

3 Els comptes de la Salut Pública a Catalunya

Descripció, anàlisi i metodologia de càlcul de la despesa en Salut Pública a Catalunya, 2005

Las cuentas de Salud Pública en Cataluña

Descripción, análisis y metodología de cálculo del gasto en Salud Pública en Cataluña, 2005

Public Health Accounts in Catalonia

Description, analysis and methodology of calculation of Public Health expenditure in Catalonia, 2005

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Presentation

The reform of Public Health in Catalonia, the latest of the great reforms to our health system, has many components. When one makes changes to an existing situation, one must have a solid notion of what one wishes to do; a thorough understanding is needed of both the starting point and the desired end; alliances must be forged, there must be awareness of limitations and an adequate communication of the change.

Feasibility is the key to undertaking a firm and resolute action of reform. It would be of little use to make an accurate analysis or to have the best conceptual elements or to have designed an excellent strategy if it turns out that one does not have the necessary resources to carry it out. Health policies, like nearly all policies, are concerned with options, and with priorities.

Public health is an essential element of the system. It forms part of the basic structure, a part without which it would be difficult to give a solid foundation to the rest of the system; it is also the most visible part of the system and the most recognized and valued by the citizen. It is an element which clearly contributes to the global efficiency and sustainability of the health system and creates confidence among the citizens, not only through its actions taken on the conditioning factors of their environment and health but also through its proposals on lifestyles which are beneficial to the health of the people.

To have a clear knowledge of the expenditure associated with the public health system in Catalonia and, above all, to establish a methodology for calculating this, was one of the key actions in the beginning of the reform of public health in our country. The need to structure the format for describing and analysing expenditure on public health and to make proposals for a distribution of resources which is



coherent with the model of public health was fundamental to designing the reform process and permitting objective comparisons to be drawn between the various organizations that provide public health services in Catalonia, in the other Autonomous Communities of Spain or in other countries around the world.

The document which we present is a complex and pioneering economic study in the field of public health and we wish to acknowledge its merit. We believe that it is a work which will open new perspectives in the planning, management and economic evaluation of the public health system, and will contribute to the taking of decisions within a healthcare policy designed in terms of the population, rather than just the attention services.

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Marina Geli
Councillor for Health

Executive Summary

This research has two principal objectives. Firstly, to design a methodology of calculation and classification of spending on public health using categories that are meaningful for decision-making, in a way that can be easily replicated, so that a routine monitoring of expenditure can be carried out over time, as well as comparisons with other territories. Secondly, and by way of illustration of this methodology, the objective is to collate, systemize and analyse in a single statistical work all of the expenditure on public health in Catalonia in the year 2005. Besides obtaining a global figure, this helps to clarify the flow of money between institutions and allows a better identification of the possibilities of coordination between them.

In the text a series of definitions of public health are offered. One of the most comprehensive of these is that of the European Observatory of Healthcare Systems, which says that *“Public health is defined as the science and art of preventing disease, prolonging life and promoting health by means of the organized efforts of society. It is focussed on the population rather than the individual and implies the mobilization of local, regional, national and international resources in order to ensure the conditions in which the people may live in good health”*. This definition emphasizes the fact that the common characteristic that defines public health services and distinguishes them from those of primary care is that they have an impact on the collective, either because they are public property in the strict economic sense – just as all environmental protection measures are now – or because they have externalities, as is the case of vaccinations. The definition also places emphasis on intervention according to the conditions – that is to say social and economic – which determine the health of the population. Finally it mentions, implicitly or explicitly, the three key words which describe the principal lines of action in the field of public health: protection, promotion and prevention.

Since activities of promotion and prevention also have a personalized element (they affect specific individuals), when delimiting the boundaries of this study, the criterion applied was to count as public health expenditure money spent on organization, planning, monitoring and evaluation of programmes aimed at the prevention of disease and the promotion of health, but not to count expenses derived from the execution of such programmes, which is normally carried out in primary healthcare centres. In doubtful cases the criterion applied was to count as public health those activities and expenditure that are carried out from the various structures of public health.

After presenting an institutional scheme in which are defined the roles that the various institutions play in the financing and provision of public health services, spending is classified according to four criteria, which allow a vision of one single

reality – the global expenditure figure is the same –from four different angles: 1) the source of finance, 2) the institution where the services are provided, 3) functional classification and 4) classification by economic chapters.

The collection of data was carried out during the last quarter of 2006 and the first four months of 2007. Figures for spending by the Department of Health were supplied by the Directorate General of Public Health. Spending figures for other Departments have been taken from the budget statements of the Generalitat which are available on its web site. The spending figures for the Public Health Agency of Barcelona (ASPB) were supplied by the Agency itself. Information has also been obtained directly from the Barcelona Provincial Council and the Consortium of Hospitals of Catalonia. Data on spending by councils of municipalities of more than 100,000 inhabitants were estimated from data on the liquidation of budgets of the Local Corporations of Catalonia supplied by the Directorate General of Local Administration. Spending figures for other institutions have been identified from the accounts of those of the aforementioned institutions with which they have financial dealings.

According to the results of our research, the total expenditure on public health in Catalonia in 2005 was 159.34 million euros. Almost 58% of this expenditure was financed by the Department of Health. Barcelona city council contributed 9% of the expenditure and the rest of the municipal councils financed nearly 14%. The remaining percentage was contributed by other departments of the Generalitat, the State, the provincial councils (principally that of Barcelona) some other public institutions and the private sector (companies and families) in the form of taxes, fines, etc. The breakdown according to financing source need not necessarily coincide, and in fact it does not coincide, with the classification according to the entity providing the services. Thus, the Department of Health provides services to the value of 83.8 million euros (52.6% of the total); the Public Health Agency of Barcelona provides 18.5 % of all services; between them, the rest of the municipal councils and the Provincial Council of Barcelona provide 17% and the private sector nearly 5 per cent. The functional classification has been made by dividing the total expenditure along two principal lines: protection of health on the one hand and promotion and prevention (including epidemiological vigilance) on the other. On average, 52% of expenditure is destined towards activities of protection of health, and 48% towards promotion and prevention. But there are institutions, such as, the ASPB, which are more “specialized in promotion and prevention (allocating 71% of its spending to these areas) and others, such as the Provincial Council of Barcelona, which proportionally spend more on protection (73% of its spending). The classification by economic chapters reveals that expenditure is divided almost equally bet-

ween personnel and the purchase of goods and services (48.7% and 48.3 % respectively), with a small percentage allocated to investments.

Given the total figure, the average expenditure per inhabitant was 23 euros, and the percentage that public health expenditure constitutes regarding the total of public spending on health is 1.9 %. It is difficult to place Catalonia in comparison to other Autonomous Communities of Spain or other countries of the OECD as far as this percentage is concerned. In the first case, because the Satellite Accounts of Public Healthcare Expenditure published by the office of *Statistics of Public Healthcare Spending* of the Ministry of Health and Consumption are not very reliable specifically as regards the calculation of spending on public health. In the case of the statistics of the OECD, because its methodology and what it includes as public health is not entirely clear and, therefore, makes comparison difficult. Leaving to one side this criticism, and taking the database of the year 2005, Catalonia would be well below the average of 4.3% of spending on public health as a proportion of total public spending on health in the countries of the OECD in 2003. In this context, it seems reasonable to recommend, in the first instance, that forums of discussion be created in which are represented the various Autonomous Communities and the Ministry of Health and Consumption, in order to arrive at a consensus for a system of harmonization of "public health accounts". This document would represent a first step along this road.

The information on expenditure acquires its full meaning when placed in relation to the activities carried out with it and the objectives that they achieve. For this reason, the second recommendation is the continuation of this research with studies that relate expenditure with the services provided and their effectiveness. This would be a first step towards the analysis of the profitability of spending on public health in Catalonia, which is absolutely necessary in order to justify expenditure, as well as to gain support for a possible reorientation of resources of the healthcare system towards public health services.

Besides contributing to the improvement of the health of the population, modern public health has also the objective of achieving a greater degree of equity in health, while combating inequalities in health. In this sense, there is a danger that general measures addressed to the population as a whole may accentuate inequalities, instead of reducing them, because the most well-off groups in society would be the first to benefit from them, as has happened with anti-smoking campaigns. In order that public health services may serve to reduce inequalities in health it is necessary that they (or at least some of them) be specially aimed at the less favoured groups of the population, or the poorest areas and those with the worst environmental conditions.

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INTRODUCTION

1 INTRODUCTION

During the second half of the XXth century, the concern of the public administrations for the health of the population was centred on the curative services, and the figures for healthcare expenditure are a good reflection of this inclination. According to the data of the OECD (2005), in 2003 only 2.9% of all the current healthcare expenditure is classified as spending on public health and prevention in the member countries of that organization. The average as regards solely public spending is 4.3%, with Canada in first place with 11% of public spending on healthcare destined to public health services. According to the same source, in the case of Spain the percentage of public spending is 1.85% and the percentage of the total of current spending – public and private – is 1.13%. The greater importance of curative activities within the total of healthcare spending is justified, in part, by the elevated costs of technology, which often accompany this kind of curative services, but there is no doubt that such a lowly percentage dedicated to public health is also a consequence of political decisions, or of the lack of them.

In fact, the need to redress this situation is increasingly being acknowledged. At the present time, public health is beginning to feature strongly in the political agenda of international organisms and several countries. A good example is the Swedish law “Objectives of Public Health” of 2003, in which 11 target areas are defined with the aim of creating the necessary social conditions to ensure good health in terms of equality for the whole population. The reasons why public health now has such vitality are efficiency (better levels of health at a lower cost) and equity (reduction of inequalities in public health).

In the case of Catalonia, the situation is also propitious since at the present time the Department of Health considers public health to be one of its priority areas for action. This has been clearly demonstrated in the work that has been carried out towards reforming the structure of public health services and, in the most recent instance, the creation of a Public Health Agency of Catalonia. The social context is also favourable. Society is highly sensitized following some situations which have generated a certain degree of social alarm, such as the

“mad cows” crisis, bird flu, news about food poisoning or reports of the increase in obesity.

In this context, the calculation of expenditure on public health is an essential tool in order to document the state of public health matters in Catalonia. This is recognized in “The Reform of Public Health in Catalonia. Report of the scientific committee to give support to the project of reorganization of the public health system in Catalonia” (2005) which points out that “it is of the utmost importance that an exhaustive study be carried out of the current level of spending on public health” (p. 34). Among other things, a study of this nature would permit an analysis of the relative importance of the different facets covered, at the same time pointing out the strengths and deficiencies, in a way that would be able to orientate the drawing up of future policies. It is necessary to know the level of current spending in order to argue the case for continuing or increasing efforts in the field of public health, and arriving at a new model of financing of public health, if this were to be considered appropriate.

1.1 Definition of public health

Public health is no longer what it was in the XIXth century, with its emphasis on hygiene and sanitary conditions. New problems and new objectives have to be added to those traditional functions, so that today’s definitions of public health are fairly broad and admit a wide variety of focuses and activities. The most common perspective is the technical perspective, based on the biomedical model of explanation of health and disease. A more radical perspective is that which is focused on social and economical root causes of the state of health. From this point of view, the health of the population is the result, above all, of political and social forces, and not of lifestyle or individual behaviour. Health policies which are derived from each of these two perspectives are quite different, and in the case of the social perspective they go far beyond the field of healthcare. On the other hand, among their objectives, some countries (for example, Sweden, Holland) have started to include as one of their priorities of public health the reduction in inequa-

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lities in health between different groups of the population and between regions. The report of the Scientific Committee for the reform of public health in Catalonia also mentions the reduction of inequalities in health as one of the general objectives of the reform.

In Table 1 we have transcribed several definitions of public health; all of them have in common the fact that they place the accent on the idea that public health is directed at the whole population and also requires the efforts of the whole population – in other words, society. In some cases there is also mention of (social) conditions as an important factor for action. In the table 1 it can also be observed that there are three key words to describe the nature of public health: protection, promotion and prevention. A fairly clear definition of these concepts can be seen in *Department of Health and Ageing* (2003):

a) Measures of protection are aimed at reducing risks to health caused by the environment and by activities over which individuals have little or no control. The traditional measures are those of environmental vigilance – in order to ensure the quality of air, water, and the correct treatment of solid residues – and those of dietary vigilance, in order to guarantee the safety of foodstuffs. We may also include here those legal measures which regulate advertising of alcohol and tobacco or which limit areas where one can smoke and legislation on safety in the workplace and road safety (speed limits, obligation to wear seat-belts, etc).

b) Promotion of health is the process by which people are given the capacity to increase their control over their own health and improve it (WHO, 1986). Measures of health promotion are, therefore, aimed at helping people to take the correct decisions regarding healthy lifestyles. Included among these measures are campaigns to promote physical exercise, healthy eating, abstention from tobacco, alcohol and drugs and campaigns to promote safe sex.

c) Programmes of prevention are aimed, as their very name indicates, at preventing disease, when this is possible, by means of early detection or suspicious signs. Among other examples, we could mention the

Table 1. Definitions of public health

Australia	It is the organized response of society to protect and improve health, and to prevent diseases, accidents and disabilities. The starting point for identifying the problems and priorities of public health and to design and implement interventions is the whole population or specific groups of the population.
	Source: Public Health in Australia, www.nphp.gov.au/publications/broch/defin.htm . Definition taken from "A Memorandum of Understanding; to establish a National Public Health Partnership for Australia", 1997, and a modification of that proposed in Last, JM. Public Health and Human Ecology. Connecticut. Appleton and Lange. 1987.
Canada	Public health is the science and art of promoting health, preventing diseases and prolonging life by means of the collective efforts of society. The objective of public programme, services and institutions must be to maximize the prevention of diseases, the promotion of health and the attention to the healthcare needs of the whole population.
	Source: Frank J, Di Ruggiero E, and B. Moloughney (2003), "The Future of Public Health in Canada: Developing a Public Health System for the 21st Century". Available in: www.cihr-irsc.gc.ca/e/19573.html .
United States	Public health refers to the organized efforts of the community aimed at the prevention of disease and the promotion of health.
	Source: Institute of Medicine. The Future of Public Health. Washington, DC: National Academy Press; 1988.
United Kingdom	Public health is the science and art of preventing disease, prolonging life and promoting physical health through the organized efforts of society.
	Source: Starfield B, Sevilla F, Aube D. et al (2004), "Primary care and responsibilities for public health in six countries of Europe and North America: a pilot study", Revista Española de Salud Pública, vol 78(1), pp.17-26.
Sweden	The general objective of public health in Sweden is to create the social conditions which ensure good health for the whole population.
	Source: Agren, G. "Sweden's new public health policy" Swedish National Institute of Public Health. Available in www.fhi.se
International Study	Public health is defined as the science and art of preventing disease, prolonging life and promoting health by means of the organized efforts of society. It has a population- oriented rather than an individual focus and implies the mobilization of local, regional, national and international resources in order to ensure the conditions in which people can live in good health.
	Source: Allin S., Mossialos E., McKee M. Holland W. (2004) "Making decisions on public health: a review of eight countries". WHO on behalf of The European Observatory of Health Systems and Policies.

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majority of vaccination and screening programmes – such as programmes to screen for breast cancer or cervical cancer – as well as vigilance against transmissible diseases.

1.2 Objectives of public health

The two basic objectives of public health policies are to raise the general level of health of the population and to reduce inequalities in health.

Regarding the first objective, it must be said that although public health is the least tangible part of the healthcare system, its impact on the health of the population is crucial. The importance of public health in the historical growth of the world's population has been underlined, for example, in the well-known work by Thomas McKeown, *“The modern rise of population”*. It is true that it is very difficult to measure the value of public health actions in terms of health results or in monetary terms. This is because, among other reasons, its impact takes place above all in the long term. But that should not prevent us from recognizing that the social cost-effectiveness of spending on public health can be very high. Studies by the Center for Disease Control (CDC) of Atlanta, USA have shown that of the 30 years that life-expectancy of North Americans has increased during the XXth century, 25 may be attributed to public health measures and only 5 to curative medicine. Some of the principal successes have been: vaccinations, prevention of traffic accidents, control of infectious diseases, greater safety of foodstuffs, improvement in workplaces, family planning, reduction of deaths from coronary diseases and the recognition of tobacco as a risk to health (quoted from Taylor, 2005).

Furthermore, there is a well-known Australian study which analyses the cost-effectiveness of investment in public health in five specific programmes, namely the fight against tobacco use, coronary illnesses, AIDS, measles and bacterial meningitis and prevention of road accidents (Department of Health and Ageing, 2003). For each programme, the authors calculate the expense of the programme, the

reduction in cases which can be attributed to the programme, the benefits in terms of the increase in life expectancy, the improvement in quality of life, the reduction in healthcare costs and finally the global benefit to society. The period of time for which the benefits are estimated is from 1970 until 2010 for the programmes on tobacco, coronary diseases and measles, and from 1980 for the programmes that began later (AIDS and bacterial meningitis). The benefits are translated into monetary units, attributing a value of 60,000 Australian Dollars to each year of healthy life gained. The conclusion is that all of the programmes analysed produce benefits which by far outweigh (to the tune of millions of dollars) the costs of the investments. For example, in the case of the fight against tobacco use, and taking into account only public finances, it is calculated that for every dollar spent on the programme the government saves two dollars in healthcare expenses. In the case of the USA, the Center for Disease Control has calculated that for every dollar spent in primary care on education about diabetes 42 dollars are saved in hospital costs. And one brief counselling on giving up smoking costs less than 1,000 dollars per year gained in the case of men, and between 1,200 and 2,000 dollars in the case of women (CDC, 1999).

Naturally, in order to carry out these calculations a lot of information is needed and at times some fairly ambitious hypotheses must be made; but despite the existing limitations, the figures are resounding, even in the most conservative estimates.

As far as the objective of equity is concerned, in general public health measures tend towards the reduction in inequalities inasmuch as they have an effect on the environmental conditions behind the etiology of many diseases, conditions which habitually are worse in the less fortunate areas. Nevertheless, not all measures contribute automatically to the objective of equity and, in fact, they do not do so for the simple reason that they are aimed at the whole population, since in some cases these generalist measures are of more benefit to the richer and healthier (as has occurred in many countries with campaigns against tobacco use). On the other hand, as Hofrichter (2006) points

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out, although the differences in the incidence and prevalence of disease are, in the long run, rooted in injustices, the majority of the argument of public health professionals on at-risk populations and individuals with low benefit is centred on the access to healthcare services and modification of the behaviour of the individual.

But behaviour almost always comes to be included within a socioeconomic context. The consideration of this context as a source of many of the decisions taken by individuals regarding their own health is what gives an ethical basis to public health (Beaglehole et. al., 2004). However, public health has frequently been aimed at more technical actions within the biomedical model of health, which does not place the emphasis on the social injustices which condition the possibilities for good health. By these injustices, we refer to political and work institutions, social infrastructure, investment decisions, urban activities, etc. which do not give equality of opportunities to the poorest. However, initiatives of this type often imply political conflicts and remain beyond the scope of routine actions of public health. Even though historically the principal advances in the state of health of populations have always been due to great social reforms, such as the abolition of child labour and compulsory education until the age of fourteen or sixteen, the reduction of poverty, the provision of safe drinking water, etc. (Hofrichter, 2006).



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PERSPECTIVE

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INTERNATIONAL PERSPECTIVE

The public health systems of developed countries vary considerably and the terminology and underlying concepts reflect this diversity. This is due above all to variations in the prevalence of diseases and risk factors between regions and between countries, a fact which requires the formulation of objectives and priorities in order to be able to offer an adequate response to the specific needs (Gericke and Busse, 2004). Knowing international conceptualization and experiences could be useful for the development of new norms in the field of public health since it allows us to define activities in this field more precisely and to establish priorities and strategies for action in public organisms at all levels (the Generalitat, municipalities, town halls, etc). The first objective of this chapter is to offer a compilation of the formal definitions of "public health" which are used in some countries, as well as to describe the services that the public health system in each country offers. In second place the data on public health spending in these countries is analysed. This data must be interpreted with extreme caution and will not always be directly comparable for two reasons: 1) because, as has been said previously, definitions of public health vary between countries and with the passage of time, and 2) because public health interventions have different sources of financing which include institutions (both public and private) which belong to the social, labour, environmental and healthcare sectors.

2.1 Public health services

In the majority of the countries analysed responsibilities for public health services are shared among national, regional and local organisms. The principal activities of the national Agencies or Departments of Public Health are the establishment of priorities of the public health system and the supervision of the pre-established standards of health, the promotion of good health and healthy life habits, the compilation of information and statistical data and posterior analysis, and the promotion of research. Regional healthcare authorities are dedicated to activities of health protection such as, for example, vigilance and control of the quality of water or food safety. Many programmes of early detection of diseases (tuberculosis or breast, cervical or

lung cancer), as well as attention to the socio-sanitary needs of specific groups of the population, such as those with chronic mental illness or those infected by the HIV virus, are a regional responsibility. And lastly, local agents are responsible for various healthcare services of a personal nature such as, for example, vaccination programmes, health education, or attention to vulnerable population groups such as the elderly or those suffering from a chronic illness of long duration. Epidemiological vigilance and control of transmissible diseases is also included in the responsibilities of local organisms. However, in reality the functions of these healthcare institutions are interrelated and institutional cooperation is one of the characteristics of the majority of public health systems in developed countries.

We have considered it to be of interest to investigate and compare public health services around the developed world. The findings of this research are presented in Table 2. Firstly, it should be stressed that it is very difficult to group together all of the activities that are included under the banner of “public health” in different countries. Therefore an attempt has been made to classify public health activities into eleven main groups. All of the countries analysed offer, to a greater or lesser degree, services that belong to 10 of the 11 main groups. Nevertheless, there are some significant differences within the groups of services. For example, all of the countries state that they have vaccination programmes. However, considerable differences can be observed regarding the types of vaccination included in the vaccination programmes and regarding the whether the vaccinations are obligatory or not. Thus, for example, in the United States, Latvia or Finland all immunizations are obligatory, whereas at the other extreme is Ireland, where there is no obligation to be vaccinated, despite the fact that the National Health System offers immunizations free of charge. Also examples can be found between the two extremes. In France some vaccinations are obligatory, but the majority are merely recommended. The departments have to provide the recommended vaccinations free of charge, but in reality almost all vaccinations are carried out in the private sector. This fact explains the lower rate of immunizations in comparison with other European countries (Sandier, Paris and Polton,

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2004). Another example is Switzerland, where there is no national programme of obligatory vaccinations, but many immunizations are covered by obligatory healthcare insurance (in contrast to other countries with vaccination programmes, but with private financing of the vaccinations included in the list of recommended vaccinations). The healthcare authorities of some Swiss cantons have established a general requirement for vaccination against tetanus or diphtheria (Minder, Schoenholzer and Amiet, 2000).

Another case of differences in public health services is vigilance of health in the workplace. In many countries the departments responsible for occupational health are those of work and industry (as is the case in Spain or France), whereas these responsibilities are shared between the departments of health and work in others. Curiously, in Denmark occupational health services are not considered to be health services (Vallgarda, Krasnik and Vranggaek, 2001). The provision and financing of these services are the responsibility of companies complying with the current legislation on matters of health in the workplace. The supervision and control of compliance with standards of occupational health depend on a special agency of the State called the National Working Environment Agency. At the other end of the spectrum we have Switzerland, where the prevention of risks at work includes also the promotion of the prevention of accidents not related with the workplace such as road accidents, domestic accidents and injuries caused by participating in sporting activities, physical activities or leisure activities. It is interesting to note that some countries, such as Norway or the United States, include mental health as one of the priority elements of public health.

2.2 International spending on public health

Although determining the level of spending on preventive actions and public health actions in different countries is without doubt of great importance, it is very difficult to define and calculate with precision this type of expenditure. As has been pointed out previously, definitions of public health and the services included therein differ bet-

Table 2. Public health services. A comparison between some developed countries.

	Control of transmissible diseases	Improvement of health – Prevention and promotion of health	Vaccination programmes	Environ-mental vigilance and intervention	Food safety and hygiene	Lung, breast and/or cervical cancer	Attention to drug addictions	Vigilance of health in the workplace	Research in public health	Empowerment of the patient	Mental health
Germany	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Australia	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Austria	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Belgium	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Canada	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Catalonia	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Denmark	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓		
USA	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Finland	✓	✓	✓	✓	✓	✓	✓	✓	✓		
France	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Ireland	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Italy	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Luxembourg	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Norway	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓		
U.K.	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Sweden	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Switzerland	✓	✓	✓	✓	✓		✓	✓	✓		

2,

INTERNATIONAL PERSPECTIVE

ween countries and with the passage of time. Furthermore, interventions in public health are financed by different sectors, among which are the environmental, social and healthcare sectors. All of these complexities invite caution in the manipulation of the available data regarding expenditure on public health.

Until now, almost all of the exercises in estimation of spending on public health have been carried out within the frame of the System of Health Accounts of the OECD which defines the spending on prevention and public health as expenditure on those services “dedicated to raising the level of health of the population which are different from curative services and which repair health dysfunctions. Typical examples are vaccination campaigns” (OECD, 2004). As the OECD itself points out, this definition does not include all of the ambits of public health, understood in the broadest sense. One might mention here emergency plans or the protection of the environment which remain excluded from the calculation of spending. This means that the figures given at the start must be taken with caution. For the same reason, care must be taken when it comes to making comparisons with other more exhaustive calculations or those based on other definitions. For example, with the results derived from applying the methodology based on the definition of the Essential Public Health Services of the United States, in which functions are combined with the actual activities of public health.

So, although the figures from the OECD are not the most precise measure of spending in public health, they are the only source that allows us to make international comparisons. And if developed countries show significant differences in their public health services, even greater are the variations in spending on services, activities or programmes of public health. Figure 1 shows spending on public health as a percentage of public spending on health in some countries of the OECD in 2003. As can be observed, the percentages vary greatly. So, for example, in Luxembourg or in Italy spending on public health does not reach 1% of public spending on health, whereas in Holland or the United States it represents 8.7% and in Canada it is over 11%. The

direct interpretation of these figures, however, may lead us to erroneous conclusions. The high percentage of spending on public health in the United States is certainly a consequence of the low levels of public spending on health in that country and not an indicator of the importance given to public health in the North American healthcare system. It is well known that in the United States public spending on health represents less than 45% of total spending on health, while in the majority of European countries, in Canada or Australia it is around 70% and in some cases more than 80% (such as in Luxembourg, for example, where the percentage is more than 90%).

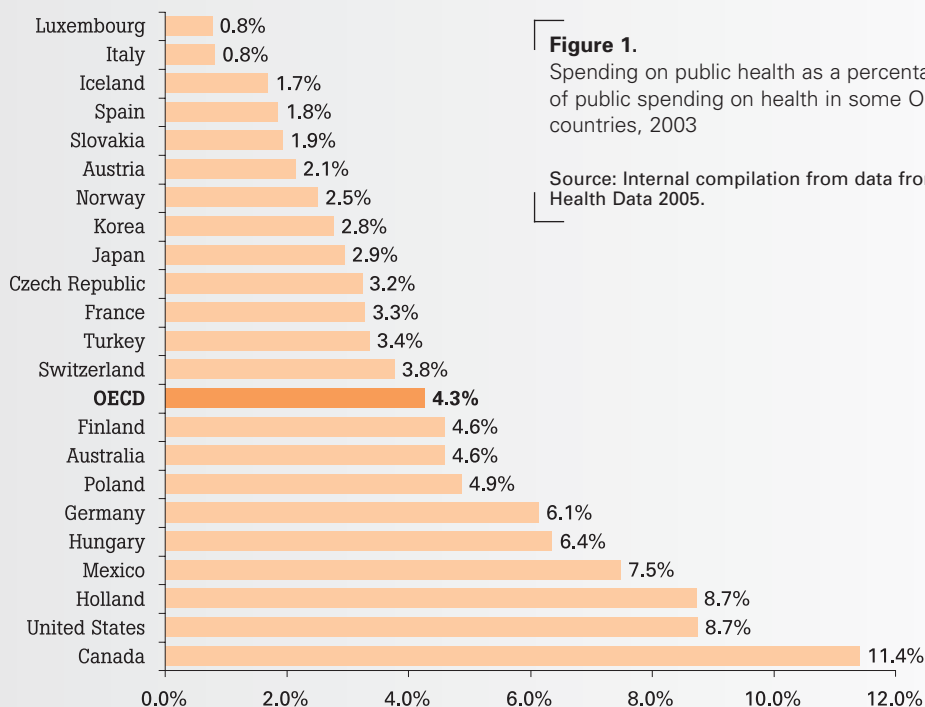


Figure 1.
Spending on public health as a percentage of public spending on health in some OECD countries, 2003

Source: Internal compilation from data from OECD Health Data 2005.

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Research in public health has demonstrated that the financing model of the healthcare system is strongly related with the definition of responsibilities in public health (McKee, 2002). The two most widespread models of financing in industrialized countries are financing through taxes (such as the cases of the National Health Services of the United Kingdom or Spain) and the Social Security model (social health insurance). The Social Security systems, which adopt a more individual perspective, tend to include fewer services than the systems that are financed through taxes and which are characterized by a "population" focus. The latter have a greater infrastructure and local institutions

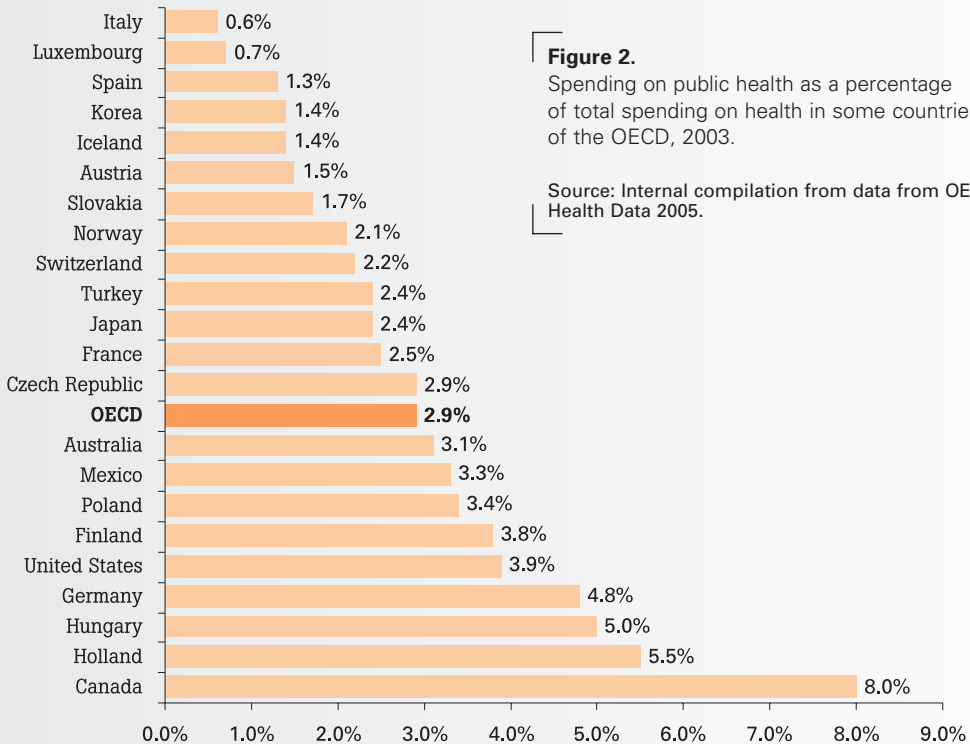


Figure 2. Spending on public health as a percentage of total spending on health in some countries of the OECD, 2003.

Source: Internal compilation from data from OECD Health Data 2005.

which permit them to establish more highly developed public health strategies and objectives (McKee, 2002).

Figure 2 gives information about spending on public health as a percentage of the total spending on health in various countries of the OECD in 2003. The conclusions to be drawn from this figure are very similar to those previously commented on for countries with a high level of spending on public health such as Italy or Luxembourg. Canada is once again the leader with 8%, a far higher percentage than the average of countries of the OECD, which does not reach 3%. It is also true that this indicator has been reduced considerably by countries where the participation of the State in the financing of health is low (United States or Mexico) compared with the value of the previous figure. Spain is the third lowest country in terms of the weight of spending on public health in relation to total spending on healthcare.



3'

ANTECEDENTS IN SPAIN
AND CATALONIA

3' ANTECEDENTS IN SPAIN AND CATALONIA

As far as Spain is concerned, information about spending on public health appears together with the rest of healthcare expenditure in *Statistics of Public Healthcare Spending (EGSP)* published by the Ministry of Health and Consumption (2004). In the functional classification of expenditure it states that the epigraph of public health “seeks to integrate spending destined to all the activities aimed at the defence and promotion of the health of the collective (epidemiological vigilance, campaigns to raise the awareness of citizens for the promotion of health and the prevention of disease, sanitary controls and inspections of water, foodstuffs and environmental health carried out using healthcare resources, etc)...but it excludes spending on research or training, which are assigned to the respective programmes, and it also excludes expenditure which in accounting terms cannot be separated in institutions which provide healthcare attention services even though within the normal pursuit of their activities they carry out some epidemiology and public health activities”. According to the 2004 edition of these statistics, in 2001 spending on public health in Spain rose by 547.6 million euros. That is the equivalent of 1.6% of the total public healthcare spending on health – a percentage slightly higher than that which figures in the OECD database.

It is important to underline that this average expenditure hides great differences between Autonomous Communities. The community that assigned the greatest percentage of its public healthcare spending to public health services and activities was La Rioja (8.3%), Madrid assigned 2.6% and the community that assigned the smallest percentage, again according to this report, was, in fact, Catalonia, with 0.1% (7.2 million euros). These discrepancies are surely connected with, on the one hand, problems with information systems, and on the other hand, lack of homogeneity in the definition and inclusion/exclusion of activities. For example, in the case of Catalonia it is clear that the figure does not include spending on vaccinations (possibly because at the time they were financed by the Catalan Health Service rather than the Department of Health), nor is the spending on public health personnel included (basically APD's, that is to say, staff of the Domiciliary Public Care corps), for reasons unknown.

In Catalonia, the report of the previously mentioned scientific committee for the reform of public health gives a spending figure of 66.2 million euros in 2004. By the same token, a study by De Peray, Navas and Ibañez (2005) calculates a total of 148.1 million euros for 2005. And according to the analysis of healthcare spending in Catalonia for the year 1981 carried out by Rodríguez (1986), spending on public health was at that time 28.1 million euros, which represents 2.6% of the total of healthcare spending, and 3.6% of public spending on healthcare. Unfortunately, in the later update of this study for the years 1988-1996 (López Casanovas, 2001) the functional distribution of healthcare spending was not analysed, which makes it impossible to make comparisons with more recent data.

From the considerable discrepancy in figures that we have just explained it is possible to deduce the overwhelming need for this study, which besides giving a reliable current figure, will establish some solid methodological bases upon which to base the calculation of spending on public health in the future.



4'

OBJECTIVE

4' OBJECTIVE

Economic information is a key element in any healthcare planning and management process, since the absence of data on spending may lead to spending on areas or services which are non-priority or already sufficiently well-funded, while other areas remain under-funded. The principal objective of this work is, therefore, to design a system of classification of expenditure, in meaningful categories, so that it may be truly of service in the taking of decisions in the ambit of public health. In this sense, the aim is to establish some principles and standards regarding the accounting of public health which facilitate the task of other parallel or posterior studies. The importance which we give to this methodological objective explains the rigour with which the established classifications have been followed, although at times this has led us to make slightly adventurous hypotheses. The lack of exactitude in some of the results achieved is the price to be paid for this objective.

The second objective of the study, and by way of illustration of this methodology, has been to compile, systemize and analyse within a single statistical work all of the expenditure on public health in Catalonia in 2005. Besides obtaining a global figure, the fact of having an integrated study such as this one helps to clarify the flow of funds between institutions and permits a better identification of the possibilities of coordination and a more efficient operation.

Definitively, the traits which characterize this work are:

- Updating of all the available economic information on public health;
- Classification and organization of the data according to categories that are meaningful and useful for the taking of decisions;
- Transference of knowledge, as made concrete in a methodology which can be replicated easily and which permits a routine monitoring of public health expenditure over time and its comparison with other territories.



5'

METHODOLOGY

5' METHODOLOGY

The methodology follows an aforementioned previous work by M. Rodríguez (1986) which in turn was inspired by an international study by Maxwell (1981). For the discussion of the concept and the compilation of data we have been assisted by the Directorate General of Public Health which, either directly or by way of contacts with other institutions, has supplied a large part of the information.

5.1 Concept

In "The Reform of Public Health in Catalonia" (2005) it is stated that "public health refers to the process of local, regional, national or international mobilization of resources in order to guarantee the appropriate conditions for a sustainable state of health of the population" (p. 26). We see that there is also a mention of the social and economic conditions which determine the health of the population.

Nowadays it is widely accepted that among the determining factors of disease there are global factors of a social and economic order. The diverse and multi-sectorial nature of the determining factors of health have already been assimilated by the scientific body of public health and of other disciplines, such as health economy. This multi-sectorial nature means that public health services have an organizational structure which is highly scattered, administratively and territorially speaking. In fact, the protection of health is entrusted to various administrations with competences regulated by law, which sometimes conflict with one another in practice. For this reason, the estimate and analysis of spending on public health demands a broad and integrating vision.

The common trait which defines the services of public health and which differentiates them from other healthcare services is that they have an impact upon the *collective*, rather than the individual nature of medical services. There are two types of service which have this impact upon the collective: on one hand, those which in economics are called public goods, and on the other, the goods and services that have externalities, whether positive or negative. The first type, public goods, have two characteristics; firstly, no-one can be excluded from using them,

regardless of whether they wish to benefit from or pay for them and secondly, one person's consumption does not diminish what another can do with them, which makes them goods of non-rival consumption. A clear example are the activities of environmental control and those of epidemiological vigilance. The goods and services that have externalities are those which, besides their impact on the specific individual, have an impact on the collective (social impact). This social impact can be positive (positive externalities) or negative (negative externalities). Clear examples of goods with positive externalities are vaccinations or treatment of AIDS sufferers, and an example of negative externality is tobacco consumption.

Owing to their personalized component, there are some of these services or parts of these services which are provided at attendance-based healthcare facilities: hospitals and primary care centres. These are the most difficult expenses to identify because, as is also underlined in the methodology of "Statistics of Public Healthcare Spending", they do not appear separated from the accounts of attendance-based healthcare institutions. In general, the criterion that has been followed in this study, in accordance with the functions of the Directorate General of Public Health of the Department of Health, has been to count as public health expenditure the expenses of organization, planning, control and evaluation of healthcare programmes aimed at the prevention of disease and the promotion of health, by means of actions directed at the individual (in the case of diabetes, oral health, tobacco use, AIDS, breast cancer, etc), but not to consider nor to count as public health those expenses derived from the execution of these programmes, which is normally carried out in attention centres. Another viewpoint which may be useful for differentiating spending on public health from spending on primary care is to observe whether prevention is administered as a social programme or as a result of the patient's own initiative. In cases where there is doubt, the criterion has been to count as public health those activities and expenses which come about within the various public health structures. It is necessary to remark that the fact that public health services are public property or that they have externalities is what justifies the fact that in every country in the world they are services that are financed,

5' METHODOLOGY

in the most part, with public money. The private sector cannot provide these services, or would do so in inadequate quantities, because there is no way to oblige people to reveal their preferences nor their demand for this type of services. The essential functions of public health appear in summary form in the following lines from the Report for the Reform of Public Health in Catalonia (p.28): *a) healthcare authority and planning, b) healthcare information, c) epidemiological vigilance, d) health promotion, e) prevention of diseases, f) protection of health and g) the public health laboratory.* These functions are reflected in a prospectus of services, the enumeration of which also serves to establish the ambit of this study. Below, we transcribe the prospectus of services of the future Public Health Agency of Catalonia¹.

Healthcare information systems

- Information system on drug addictions
- Information system on reproductive and infant health
- Vital statistics
- Information system on road accident injuries
- Information system on accidents at work
- Information system on food control
- Information system on air quality and other environmental vectors
- Integrated healthcare information system
- Health surveys for the general public and specific groups

Control of diseases – Epidemiological vigilance and intervention

- Programme of prevention and control of tuberculosis
- Vigilance and control of AIDS/HIV and hepatitis
- Vigilance and control of meningitis and legionnaire's disease
- Vigilance and control of flu'
- Vigilance and control of other transmissible diseases
- Vigilance and control of epidemic outbreaks
- Vigilance of health at work

¹ Provisionally, that which appears is the prospectus of the Public Health Agency of Barcelona

Environmental vigilance and intervention

- Programmes to improve air quality
- Vigilance and control of water for human consumption
- Vigilance and control of environmental waters (subterranean and coastal)
- Vigilance and control of installations at risk from legionnaire's disease
- Vigilance and control of establishments and pesticide services and other risks

Prevention and promotion of health

- Screening programme for breast cancer
- Continuous vaccination programme
- Prevention and control of tobacco consumption
- Healthcare education at school
- Support to schools in other health matters
- Support to mutual help organizations
- Mother-infant health
- Training in health at work
- Programmes of prevention and health promotion at work

Attention to drug addictions

- Programmes of treatment for addictions
- Programmes of harm-reduction
- Orientation for young people with drug problems
- Educative and prevention programmes in schools
- Community prevention programmes
- Information system on drug addictions

Food safety and hygiene**Urban fauna: domestic pets and pest control****Public health laboratory**

5.2 Sources of information

The data was compiled during the last quarter of 2006 and the first four months of 2007. The figures for the expenditure of the Department of Health were provided by the Directorate General of Public Health. The figures for the other Departments have been taken from the budgets of the Generalitat which are available on its web site (the names of the Departments are those which were in use in 2005). The spending figures for the Public Health Agency of Barcelona (ASPB) were supplied by the Agency itself. Information was also obtained from the Provincial Council of Barcelona and the Consortium of Hospitals of Catalonia.

Spending figures for the municipal councils (excluding Barcelona) were the most difficult to calculate. Possibly this is because sometimes there are no structures or separate units within the municipal structure². The estimate of spending has been made after comparing three sources of information. Below, we will explain their characteristics and the final decision taken.

The first is a study by the Barcelona Provincial Council in collaboration with the Federation of Municipal Councils of Catalonia, published in 2004. In individual studies the spending on public health by the councils of municipalities with between 10,000 and 20,000 inhabitants was examined, and that of municipalities with more than 20,000 inhabitants (excluding Barcelona). For councils of more than 20,000 inhabitants the result was an expenditure of 10.2 euros per inhabitant in 2001. A little over three quarters of this expenditure (76.6%) was financed directly by the councils, and almost a quarter was financed by subsidies and taxes. On the other hand, 58.6% of the expenditure was generated by their own activities, but 22.6% of the expenditure was dedicated to activities which

² For example, in a study by Líndez et al. (2001), it is mentioned that in 12 municipalities of the 28 that they studied the public health unit was grouped with consumption, in 5 it was included in the environment unit and in 2 municipalities it was joined with social services.

³ Making this distinction was one of the primordial objectives of the Barcelona Provincial Council's study.

could be considered competence of other administrations (autonomous and/or central)³. This spending on activities within the purview of other administrations includes a significant proportion of spending on attention activities (above all in healthcare transport). Once this attention expense is discounted, the expenditure per inhabitant falls to 8.85 euros. In the case of the councils of between 10,000 and 20,000 inhabitants, the spending per inhabitant in 2002 was 5.7 euros, almost all of the cost being undertaken by the councils themselves, who through taxes and subsidies raised only 6% of the total spent. As regards the distribution of the expenditure between activities of the councils themselves and those pertaining to other authorities, 63% was spent on their own activities and 23% on activities within the purview of other administrations – it was impossible to classify 9.7%. Here also, a considerable part of the spending was shown to be destined to attention services. Once these services are discounted, the spending per habitant goes down to 4.66 euros.

The second source of information is the survey on the prospectus of services and resources of public health of the municipal councils which is being carried out at this moment (the first four months of 2007) by the Health Protection Agency. In general, this survey is an update for the year 2005 of the information from the study by the Barcelona Provincial Council. However, since the survey does not have as its prime objective the gathering of economic data, not all of the councils give information on spending and when they do, it is not always accurate. In the case of councils of between 10,000 and 20,000 inhabitants, and only taking into account those councils which supply reasonably reliable economic data and data on public health personnel⁴, the figure per inhabitant is 3.18 euros. In the case of councils of more than 20,000 inhabitants the spending figure per inhabitant is 5.48 euros. These figures for spending on public health are considerably lower than those which were found four

⁴ One of the criteria which we have used to determine whether or not figures were reasonably reliable was that there were data both from chapter I and chapter II (requested in different questions) and that the spending figures in chapter I were consistent with the quantity of personnel declared as public health personnel. The number of councils which constitute this "reasonable" sample is 8 in the case of councils of municipalities of between 10,000 and 20,000 inhabitants, and 24 in the case of councils of over 20,000 inhabitants.

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years before in the study by the Barcelona Provincial Council. We have no explanation for this discrepancy.

Finally, another source of information which we have consulted is the Directorate General of Local Administration, where information on budgets and liquidations of the Local Corporations of Catalonia is collected. Within the functional classification appears epigraph 4.1, corresponding to Healthcare. This function is subdivided into two sub-functions: "Hospitals, attention services and health centres" and "Public actions relative to health". The most recent available data on liquidation is from 2003, but, unfortunately, only about half of the municipal councils provide a breakdown by functions which enables us to identify expenditure on public health. The average figure for spending on public health per inhabitant among councils of more than 20,000 inhabitants which do give figures by sub-functions is 3.83 euros, very far from the figure from the study by the Provincial Council of Barcelona and closer to that of the survey by the Health Protection Agency. Nor does this source give us data on financing, nor on distribution of spending by activities, nor by economic chapters. However, one advantage is that it allows us to calculate approximately the spending of the councils of less than 10,000 inhabitants, about which there is no information from any other source. (In 2003 they had an average expenditure on public health per inhabitant of 2.41 euros).

Following this explanation, the decision that we have taken has been to estimate the spending of the councils of over 20,000 inhabitants and between 10,000 and 20,000 inhabitants from the average spending figures per inhabitant of the survey by the Health Protection Agency, because it refers to the year 2005 and because it is closer to the official data of the Directorate General of Local Administration. In any case, we will use the information on the distribution of spending by activities from the Provincial Council's study when we draw up the functional classification, since the survey by the Health Protection Agency does not supply information about this aspect. It is possible, above all in comparison with the data of the study by the Barcelona Provincial Council, that the survey by the Health Protection Agency

may underestimate the spending of the councils, because, among other reasons, as we have already pointed out, the structures of public health are often grouped together with other structures within the council. But it is also possible that they are overestimated if the councils which respond to these parts of the survey are specifically those which perform the most activities in public health and spend the most per inhabitant. Unfortunately, for the moment we do not have any way of knowing the direction of any possible deviation. In the case of the councils with less than 10,000 inhabitants we will use the only available information, which is that supplied by the Directorate General of Local Administration. As this expenditure refers to the liquidation of the 2003 budget, we have applied a correcting factor to take into account the increment in the population in this type of municipality and inflation.

The data on transfers from the State and from other public institutions, as well as the income derived from the sale of services (taxes), fines and transfers from private institutions have been taken from the information provided by the Department of Health and the Public Health Agency of Barcelona. In the case of the rest of the municipal councils, an estimate has been made based on the results of the study by the Barcelona Provincial Council.

In general an attempt has been made to work with data on the liquidation of accounts, but at times the only available data have been those of the budgets. It is also necessary to mention that often the data appeared with an excessively high degree of aggregation, so that it was difficult to detect the true nature of the expenditure. In order to clarify properly their content, it was necessary to find and interview people connected with the principal organisms financing or providing services of public health. Even so, at times inferences, extrapolations or hypotheses had to be made regarding the assignation of some expenditure, particularly in order to be able to make complete all of the classifications of expenditure that we had proposed.

5.3 Institutional scheme of financing and service provision

Apart from the lack of information or in some cases its unreliability, one significant difficulty is to establish the paths of the flow of finances between the entities that finance and/or provide services. The majority of institutions perform both functions, while others only finance services or only provide them. One of the errors into which it is easiest to fall when compiling this kind of work is that of the double accounting of some of these financial currents. For this reason it is very important that, when contacting an institution, the origin and destination of its expenditure on public health be requested.

In Table 3 a scheme can be seen of the institutions that intervene in the financing and provision of public health services in Catalonia, and the variety of roles that can be fulfilled by their intervention.

The ultimate financers of services are businesses and families, being the people who pay taxes and levies. Money paid by families and businesses is for the most part channelled through direct financial intermediaries, although there is also some direct contact with the service providers (for example in the case of a community of neighbours who pay a fee to a municipal laboratory for the analysis of a water source). The direct financial intermediaries are here defined as those institutions which take the money from the families⁵ and companies in order to pass them on to other intermediaries or assign them to the purchase of the services offered by the providers (normally by way of accords). However, the direct financial intermediaries tend to be at the same time service providers, hence a large part of the money that they receive is spent within their own establishments and activities. The indirect financial intermediaries take the money from the direct intermediaries and pass it on

⁵ Here we do not mention the fact that taxes go first to the general treasury of the State, which then transfers them to the Autonomous Communities and to Local Corporations (Provincial and Municipal Councils). We also avoid mention of the step that exists between the Department of the Economy (which is the body that receives the transfers from the State in the first instance) and the rest of the Departments.

Table 3. Institutional scheme of financing and provision of public health services.

ULTIMATE FINANCERS	DIRECT INTERMEDIARY FINANCERS	INDIRECT INTERMEDIARY FINANCERS	INSTITUTIONS PROVIDING SERVICES	SUPPLIERS OF PRODUCTIVE FACTORS
Families	European Union	Department of Health	Government of Catalonia	Staff (families)
Businesses	State	Catalan Health Service	- Department of Health - Catalan Food Safety Agency	Providers of material (businesses)
	Government of Catalonia	Public Health Agency of Barcelona	- Department of Work and Industry - Catalan Transit Service - Department of Education	
	- Department of Health - Department of Work and Industry - Home Office. Catalan Transit Service - Department of Agriculture, Orchard-farming and Fisheries - Department of Commerce, Consumption and Tourism - Department of Social Welfare - Department of the Environment and Housing - Department of Education	Barcelona City Council	Barcelona Provincial Council	
			Public Health Agency of Barcelona	
			Other Municipal Councils	
			Other public institutions	
			Private Sector	
	Provincial Councils			
	Municipal councils (incl. Barcelona)			

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to the units that provide services. An example of an institution which has only this function is the Catalan Health Service, which receives the money from the Department of Health and makes transfers to (or purchases services from) the Public Health Agency of Barcelona for activities in the fields of drug addictions and screening for breast cancer. Another example is the Barcelona City Council, which receives money from the Department of Social Welfare and transfers it to the ASPB, also for activities in the field of drug addictions. The institutions which provide services are those which own the means of production of the services. Very often they coincide with the institutions which act as financial intermediaries. Finally, the productive factors used – labour and capital – are supplied by families and businesses, thus closing the circle.

In the scheme in Table 3 one can see that there are several possibilities:

- 1.** Institutions which finance but do not provide any public health service. For example, the State.
- 2.** Institutions which only provide services, without financing them. This is the case of the organizations and companies which belong to the private sector and is also the case of several entities in public ownership, such as the Consortium of Hospitals of Catalonia (which provides several different services of public health to the Provincial Council of Girona) or the Pompeu I Fabra University (which has an agreement with the Public Health Agency of Barcelona by which that organization subsidises a part of its Masters Degree in Public Health).
- 3.** Institutions which perform both functions, that is to say, both finance and provide services. These are principally the Department of Health, the Barcelona Provincial Council (the only Provincial Council which finances and at the same time provides public health services) and the municipal councils. The Department of Health finances services, provides services and also acts as a direct financial intermediary. An example of this last role would be the funds which it receives from the State (from the Ministry of Health and Consumption's "National Plan on Drugs") and transfers to the Public Health Agency of Barcelona. Or the funds which it also receives from the Ministry of Health and Consumption and transfers to various non-governmental associations and organizations which

work with drug addictions. For its part, the ASPB also performs the role of intermediary with the money which it receives from the Barcelona City Council (or from some other financing organism) and transfers to any of the public or private institutions with which it has agreements, such as the Pompeu Fabra University or the Catalan Solidarity Centre.

5.4 Classification of expenditure

Once the data has been compiled and organized, it must be classified according to four criteria, which allow the vision of the same reality from four different angles. Any analysis of the results of the empirical exercise is based on these four criteria, which are:

1) Which is the source of finance; that is to say, which is the organism or entity from which the money originates, even though it may not always be the same as that which provides the service. It is very important to remember that in order to avoid the double accounting of some expenditure, it is necessary to eliminate inter-institutional flows before adding up the final total.

2) Who is the titular owner of the institution or organism that provides the services, which could be the same as or different from that which finances them, bearing in mind that volume of financing and of provision need not necessarily coincide. Distinguishing who finances the services, and to what degree, from who provides them, and to what degree, is essential when it comes to making an accurate estimate and analysis of healthcare spending.

3) Functional classification, that is to say according to the type of functions or activities to which the money is assigned. This tends to be a classification which is of great interest to the administrators and politicians who have to take decisions on the redirecting of expenditure.

4) Economic classification, by budgetary chapters, that is to say according to the resources employed.

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RESULTS

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6.1 Total expenditure on public health, according to the source of finance

As we can see in Table 4, the total spending on public health services in Catalonia in 2005 was 159.34 million euros. Table 5 and Figure 3 emphasize the fact that almost all of the expenditure is public (95.21%), something which we may have expected, given the economic nature of this type of services. The private financing that appears – 7.6 million euros; that is to say, 4.8% of the total spending – comes, above all, from the sale of services (generally speaking, of inspection and analysis of samples) to companies. There is also some income from fines and a small amount of private financing of research projects of the ASPB.

Figure 3.
Public and private financing of expenditure
on public health in Catalonia, 2005

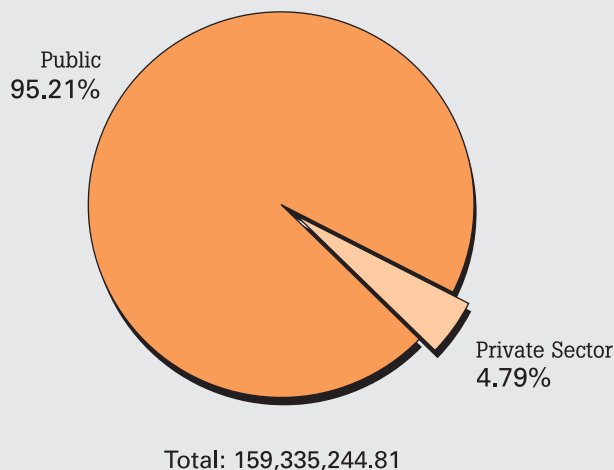


Table 4. Total spending on public health in Catalonia, by source of finance, 2005.

Organism	Euros
Government of Catalonia	102.303.033,66
Department of Health / Catalan Health Service	91.969.139,87
- Spending on internal actions	77.865.987,39
- Transfers to the Catalan Food Safety Agency (ACSA)	962.083,84
- Transfers to the Public Health Agency of Barcelona (ASPB) ¹	9.065.775,12
- Transfers to municipal councils	140.770,90
- Transfers to private non-profit entities	1.582.505,00
- Transfers from the Catalan Health Service to the ASPB	2.352.017,62
Department of Work and Industry ²	
- Programmes of safety and health at work	7.073.036,00
Home Office. Catalan Transit Service	
- Information and prevention campaigns and publications	1.800.000,00
Department of Agriculture, Orchard Farming and Fisheries	
- Transfers to ACSA	614.229,00
Department of Commerce, Consumption and Tourism	
- Transfers to ACSA	368.538,00
Department of Social Welfare	
- Transfers to the ASPB	277.523,79
Department of the Environment and Housing	
- Transfers to ACSA	122.846,00
Department of Education ²	
- Programme of education for health at school	77.721,00
Barcelona City Council	
- Transfers to the ASPB	14.546.081,21
Municipal councils of more than 20,000 inhabitants (excluding Barcelona)	16.608.416,44
Municipal councils of between 10,000 and 20,000 inhabitants	2.037.258,91
Municipal councils of fewer than 10,000 inhabitants	3.355.779,11
Provincial Councils	
- Internal actions (Provincial Council of Barcelona)	2.935.795,00
- Transfers (Provincial Councils of Barcelona and Girona)	1.836.371,00
State	
- Transfers to the department of Health ³	6.970.373,76
- Transfers to the ASPB ⁴	893.051,73
Other public administrations⁵	
- Transfers to the ASPB	221.036,82
Businesses and families (private sector)	
- Taxes fees for services provided, fines, financial income, etc.	7.628.047,17
TOTAL	159.335.244,81

¹ A significant part of this transfer was made in kind (vaccinations to the value of 7,000,000 euros and salaries of laboratory staff who depend on the Government of Catalonia but work at the ASPB, to the value of 600.000 euros).

² Staff expenses inferred.

³ Includes 948,041 euros of the "National Plan on Drugs" which the Dept. Of Health later transfers to the ASPB.

⁴ Various accords to carry out research projects and other activities (for example, laboratories).

⁵ European Union, Government of Andorra and various Public Foundations.

We will now proceed to analyse each of the main sources of finance of expenditure on public health.

6.1.1 The Government of Catalonia and the Department of Health

The Department of Health (together with a small contribution from the Catalan Health Services in the form of a transfer from the ASPB) finances 57.72% of the total expenditure (see Table 5). Other departments of the Government of Catalonia participate with 6.49%. Specifically, the Department of Work and Industry contributes 4.4% and then there are other Departments that send lesser amounts (such as the Catalan Transit Service of the Home Office and the Department of Education) or make contributions to the Catalan Food Safety Agency. Altogether this means that the expenditure financed by the Government of Catalonia is 64.21% of the total.

The vast majority of the expenditure of the Department of Health is channelled through the Directorate General of Public Health (DGSP)⁶. The DGSP leads, oversees and provides all of the services which are aimed at improving the individual and collective health of the citizens via promotion, protection, prevention, vigilance and monitoring. Specifically, it is responsible for exercising the functions of organization, planning, execution, control and evaluation of the activities necessary to determine and define the chemical, physical and biological agents present in the environment; especially in the air, in water and in foodstuffs, whether naturally or introduced by human activities, which could cause disorders and diseases.

Similarly, the DGSP is responsible for epidemiological vigilance of transmissible diseases and of epidemic outbreaks; the proposal, organization, control and evaluation⁷ of healthcare programmes aimed at the

⁶ It must be mentioned that the Health Protection Agency, the embryo of the future Public Health Agency of Catalonia, did not come into operation until 2006.

⁷ It is necessary to point out that the execution of these activities is not included here, as it was in the previous paragraph, when speaking about activities of protection of the environment.

prevention of disease and the promotion of health (vaccinations, diabetes, healthcare education, oral health, etc) through actions aimed at the individual. It is also concerned with permanent healthcare actions in relation to transmissible and non-transmissible diseases, including drug addictions and reproductive and sexual health (especially AIDS and sexually transmitted diseases, and teenage pregnancies).

As has already been mentioned before, the expenditure by the Department of Work and Industry represents 4.4% of the total expenditure. The Sub-directorate General of Work Health and Safety is responsible for the management and technical/functional coordination of centres of safety and health conditions at work; also for the coordination and compilation of studies and reports on matters of safety and health conditions at work; the coordination of relations with institutions and organizations specializing in matters of safety and health conditions at work, both within and outside of the ambit of the Administration; and for the promotion of safety and health conditions at work through the coordination of the proposal of annual or multi-annual actions in the DG. It also conducts assessments on matters of safety and health conditions at work in the higher organs of the Department, proposals for action by the Department to the Labour, Economic and Social Council of Catalonia and also the coordination, within the DG, of the agreements reached. Finally, it is responsible for the planning and proposal to the DG of action plans of the Work and Social Security Inspection department on matters of safety and health conditions at work, even coordinating their execution.

The expenditure of this Department (and that of Education) includes some expenditure on personnel. The expenditures of chapter I appear all together, assigned to the Secretariat General. The expenditures of chapters II to VII, on the other hand, are itemised in the budgets. The hypothesis for making the inference is that the expenses of personnel of the unit or programme referred to represent a percentage of the total of personnel expenses equal to the percentage represented in chapters II to VII within the total of these chapters in the Department. That is to say, it is considered that the weight of the expenditure on personnel is proportional to that shown in chapters II to VII.

Table 5. Total expenditure on public health in Catalonia, by source of finance, 2005 (percentages).

Organism	% of total spending
Department of Health / Catalan Health Service	57,72
Other Departments of the Government of Catalonia	6,49
Barcelona City Council	9,13
Municipal councils of more than 20,000 inhabitants (excluding Barcelona)	10,42
Municipal councils of between 10,000 and 20,000 inhabitants	1,28
Municipal councils of fewer than 10,000 inhabitants	2,11
Provincial Councils	3,00
State	4,94
Other public institutions	0,14
Businesses and Families	4,79
TOTAL	100,00

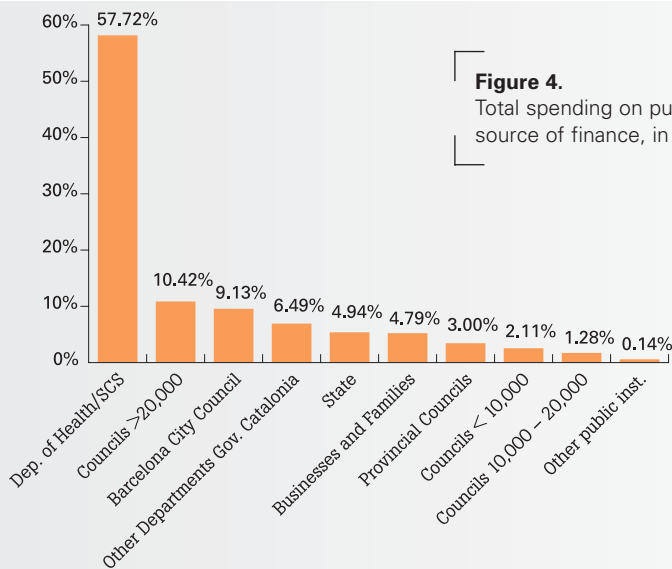


Figure 4.

Total spending on public health in Catalonia by source of finance, in order of importance, 2005.

6.1.2 The Municipal Councils

The municipal councils finance 23% of the total spending on public health (although the percentage of services that they provide is greater, as we will see in section 6.2). The role of the Barcelona City Council stands out, financing 39.8% of this 23 % (or 9% of the total expenditure). The municipal councils of more than 20,000 inhabitants (58 in total) finance 16.6 million euros, that is to say, 10.4% of the total expenditure. The 49 councils of between 10,000 and 20,000 inhabitants finance 1.3% of the expenditure and the 838 remaining councils (those with fewer than 10,000 inhabitants) contribute 2.1%.

It must be born in mind that within the ambit of healthcare, it is in the field of public health where the municipal councils have their principal competences. As is established in article 68 of Law 15/1990 of Healthcare Organization in Catalonia, it is the role of the municipal councils "to provide the services necessary to fulfil the following minimal responsibilities in relation to the obligatory compliance with the healthcare regulations and programmes relating to:

- Sanitary control of the environment: atmospheric pollution, water supplies, treatment of waste waters, urban and industrial waste.
- Sanitary control of industries, activities and services, transport, noise and vibrations.
- Sanitary control of buildings and housing for human habitation and co-habitation, especially centres supplying food, hairdressers, saunas and personal hygiene centres, hotels and residential centres, schools, campsites and areas of physical-sporting activity and leisure.
- Sanitary control of the distribution and supply of foodstuffs, drinks and other products, directly or indirectly related with human use or consumption, as well as their means of transport.
- Sanitary control of cemeteries and the sanitary control of mortuaries."

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The minimum services of local entities in matters of health protection prescribed in article 45 of the Law 7/2003 of 25th April, of Health Protection cover these same areas, to which is added healthcare education. One difference between this law and the LOSC of 1990 is that instead of talking about “control”, the expression “risk management” is used, which has a broader meaning. Local entities can provide the health protection services specific to article 45 directly or entrusting their execution to the Health Protection Agency.

The activity of the municipal councils of Catalonia on public health was the object of a very well-known work by Lіндеz et al. (2001) in which a distinction is made between functions and activities of public health. According to the results of the study, it seems that the municipal councils assume more the responsibility for the functions of public health than for the direct realization of activities. Among the functions, those that feature most are the development of policies and the guarantee of the provision of services while the evaluation of health needs is less extensive. As regards public health activities, those which are carried out by most councils are control of zoonosis and the inspection of buildings and housing, but in general they are not very involved in activities such as epidemiological vigilance or environmental sanitation (water control, waste, atmospheric pollution, etc). It must be pointed out, just as the authors underline, that in those activities in which the councils are not very active, often there is no other agent or administration carrying them out.

6.1.3 The State and other public administrations

The Ministry of Health and Consumption makes various final transfers to the Department of Health for actions in health promotion activities, epidemiological vigilance, vaccinations, drug addictions and AIDS. Also, from the Ministry of Health (and the Healthcare Research Fund of the Carlos III Institute) come various parts of the income of the ASPB, which also receives transfers or financing for projects of the Home Office and the Ministry of Public Administrations. In total, the State finances almost 5% of the total spending on public health in Catalonia.

The Provincial Councils (essentially, the Provincial Council of Barcelona) finance 3% of the total expenditure on public health. The activities of the Provincial Council of Barcelona itself represent more than 60% of this expenditure. Transfers from the Provincial Council of Barcelona to the town halls and those from the Provincial Council of Girona to the Consortium of Hospitals of Catalonia represent a little over 1% of the total expenditure. As far as we have been able to determine, the Provincial Councils of Lleida and Tarragona do not finance public health services, either through their own activities or through arrangements with other entities.

Finally, in Tables 4 and 5 it can be seen that a small proportion of financing (0.14%) comes from other public administrations. This refers to income of the Public Health Agency of Barcelona, fundamentally to finance research projects, at the expense of the European Union, the Government of Andorra and several public foundations.

6.1.4 Businesses and families

In this epigraph, which represents 4.79% of all financing, are included the fees for the provision of services of inspection and control of abattoirs, drinking water supplies, swimming pools etc. This money is collected, primarily, by the Department of Health, but also by the ASPB and the other municipal councils. The activity that contributes most of this type of income is, specifically, inspections of abattoirs. Besides the income raised by fees, within this epigraph there are lesser quantities raised through fines and research projects financed by private entities (for example la Caixa de Catalunya).

6.2 Total expenditure on public health, according to service providing entity

Table 6 shows information on spending on public health, but from the point of view of which institution or entity provides the services. That is to say, the institution which owns the patrimonial property and directly administers the productive factors – labour and material means – to redu-

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ce the services. The total must coincide with the finance figure in Table 4, although the breakdown need not be the same, and in fact is not. For example, the Department of Health finances almost 58% of the total expenditure and spends around 53% on activities within its organization (without counting the ASPB).

The Departments of Agriculture, Orchard Farming and Fisheries, Commerce, Tourism and Consumption, and the Environment and Housing do not appear in this table because their role is merely as financiers. Specifically, they finance a part of the expenditure of the Food Safety Agency, which is the organization which provides services in this matter. Of the four Catalan Provincial Councils, only that of Barcelona provides public health services directly to the value of 2.9 million euros (63% of the expenditure on public health of that institution). As we have seen in the previous section, the Provincial Council of Girona finances, but does not act as public health service provider, and for this reason it does not appear in this table. The Provincial Councils of Lleida and Tarragona neither finance nor provide services. Nor does the State directly provide services of public health in Catalonia. The private sector, for its part, provides public health services to the value of 7.8 million euros (4.9% of the total). A little over half corresponds to the Private Foundation of Meat Industries, and the rest to a variety of private entities, among which predominate non-governmental associations and organizations dedicated to the treatment of drug addictions and the prevention of AIDS risks.

In order to show more clearly the discrepancy between the point of view of financing and that of service provision, in Table 7 we summarize the money received and money spent – that is to say the income and outgoings – in the case of the Department of Health. As we can observe, the total of public health money that “passes” through the hands of the Department is 102, 864,689 euros. It must be pointed out that of this money, not all comes from the Department’s own budget – 6.8% comes from final transfers from the Ministry of Health and Consumption and 6.1% from taxes, fines and similar sources – nor does all of it remain within the Department for its own activities. In fact, only 81.5% of the total remains in the Department, and the rest – 18.5% - is transferred to diffe-

Table 6. Total expenditure on public health in Catalonia, according to service provider, 2005.

Organism	Euros	% of total expenditure
Government of Catalonia	94.852.589,59	59,53
Department of Health	83.834.135,55	52,61
Catalan Food Safety Agency	2.067.697,04	1,30
Department of Work and Industry (health at work)	7.073.036,00	4,44
Home Office. Catalan Transit Service	1.800.000,00	1,13
Department of Education	77.721,00	0,05
Public Health Agency of Barcelona	29.477.230,13	18,50
Municipal councils of more than 20,000 inhabitants (excluding Barcelona)	18.468.773,53	11,59
Municipal councils between 10,000 and 20,000 inhabitants	2.167.074,74	1,36
Municipal councils of fewer than 10,000 inhabitants	3.484.713,51	2,19
Barcelona Provincial Council	2.935.795,00	1,84
Other public institutions¹	186.971,34	0,12
Private sector (Private Foundation of Meat Industries and various other institutions ²)	7.762.096,97	4,87
TOTAL	159.335.244,81	100,00

¹ Pompeu Fabra University, Municipal HHealthcare Institute, Fundació Clínic, Consortium of Hospitals of Catalonia.

² Johns Hopkins University, Catalan solidarity Centre, Associació Institut Genus, Promotion and Social Development, etc.

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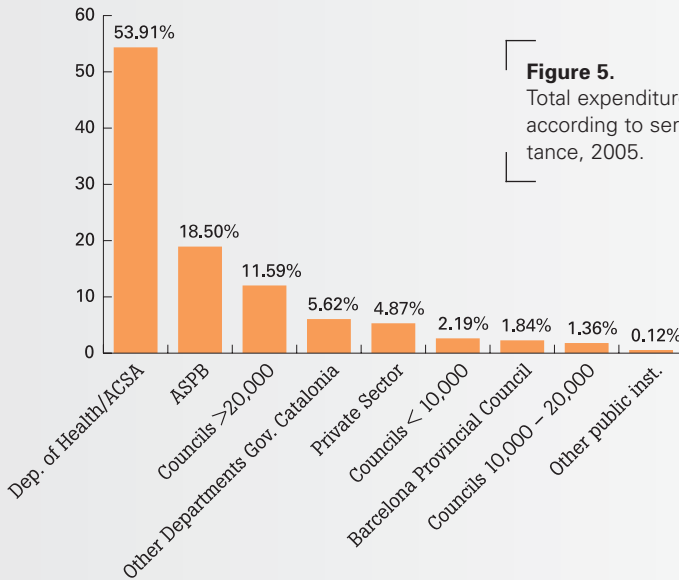


Figure 5.

Total expenditure on public health in Catalonia, according to service provider, in order of importance, 2005.

rent public and private entities, such as the Catalan Food Safety Agency, the Public Health Agency of Barcelona, or the Private Foundation of Meat Industries (FIC)⁸. Within the category of spending on its own activities there are two principal divisions: personnel, which represents 42% of the total, and vaccinations, which represent 27%.⁹

From table 7 two interesting ratios can also be calculated: firstly, it can be proven that of all its total income, the Department of Health dedicates 17 euros per inhabitant to public health services out-

⁸ The objective of the agreement with the FIC is to finance the establishment of the figure of veterinary technical auxiliary and to improve the conditions in which inspection and sanitary control of meat are carried out in Catalonia.

⁹ Vaccinations are then distributed to Primary Healthcare Centres, which is where they are administered to patients. So in the strictest sense, their value should be designated as transfers to other institutions, but since the Directorate General of Public Health is responsible for their distribution, vaccinations are here considered as an expense of their own activities. The same can be applied to vaccinations administered by the ASPB.

Table 7. Income and expenditure on public health by the Department of Health, 2005.

EXPENSES	%	Euros	Euros	%	INCOME
Internal actions	81,5	83.834.135,55	89.617.162,24 ²	87,1	Internal budget
Transfers to the ASPB ¹	11,0	11.295.057,04	6.970.373,76	6,8	Transfers from the State
Transfers to the ACSA	0,9	962.083,84	6.267.153,00	6,1	Taxes, etc.
Transfers to the municipal councils	0,1	140.770,90			
Transfers to the FIC	4,2	4.368.000,00			
Transfers to private non-profit entities	2,2	2.254.641,67			
TOTAL EXPENSES	100	102.854.689,0	102.854.689,0	100	TOTAL INCOME

¹ The figure does not coincide with that of Table 4 (sources of finance) because here have been added transfers in which the Department of Health acts merely as a financial intermediary, that is to say, money the origins of which are other institutions – specifically the State and income from taxes from the private sector – which the Department receives or collects but then transfers to the ASPB. In Table 4 this money can be entered under the heading of source.

² This figure does not include the Catalan Health Service.

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side of the city of Barcelona (that is to say, excluding transfers to the ASPB, and divided among the population that does not live in the capital). If we look at the expenditure column, the quantity spent on activities of the Department itself outside of the city of Barcelona is 15.5 euros per inhabitant.

In any case, the greatest differences between financing and provision of services (Tables 4 and 6) are found in the Barcelona City Council and the ASPB. The reason is the transfers that the ASPB receives from a large number of institutions. Given the importance of the ASPB in public health in Catalonia and its acknowledged role as a point of reference, we will proceed to offer a table (Table 8) with a summary of the income and expenses of that entity. Moreover, the complexity of its financial flow, just as happened with the Department, exemplify perfectly the variety of currents which can be produced when it comes to analysing healthcare expenditure in general, and that of public health in particular.

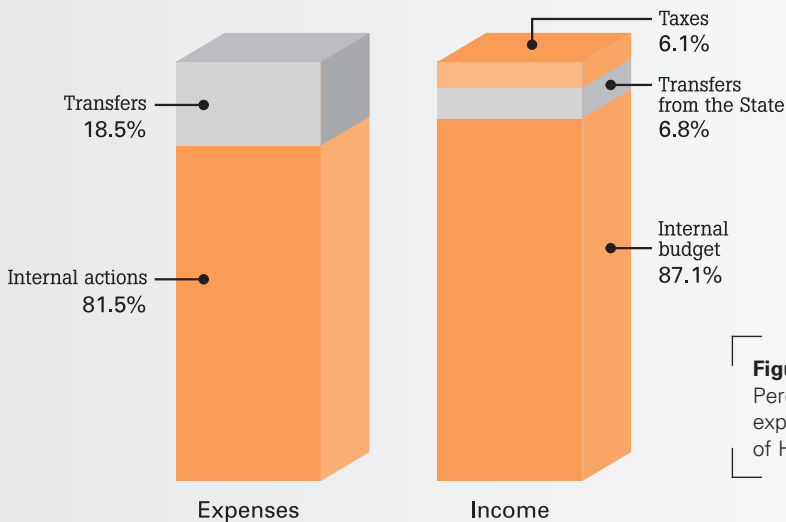


Figure 6.
Percentage of income and expenses of the Department of Health, 2005.

The ASPB began to function operatively on 1st January 2003. The total of its income for 2005 was 20.7 million euros. This income came principally from the Barcelona City Council (47%) and the Department of Health/SCS (44.5%), including, in the latter case, transfers in kind of vaccinations to the value of 7 million euros and the payment of some of the cost of laboratory staff to the value of 600,000 euros. The ASPB also receives income from the Department of Social Welfare, from the State and from other public administrations, as well as 1.1 million euros (3.6%) of private funds derived from the provision of services and other concepts.

On the expenses side, the ASPB spends 29.5 million euros on internal actions (96% of the total) and transfers the rest – 4% of its income – to various public and private institutions with which it has accords or contracts. For example, it has accords with the universi-

Table 8. Income and expenses of the Public Health Agency of Barcelona, 2005.

EXPENSES	%	Euros	Euros	%	INCOME
Internal actions	96,0	29.477.230,13	14.546.081,21	47,4	Transf. from the Barcelona City Council
Transf. To Public Foundations	0,3	83.971,39	11.295.057,04	36,8	Transf. from the Department of Health
Transf. to private individuals and entities	3,7	1.139.495,95	2.352.017,62	7,7	Transf. from the Catalan Health Service
			277.523,79	0,9	Transf. from the Dept. of Social Welfare
			893.051,73	2,9	Transf. from the State
			221.036,82	0,7	Transf. from other public administrations
			1.115.929,26	3,6	Taxes, fines, transf. from private instit., etc.
TOTAL EXPENSES		30.700.697,47	30.700.697,47	100	TOTAL INCOME

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ties of Pompeu Fabra and Johns Hopkins (Baltimore, USA) for training in public health, with the Catalan Solidarity Centre for actions on drug addictions and with the Private Foundation of Meat Industries for inspections in this field.

In table 9 we can see how much the ASPB and the rest of the municipal councils spend per inhabitant. Spending on internal activities of the ASPB represents 18.5 euros per inhabitant. The municipal councils of more than 20,000 inhabitants spend 5.48 euros per inhabitant, while the smaller municipal councils (between 10,000 and 20,000 inhabitants, and those of fewer than 10,000) spend considerably smaller amounts: 3.18 and 2.48 euros per inhabitant. The average of municipal spending per inhabitant in public health for all of the municipal councils of Catalonia is 7.66 euros. Leaving to one side the singular nature of Barcelona, it is necessary to draw attention to the difference between centres of population of more than

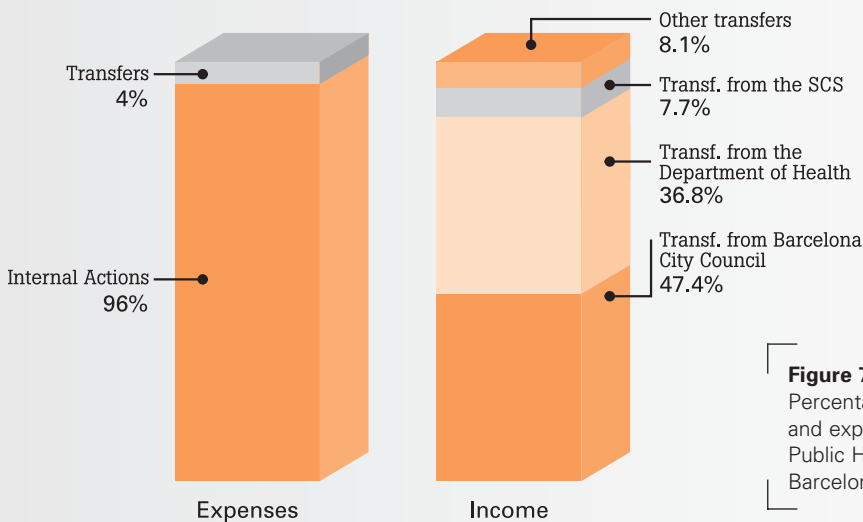


Figure 7.
Percentage of income and expenses of the Public Health Agency of Barcelona, 2005.

10,000, and those of less than that number. It is probable that some of the activities of the larger municipal councils also include the smaller villages around them, or that the expenditure of the Department of Health compensates for these differences, but in any case it is necessary to ensure that the inhabitants of these smaller centres of population do not suffer similarly pronounced inequalities as regards the coverage of public health services.

Table 9. Spending on public health per inhabitant by the different types of municipal council, 2005.

Councils	N	Population (INE, 2005)		Spending on public health	
		No. inhabitants	% of total of Catalonia	% of total of councils	Per inhabitant (euros)
Barcelona (ASPB)	1	1.593.075	22,77%	55,00%	18,50
Councils of more than 20,000 inhabitants	58	3.367.143	48,13%	34,46%	5,48
Councils between 10,000 and 20,000 inhabitants	49	682.471	9,76%	4,04%	3,18
Councils of fewer than 10,000 inhabitants	838	1.352.517	19,34%	6,50%	2,48
Catalonia	946	6.995.206	100,00%	100,00%	7,66

6.3 Functional classification, according to type of activity, of the total expenditure on public health

The present state of information prevents us from classifying expenditure according to functions and essential services of public health as formulated by the Institute of Medicine in the United States. For this reason, we have opted for a less ambitious objective and we have classified the spending along two principal lines: protection of health on the one hand and promotion and prevention on the other¹⁰. We believe that this information may also be very interesting, since it gives an idea of the weight that health protection – perhaps the most traditional function – maintains in relation to the strategies of promotion and prevention of risks to health. Furthermore, the differences between the various organisms can be appreciated, thus demonstrating the shades of “specialization” between them in some types of services.

Table 10 shows the percentages dedicated to each of the service-providing institutions along each of the aforementioned principal lines of public health. In general the data is based on fairly detailed information from the institutions themselves, but in some cases it has been necessary to make hypotheses regarding division, these being the most reasonable possible. In the case of the Department of Health, the weight of health protection is due, principally, to the huge volume of personnel (especially APD's) working in the regions. 93% of the expenditure dedicated to health protection is spent on personnel. By contrast, spending on personnel represents only 5.3% of the total expenditure in promotion and prevention. Here vaccinations carry most weight, absorbing 71% of promotion and prevention expenditure.

The budget of the Catalan Food Safety Agency has been classified as expenditure on protection. Quite the opposite has been done with the expenditure of the Department of Education. The spending by

¹⁰ Here the expenditure on epidemiological vigilante is included. It has not been possible to estimate its value separately.

Table 10. Total spending on public health in Catalonia according to functional classification, by type of activity, 2005 (percentages).

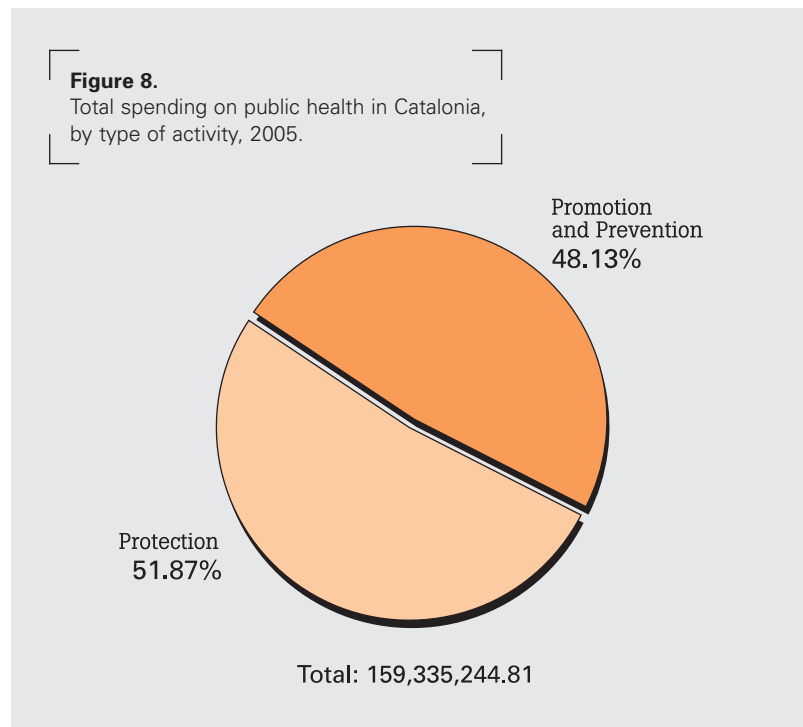
Organism	Activities	
	Protection	Promotion and Prevention
Government of Catalonia	53,5%	46,5%
Department of Health	52,8	47,2
Catalan Food Safety Agency	100,0	0,0
Department of Work and Industry	50,0	50,0
Home Office. Catalan Transit Service	50,0	50,0
Department of Education	0,0	100,0
Public Health Agency of Barcelona	29,3	70,7
Councils of more than 20,000 inhabitants (excl. Barcelona)	62,0	38,0
Councils of between 10,000 and 20,000 inhabitants	84,0	16,0
Councils of less than 10,000 inhabitants	84,0	16,0
Barcelona Provincial Council	73,3	26,7
Other public institutions	50,0	50,0
Private Sector	56,3	43,7
TOTAL	51,9	48,1

the Department of Work and Industry and the Catalan Transit Service have been divided in equal halves bearing in mind that in both cases their actions have a double consideration. According to Josep Lluís de Peray, coordinator for the creation of the Public Health Agency of Catalonia, the expenditure of the Department of Work and Industry on programmes of health and safety at work have a dimension of evaluation, management and communication of risks related with the productive process. Therefore, they belong to health protection. However, if

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it has not been possible to control the risks and it affects the health of the worker, interventions are then those of diagnosis and early detection of the consequences for health of said risks. Therefore they would be activities of secondary prevention . Furthermore, the idea of incorporating health at work within the area of public health is a further development of health promotion strategies to “fortify” the health of the workers as regards the risks to which they are exposed at work. In the same manner, the expenditure of the Catalan Transit Service can be considered as protection in terms of the management of risks to health derived from relations between the person, the vehicle and the highway. But also prevention, aimed at minimizing the effects of dan-

Figure 8.
Total spending on public health in Catalonia,
by type of activity, 2005.



gers. The promotion of healthy lifestyles related with driving would complement the continuum of public health.

The elevated percentage of spending which the ASPB dedicates to promotion and prevention (70.7%) is principally due to the huge weight of two elements: vaccinations and the importance of the Institute of Community Services (IDESCO) within the Agency. IDESCO carries out tasks of orientation and prevention of risks from drugs for adolescents and families at school; it also offers a range of options of treatment and prevention of diseases for addicts to dangerous substances (drugs, tobacco, alcohol) and conducts campaigns to raise awareness and to inform the general public, risk groups and professionals. Their activities have increased considerably in recent years.

In the rest of the municipal councils¹¹ the activity which predominates is that of protection. Basically control and administration of activities of “DDD” (insect control, disinfection and rat control) and the control of zoonosis. Next in importance are activities of sanitary control of food and drink products and the sanitary control of cemeteries and funeral services. The Barcelona Provincial Council carries out a broad activity of health protection, from hygiene and safety of beaches to management of health risks derived from human consumption and food products, as well as protection from urban pests or legionnaire’s disease. The expenditure of other public institutions is extremely low and is divided in equal halves. Finally the expenditure of the private sector has been allocated in the following way: the expenditure of the FIC in the epigraph of protection and the expenditure of the non-governmental associations and organizations working in drug addictions in the promotion and prevention section.

¹¹ We have supposed that the distribution according to type of activities in municipal councils of fewer than 10,000 inhabitants, about which we have no information, is the same as that of councils with between 10,000 and 20,000 inhabitants.

6.4 Total expenditure on public health, by economic chapters

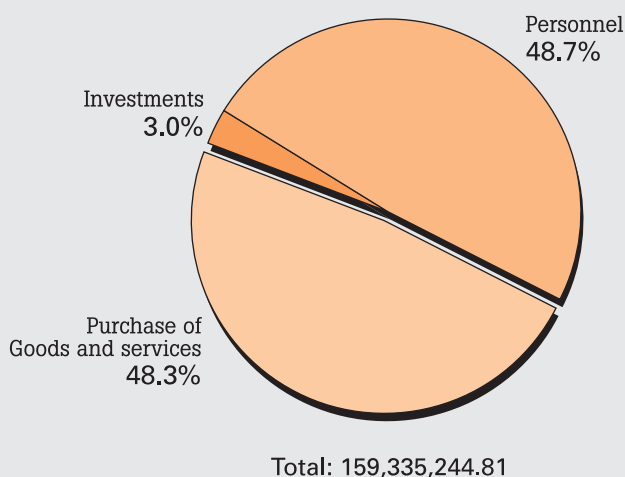
The distribution into different economic resources (inputs) that participate in the production of public health services appears in Figure 9. The economic chapters in which it is customary to itemize expenditure are: remunerations to staff (chap. I), purchase of goods and services (chap. II) and investments (chap. VI). Given that the objective is to determine the combination of resources with which services are produced, the starting point for making estimates is the institutions in the third column of Table 3 (which are the same as in Table 6) in which all of the entities which participate in the provision of services appear, and the quantities with which they participate. These entities are the ones that know which resources they use, and not the ones which finance the services who, although they make transfers of money, they have no knowledge of the subsequent distribution of said money into budgetary chapters.

We have documentary evidence on the itemisation by economic chapters for the principal service-providing institutions: The Department of Health, the Catalan Food Safety Agency and the Public Health Agency of Barcelona. The division by chapters by municipal councils of more than 20,000 inhabitants and those of between 10,000 and 20,000 inhabitants has been made according to the same sampling of municipal councils that we have used to estimate the expenditure per inhabitant. And for all the other entities (which total less than 8% of the expenditure between them) we have made various hypotheses, the most reasonable possible, in order to reach a global estimate. Investments have also been estimated in a general way based on fragmentary evidence from the different service-providing institutions.

The result, as we can see in Figure 9, is that remunerations to staff constitute 48.7% of the total expenditure on public health, the purchase of goods and services 48.3% and investments 3%. The first thing that stands out is that this distribution is considerably different from that which is habitual in healthcare services in general, in which personnel constitute around 60% of expenditure (Rodríguez, 1986; Maxwell, 1981).

Figure 9.

Total spending on public health by economic chapters, 2005.



A plausible explanation of the relatively low participation of spending on personnel – and the elevated participation of chapter ii – is the high cost of vaccinations. A detail which is illustrative of this fact is that the 28 million euros that the Department of Health spends on vaccinations represents 33% of the volume of spending on internal activities of the Department itself¹². Expenditure on personnel represents 51.7% of the expenditure of the Department. At the Public Health Agency of

¹² The 35 million euros which in total are spent on vaccinations (remember that there are 7 million more than go to the ASPB) represent almost 20% of the total expenditure on public health in Catalonia.

6' RESULTS

Barcelona the personnel chapter absorbs 45.6% of the expenditure, in the municipal councils of more than 20,000 inhabitants, approximately 56% of their expenditure and in those between 10,000 and 20,000 inhabitants, 44%.¹³

As we have mentioned, the percentage destined to investments is very much an estimate. The fact that the investment expenses which figure in our data are highly heterogeneous among the various service-providing institutions seems to indicate that investments are not always clearly reflected. Among other reasons, because institutions do not usually separate their investments by periods. For example, in the data from the Department of Health there is hardly any amount for 2005, although there is for 2006. In the case of the Public Health Agency of Barcelona, the percentage destined to investments for the year 2005 was 2.53%.



¹³ It must be mentioned, though, that there is great variability in the percentage that spending on personnel represents both in municipalities of more than 20,000 inhabitants and in those of between 10,000 and 20,000 inhabitants. In the case of municipalities of more than 20,000 inhabitants the range is from 18% of expenditure on personnel to 98%. This variability is another indicator of the uncertainty that surrounds the spending figures of the town halls in this study.

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DISCUSSION AND CONCLUSION

7 DISCUSSION AND CONCLUSION

Spending on public health in Catalonia had never been the object of a detailed study which allowed us to accurately estimate its volume as well as its principal characteristics¹⁴. The principal value of this work, in fact, to have proposed a method for estimating and systemizing the analysis of spending on public health, in Catalonia or any other territory. In this way, through a standard series of tables, a tool is presented for making comparisons with other Autonomous Communities or countries, and also in time, with Catalonia itself. We have classified spending according to four criteria or different points of view, which must all give the same total: the source of finance, the institution providing services, the principal types of activity carried out (functional classification) and the combination of economic resources employed (classification by budgetary chapters). This permits a multi-focused analysis and the identification of the relationships that exist between the various institutions that intervene in the field of public health, with the corresponding financial flows between them.

This methodology has been illustrated with the calculation and analysis of spending on public health in Catalonia in the year 2005. Access to information is of paramount importance for monitoring, administering and designing actions in any field, and this is no less true of public health. Among other things, because it permits the taking of decisions, the identification of strengths and weaknesses and the taking of steps in matters of health policy using well-founded arguments. The global figure of expenditure in public health which we have found is 159,335,244.81 euros.

Figure 10 shows the position of Catalonia in relation to Spain and the OECD average in terms of the percentage that expenditure on public health represents as a proportion of total public expenditure on health. Apart from the difference in years, the comparison must be read with caution owing to the methodological differences between both calcula-

¹⁴ The work by De Peray, Navas and Ibáñez (2005) constitutes the closest antecedent, but it does not make such a minutely detailed systemization and classification as we have made here.

tions. Spending on public health is, possibly, the least homogeneous part of the accounts system of the OECD (SHA – System of Health Accounts) and that which has most discrepancies between its criterion and the COFOG classification (Classification of Functions of Governments), to which our definition is more similar. For example, protection and vigilance of the environment do not form a part of public health expenditure in the accounts system of the OECD. Another fact which makes us doubt the quality of this chapter of spending in the OECD database is that in the 2002 edition four distinct sections appear within the epigraph dealing with spending on prevention and public health: 1) mother and child health and family planning, 2) Health in schools, 3) Health at work and 4) all other expenditure on prevention and public health. However, only two or three countries completed the first three sections and the majority classified all of their expenditure as “all other expenditure on prevention and public health”. In the 2005 edition the distinction into four sections has disappeared without any methodological explanation being offered.

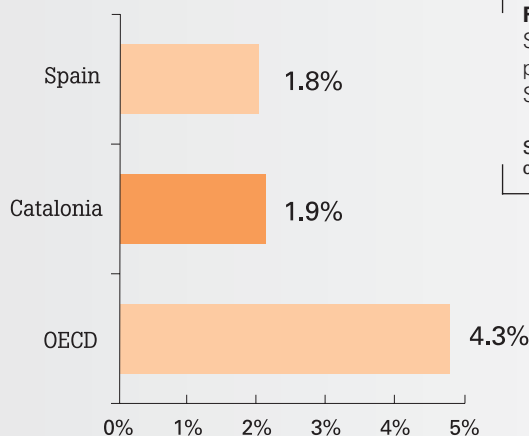


Figure 10.

Spending on public health as a percentage of public spending on health in Catalonia (2005), Spain and the OECD (2003).

Source: OECD Health Data 2005 and internal compilation for Catalonia.

7 DISCUSSION AND CONCLUSION

The concept of public health which we have used is in principle very similar to that of the satellite accounts of public healthcare spending (the *Statistics of Public Healthcare Spending*), with the difference that we have decided to include spending on research and training in public health and the satellite accounts do not, because they assign them to their respective programmes. In any case, although the concept is fairly similar, the ways of classifying expenditure are a little different. We have not made the classification according to the rubrics of national accounts, which place the emphasis on concepts like market production (for sales) and non-market production (non-sales) or final consumption and intermediate consumption, but rather we distinguish between the criteria of sources of finance and service provider. We believe that our classification is more simple and closer to the concepts and language common to politicians and public health and healthcare administrators. On the other hand, we coincide in the economic and functional classification.

As regards the figures themselves, we have already mentioned when referring to the antecedents to this research that there is a clear and considerable undervaluing of spending on public health in Catalonia at the EGSP, with only 7.2 million euros assigned for the year 2002. We have also detected that the figure of spending on public health by all of the municipal councils of Spain is seriously undervalued, since the EGSP gives a figure, also for the year 2002, of 8.2 million euros between all of them! We do not know the reasons for such a measly figure. The EGSP classifies as primary attention expenses some things (such as family planning activities) which we have counted as public health, but that does not seem to be sufficient explanation.

In this context, and in concordance with the primary methodological objective that this research proposed, one of the principal recommendations that must be made is the convenience of creating or promoting forums of discussion where the different Autonomous Communities and the Ministry of Healthcare are represented, in order to reach a consensus on a system of harmonization of “public health accounts”. Currently there are several differences between Communities in which public health is included. The discrepancies

affect, in particular, spending on vaccinations (which can be counted as pharmaceuticals) and spending on attention and treatment of drug addicts, which has a very important community element, but also an undisputable element of attention. In consequence, this research must be seen as a first step, clearly with room for perfection in the future, in the discussion of these public health accounts.

As far as regards the spending per inhabitant, according to our results, the average in Catalonia is 23 euros. Of these 23 euros, 12 are spent by the Department of Health. The municipal councils, which, as we have seen, have a whole series of public health competences assigned to them both in the Law of Healthcare Organization of Catalonia of 1990 and in the Law of Health Protection of 2003, spend a fairly small amount (with the exception of Barcelona), and this amount is highly variable. Among the municipal councils of more than 20,000 inhabitants, the one which spends the most is that of Girona, with 12.34 euros per inhabitant; however there are municipal councils of a similar size to Girona that spend only 3.64 euros or 4.71 euros and one municipal council of 26,000 inhabitants which spends only 1.35 euros per person. This indicates that the councils provide public health services on an unequal basis, we suppose for reasons, in the last instance, of disposition. It must not be forgotten that spending on one thing or another is, in part, a question of priorities. Furthermore, we must again remember here that according to the aforementioned study by Líndez et al., it often happens that such activities that are the remit of the councils, but that the councils do not carry out, are not done by anyone, even though according to the Law of Health Protection (art. 46), local institutions can provide the minimum services assigned to them, whether directly or by commending their execution to the Health Protection Agency. In 2005 the Health Protection Agency had not yet been created, but the lack of financial flow between the municipal councils and the Department of Health demonstrates the scarcity of interaction between both institutions.

On the other hand, the information on spending acquires its full importance when it is related to the activities that are carried out with it and the objectives that are achieved. The expenditure is the necessary

7 DISCUSSION AND CONCLUSION

input, but we need to see just what is the output, that is to say the services that are provided with this money and how effective they are. Therefore, another of the recommendations that must be made is that studies be carried out to evaluate the cost-effectiveness of spending on public health in Catalonia. A recent British report (Wanless 2002 and 2004) states that the future sustainability of the healthcare system depends on increasing productivity; and to achieve this increase in productivity it proposes, among other things, a substantial increase in investment in public health. Unfortunately, despite the existing evidence on how interventions in public health raise the health of individuals and populations, there is great resistance within the healthcare system to adapting the objectives, structures and policies (and, therefore, expenditure) towards a greater emphasis on public health. The reform of public health in Catalonia could be a good opportunity to demonstrate more flexibility in the reorientation of the economic resources of the healthcare system towards this field.

The reorientation of the healthcare services was one of the five main points of the Ottawa Declaration of 1986 (WHO, 1986), but it is, perhaps, one of the least adhered to of the recommendations (Wise and Nutbeam, 2007). In parallel with the demonstration of the cost-effectiveness of healthcare services, it is necessary to work on the recognition and perception that citizens have of public health services, in order to ensure political support to the aforementioned measures of reorientation of resources of the healthcare system.

As we said in the introduction, one of the objectives of modern public health is to help to achieve a greater equality in health. According to the famous definition by Margaret Whitehead (Whitehead, 1990) equity requires the combating of inequalities in health which are unnecessary, avoidable and unjust. By extension, the objective of equity also demands action on inequalities in the *determining factors of health* which are also avoidable and unjust. Since public health, in its aspects of health protection, prevention and promotion, is one of the principal determining factors of the level of health of individuals and populations, it is necessary to examine public health measures under the prism of equity.

In order for public health services to serve to relieve inequalities in health they must be especially directed at the less fortunate groups of the population, or the poorer areas or those with the worst environmental conditions. In the case of Catalonia, among the services of health protection, we have not detected any specific effort to orient services in this direction. In the case of services of health promotion, we might understand that, implicitly, there is an objective of equity in spending on attention to drug addicts and AIDS sufferers, groups among which the less fortunate groups of society, socioeconomically speaking, tend to be disproportionately prominent. But actions could be carried out in more areas and, above all, there could be vigilance to see that the general measures addressed to the whole population do not accentuate inequalities instead of reducing them. Apart from the example of anti-tobacco campaigns mentioned in the introduction, there is other evidence of the counterproductive effect, that overly generalist measures in public health can have, at least initially. Ridde et al. (2007) mention an experience in Brazil (published in a publication by Victora et al., 2000) of a public health policy to improve child health which initially caused an increase in inequalities because the first people to take advantage of the programme were the more well-off families.

We would like to conclude by pointing out that the study has some limitations owing to the shortage of information. Where these limitations are most in evidence is in the figures from the municipal councils (with the exception of that of Barcelona), since many of them did not respond to questions about budget in the survey from which the information was taken; and even when answers were forthcoming, the information they give is extremely heterogeneous. Another type of spending which we have not investigated thoroughly is the spending on preventive occupational health in companies. It is possible that the Catalan Society of Safety and Medicine at Work has expenses which we have not considered here.



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