assessment of prevention through the insertion (also used for administrative certification purposes) of expected results and related indicators of outcome, in order to allow, where possible, evaluations of "outcome" too.

