PROPOSALS FOR A HOMOGENEOUS TREATMENT OF HEALTH EXPENDITURES IN THE NATIONAL ACCOUNTS*

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International comparisons always raise difficult problems, more especially when they deal with services which are jointly financed by households and government in varying shares with varying procedures in each country. This is obvious in the case of health where the area itself, the principles of economic analysis and the UN method of National Accounting appear to be either vague or unwieldy. Before any proposal it is necessary to review what is involved in the concept of service and the possibility of delimiting the health field inside which economic measures are feasible. Then using the SNA concept and with the help of six interdependent tables we propose two aggregates: the National Medical Consumption and the Current National Expenditure on health. The detailed and harmonized breakdowns of these global results make it possible to compare the structures of values, prices and quantities on an international base.

International economic comparisons have always been, are and will remain for a long time to come a puzzling problem. It is not the purpose of this paper to review all reasons in detail, but only to focus on those which concern the measurement of the values, quantities and prices of health expenditures in several countries on the basis of homogeneous concepts and methods, which themselves are based on the SNA.

The following propositions rely on a study requested by the Statistical Office of the EEC.[1] The fact that these countries are among the most developed ones facilitates, up to a certain point, the solution of the problems only because their statistical systems are rather well-established. But, for the main problem, i.e. the possibility of defining a common methodology for looking at various health systems, organized and financed in different ways, the EEC countries can be taken as a good example because the range covered is nearly complete, from almost purely non-market systems (U.K.) to almost purely market systems (France and Belgium). The main difficulty, which has been emphasized many times and has been well-analyzed in other places,[2] lies in the fact that international comparisons of household consumption using the rules of the SNA are not helpful for providing meaningful results when services are jointly financed by households and government, in varying shares and with varying procedures in each country. To try to illuminate the discussion, we shall examine the different problems in order, starting with a consideration of the concept of service and a

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[1]Foulon, A., Health Expenditure in the National Accounts of the ESA, Vols. I and II (Mimeograph), CREDOC-SOEC, 1979.

[2]Kravis, I. B., Kenessey, Z., Heston, A., and Summers, R., *A System of International Comparisons of Gross Product and Purchasing Power*, John Hopkins University Press, Baltimore, 1975.

definition of the scope of health care. Then we shall consider in what sense the SNA methodology is adaptable to a good representation of phenomena allowing reliable international comparisons.

1. Services and the Scope of Health Care

1.1. *The Concept of Service*

The dividing line between goods and services is never perfectly clear, not least because the economic production of goods is the result of a combination of goods and services and its usefulness is the service (of being used) which it renders. Most economic theorists[3] have finally accepted a simple dichotomy between goods, which can be physically observed and stored, and services, described as intangible goods, which therefore cannot be physically observed and stored. But this distinction has not had any important effect on basic economic analysis, since goods and services are equivalent from the point of view of general equilibrium, the theory of international trade or income distribution. In the same way the National Accounts systems have not made any particular effort to go into the distinctions more deeply. Only the nomenclatures for input–output tables attempt such breakdowns, but they give far more details for the goods branches and compress the services in a few aggregated branches.

However, there is an essential difference between goods and services. The distinctions made by T. P. Hill[4] on this matter are relevant, viz.:

- goods are physical objects which are appropriable and therefore transferable between economic units;
- services are changes made to goods or persons (in general with the agreement of the owner of the goods or the person concerned) but these changes do not imply any physical transaction between economic units.

We shall not repeat here all remarks which such definitions give rise to, but only those which concern services for people, since obviously it is this kind of activity which is mainly involved in health expenses. We shall then examine the main implications as regards National Accounts concepts.

Services concerning people meet the following criteria:

(a) They consist of changes made by an economic unit (the producer) to the physical or mental condition of an individual (the consumer);
(b) These changes may be of shorter or longer duration, but in the sphere of health they are nearly always irreversible;
(c) The economic transaction is immediate in that production and consumption occur simultaneously, which means that it is impossible to put the service into stock;[5]

[3]Pareto, V., *Manuale di Economica Politica*, Chapter III, Section 16, Chapter V, Section 3; Keynes, J. M., *General Theory of Employment, Interest and Money*, in particular Chapter XXI, section IV and Chapter XXIII; Samuelson, P. A., *Economics*, Chapters X–XXIII.

[4]Hill, T. P., On Goods and Services, *Review of Income and Wealth*, December 1977, 315–338.

[5]However it will be noted that advances in data processing make it possible to store certain data (individual files, automatic diagnostic apparatus, etc), the production of which is intrinsically a service.

(d) Lastly, there is no exchange of property, or of use of a physical item of any description. This is particularly true of medical services since the practitioner does not relinquish possession of his medical knowledge any more than the patient acquires further material enrichment.

As applied to health systems, these features may lead down various avenues of economic analysis, with differing implications depending on the instruments of study and measurement, viz:

(a) The most common thinking restricts the value of the provision of health services to their trade value, irrespective of the measuring unit, e.g. price, factor cost, etc. and ignores the value of all the components except that of the transaction between the producer and the consumer. This means that the diagnosis and prescribed treatment are worth only the cost of consulting the doctor, or a stay in hospital is worth only the value of the number of days multiplied by the daily price, etc. Whether or not the patient follows the treatment prescribed is not important; the service is, in any event, deemed to be a real product and the corresponding expense is final consumption of medical services. All the present National Accounts systems are based on this principle.

(b) A broader approach, which stems directly from theories on human capital, regards the value ultimately measured as that of the effects of the provision of medical services on a person's state of health.[6] Health expenditure, and more particularly medical care expenditure, is regarded as gross investment which increases the "health capital" resources, themselves a component of immaterial human capital, the yield of which is value with reference to the value of earned income. One of the important results of this method is that, on the one hand, all health expenses are shown under capital accounts of households (gross human capital formation), and on the other hand, indirectly through the capital resources, these expenses are linked to the productivity of the various factors, basically the labor factor. If it is admitted that health capital measured in this way is merely an approximate estimate in economic terms of the state of health of the population, the proposed method is no less logical than the previous method.

(c) It is not impossible that in a few years time more sophisticated methods will be developed in connection with national accounts of "welfare".[7] Integration of some of the external effects makes it possible to take account of the negative effects of certain economic activities. Hitherto work has mainly concerned harmful effects of the environment, but medical care can be regarded as not having an exclusively good effect

[6]Cf. in particular Kendrick, J. W., The Treatment of Intangible Resources as Capital, *Review of Income and Wealth*, March 1972; The Accounting Treatment of Human Investment and Capital, *Review of Income and Wealth*, December 1974; Expending Imputed Values in the National Income and Product Account, *Review of Income and Wealth*, December 1979; Eisner, R., Simons, E. R., Pieper, P. J., and Bender, S., Total Incomes in the United States 1946 to 1976: A Summary Report, IARIW, 17th General Conference, Gouvieux, 1981.

[7]Cf. in particular: R. and N. Ruggles, The Measurement of Economic and Social Performance: A Progress Report on a National Bureau of Economic Research project, IARIW, 14th General Conference, Aulanko 1975; Peskin, H. M., Accounting for the Environment, *Social Indicators Research*, 2, 2, September 1975.

on health, and, when considering "welfare," negative effects of the output recorded should also be shown, e.g. iatrogenic ailments in hospital patients, mortality rate due to vaccination etc. One can be convinced by the problems but sceptical regarding the practical possiblity of completing a logical and meaningful statement of accounts. In addition the overall philosophy, which, from various viewpoints, seeks to lay down normative principles, produces a large number of ambiguities, not the least of which is the attempt to identify national product and welfare.

These three sets of methods, which constitute three different approaches, nevertheless have two factors in common, viz:

(1) Services relating to persons are always "divisible" in that their recipients can in general always be identified. The recipients of each service of this kind may be recorded statistically: these are the households. The quantities and values of the service received may be quantified with the exception of external effects, difficult to describe and gauge.

(2) These services are always final uses, i.e. "consumption" or "investment." Consequently current expenditure on health, however this is defined and whatever method of evaluation is used for quantity, volume and price or factor cost, mainly covers divisible services benefiting households, and, therefore, must appear in one way or another in their accounts as uses of resources with, in counterpart, the financing transactions which balance them.

1.2. *Health Economics and National Accounts*

On the basis of a general statement of principle that certain economic activities are aimed, in a very broad sense, at improving the health of individuals, a generic term has been coined: "health economics." But it is easy to demonstrate that, ultimately, this does not cover any precise area, and that a large number of tools which this discipline has developed for itself lack precision.

At the heart of the analysis lies the concept of illness, i.e. a physical or psychological ailment in the individual. It is true that tuberculosis, a broken leg, etc. present no problem in this respect. But a physical deformity, even it it is benign, such as myopia, is often described as a disability because most individuals do not suffer from it, and a large spectrum covered by psychopathology exists only in relation to conventionally defined standards of behaviour. There is thus an imperceptible movement from the objective approach, which is concerned with, say, a virus or an accident, to the normative, which involves psychiatry, and it is not always possible to distinguish between the two, i.e. in the case of psychosomatic illnesses. Illness is a situation defined as abnormal in relation to a situation of normality which, itself, varies in time and space.

The occurrence of these illnesses is not an easy phenomenon to elucidate. Obviously the presence of well-known pathogenic factors, such as viruses, excess alcohol, etc. indicate the existence of a large number of illnesses. But many afflictions appear only when the environment is favourable, depending on complex situations involving hazard, heredity, food, hygiene, working conditions etc. Furthermore, medical care itself, while treating certain illnesses or accidents

effectively and increasing life expectancy, creates new needs and modifies the pattern of morbidity. This means that illness, even when regarded objectively, is in the final analysis simply the manifestation, or result, of other factors which are to a greater or less extent the starting cause of the illness. It is not straining logic to conclude that the aim of improving health is virtually that of every human activity[8] and by extension is the end product of all economic activities. Nevertheless, while the term "health" covers a way of reasoning, it remains vague and non-workable.

Moreover, even if the meaning of "health" is restricted to activities which constitute strictly medical care, these still comprise a wide variety of basic activities, such as consultations, biological analyses, surgical operations etc. The definition becomes even vaguer if community activities are included, in particular preventive services such as food control, public hygiene, campaigns against pollution, etc. This means that in the vague sphere of health, economic study comes up against a multitude of different basic products which are the product of highly decentralized yet interdependent complex units and which, furthermore, can only be measured by the inputs which are required to provide them.

It will be realised that under such circumstances there is no way of describing the health systems exhaustively. The borders are elusive and the content impossible to grasp in many cases.

National Accounts methodology is also subject to these difficulties. The SNA focuses its nomenclatures in this field on medical activities, but allows wide scope for overlapping: the activities of hospitals or other health institutions varies from one country to another, as well as the nomenclature for final consumption of households. Services provided by other practitioners may, or may not, include practitioners who use magnetism, activities of general government may or may not include expenditure on anti-pollution measures, etc.

The question also arises as to why registration of information on vital events (births, marriages, etc.) falls under health expenses (code 4) of government, whereas it is essentially expenditure by general services (code 1). Conversely, it may be asked why military and school medical services are not explicitly specified in the health function since these activities are in no way necessary to the functions of national defence or education.

Thirdly, it is curious that the services provided by doctors, nurses and the like are not broken down into greater detail, whereas a wealth of detail is given under other headings, in particular food or furniture. In 1977, in France and the Netherlands for example, expenditure on doctors, nurses and the like was 15 times higher than expenditure on sugar. This is also true of expenditure on hospital care since in almost all the countries it represents more than half of health expenditure, and there is no provision for a breakdown even between the general and specialized institutions.

Fourthly, it is astonishing that no precautions should have been taken in the spheres of education and medical research. In most countries, a large proportion of this expenditure is borne by hospital costs. Though the proportions

[8] "... the preservation of health, which is no doubt the prime foundation and the basis for all the other foundations of this life", R. Descartes, *Discourse on Method*, Part IV.

vary, they are not negligible in any country, and it is obvious that this aggregation causes distortions in any structural comparison of health expenditure among countries, and also in the allocation of expenditure between education and health.

Lastly, the absence of a specific and common directive is also at the root of the confusion surrounding the distinction between hospitals and old peoples' homes. Although their main function is to provide medical care in one case and social accommodation in the other, there are significant differences between the countries which make no distinction and those which include only hospitals, which make valid comparisons impossible at present.

Finally, the definition of health is much too vague to form the basis for a precise analysis of health expenditure as this is shown in the National Accounts. At present we are unable to show value, volume and price structures, and trends in these, either in a particular country or in an international comparison, even in the case of developed countries. Statistical apparatus and the SNA interpretations differ too much from one country to another, largely depending on statistical traditions and on health systems with various historical backgrounds.

2. Proposition for a Harmonized Treatment of Expenditures on Health

2.1. *Preliminary Remarks*

Before attempting to define a framework which would make international comparisons of expenditures on health easier, several observations have to be made.

One of the major improvements to National Accounts methods over the past 10 years or so has been to make a distinction in national product between "market" and "non-market" output.[9] Output may be allocated in three different ways between final consumption of households and final consumption of general government or private non-profit institutions, viz:

(a) Market goods and services may be shown under final consumption of households, to which is added a balance for the partial payments for non-market services provided to households by general government or private non-profit institutions.

(b) Acquisitions of market goods and services by general government or private non-profit institutions may be shown as part of the intermediate consumption of these institutions necessary for the production of non-market services which, ultimately, are deemed to be final consumption of the same institutions.

(c) Provision of non-market services by non-market units may be shown directly under final consumption of general government and private non-profit institutions.

In order to adopt one of these three possibilities, the ESA (paragraphs 330 and 333) does not distinguish between intermediate consumption of general

[9]Cf. ESA paragraphs 305, 307–318, 327–335 and 616. SNA paragraphs 1.46, 1.50, 2.22–2.24, 5.24–5.45, 6.2, 6.40–6.43 and 6.64–6.78.

government or private non-profit institutions (b) and final consumption of households (a). Provision of "non-market services from which all economic units derive some benefit, although the value of the services rendered to individual units cannot be reliably assessed," is attributed directly to final consumption of general government or private non-profit institutions (c), and other non-market services are attributed to final consumption of households (a).

The SNA (paragraphs 6.73–6.76) makes a more subtle distinction for choosing between the first procedure (a) and the second (b). To decide between the two a number of factors must be considered together, viz "the degree to which the government service organizes and controls" the provision of the service, and also "the extent to which the individual can, and does, choose the unit from which, and the terms on which, the service or good, is to be acquired." The SNA concludes, particularly as regards health services, that if these services can be assimilated to a national system in which the public administration controls and finances most of the expenses while putting certain restrictions on the consumer's choice, "the government service should be considered to be the purchaser" of these services; otherwise, even if the State monitors standards and prices and expenses are covered by one or more government health insurance schemes, as long as the individual remains free to choose the services which he receives, households must be regarded as the purchasers of these services.

In fact neither of these two methods is really satisfactory for dealing with health expenditure. The ESA, which makes no distinction, is the simplest, but in the sphere of health, and particularly of medical care, it is difficult to claim that the value of services rendered to each unit cannot be determined accurately. Administrative statistics, or surveys of households, can yield information on visits to hospitals and the categories of households on practitioners' panels. Thus there are a number of non-market services consumed by individuals. Conversely the SNA offers slightly more flexibility, but the choice is ultimately dictated by the degree of liberty enjoyed by the consumer to go to one producer or another. Even when the national health system, entirely under government surveillance, predominates, there always coexists a completely private system[10] which, even if it plays a very minor role, nevertheless gives the consumer the choice between the non-market and market sectors. Here again it must be admitted that logically households can consume nonmarket services.

The vague areas and discrepancies in interpretation of the ESA and SNA rules are due to the fact that neither system ventures beyond a distinction between market and non-market which is unwieldy and unworkable except for analyses of production conditions. In fact the current definitions need to be supplemented by other definitions so as to enable analyses to be made in other directions. The following distinctions must be made:

(a) *Market/Non-Market.* According to the definitions accepted hitherto services are market if the resources obtained from sales on the market cover half or more of production costs; otherwise they are non-market. This distinction should be used only for analyses of production.

[10]This does not mean that it cannot in part be under the surveillance of the public authorities, in particular as regards observance of professional codes of conduct, and the geographic location of practitioners, clinics or suppliers of pharmaceuticals.

(b) *Individual (or personal) consumption and collective consumption.* The difference resides in the individualization in the sense given by P. A. Samuelson in his definition of "private consumption goods" and "collective consumption goods." Private consumption thus covers all "divisible" goods and services, i.e. these whose recipient can be identified, even if this calls for very elaborate and expensive statistical tools. Collective consumption would then comprise only "indivisible" services, i.e. those whose recipient cannot be identified other than in arbitrary fashion, however sophisticated and espensive the statistical tools used.

(c) *Private/public financing.* In this case the distinction concerns financing transactions which are the direct counterparts of transactions in goods and services. They balance current expenditure transactions linked to final consumption. Financing is deemed to be private when it is borne by households, insurance companies, corporate and quasi-corporate enterprises and private non-profit institutions with no assistance from public funds. On the other hand, the financing is public if it comes from the state, local government or social security funds, affiliation to which is compulsory under the law.

These three distinctions may well appear close to one another, but they are intrinsically very different. They can be used to distinguish perfectly between consumption of households and consumption of general government and private non-profit institutions, through which we can elaborate appropriate concepts of National Medical Consumption and Current National Expenditure on Health which will permit comparison of health systems among several countries.[11] These comparisons are only meaningful if they take into consideration the trilogy, value, quantity and price. The proposed harmonization concerns only current expenditure, and in particular, methods of dealing with and recording values, although it is obvious that for each isolated flow an effort should also be made as far as possible to specify methods for estimating quantities and prices. While the SNA would not be totally undermined by the following proposals, some harmonisation between countries is only possible on two conditions, viz:

(a) certain amendments must be made to a number of definitions in the central method; and

(b) the methods and basic definitions relating to the additional tables on health remain compatible with the SNA so that the additional valuations can always be related to those in the central method.

2.2. *Nomenclatures*

2.2.1. Activities

At the outset, it should be emphasized that a distinction must first be made between Medical Activities and Other Health Activities. The former, together with the activities concerned with medical goods, constitute divisible health goods and services. Their point of application is prevention, diagnosis and treatment

[11]For such a comparison, on a larger scope of goods and services, see i.e. Cao-Pinna, V. and Shatalin, S. S., *Consumption Patterns in Eastern and Western Europe, An Economic Comparative Approach, A Collective Study*, Pergamon Press, 1979.

of illness in individuals. The latter concern a more heterogeneous collection of services, divisible or otherwise, which are not directly concerned with medical care, although their production is linked with, or necessary to, the provision and financing of this care.

2.2.2. Medical activities

(a) Care services provided by hospitals, clinics, independent practitioners and other medical institutions.

It is obvious that these include, as well as medical goods, firstly all hospitals, clinics and specialized hospital institutions, independent practices,[12] dispensaries, care centres and routine check units for certain illnesses (cancer, etc.), medical laboratories, family planning centers, etc. Furthermore, a difficult problem of definition arises with regard to certain institutions which are difficult to classify as being primarily concerned with medical care or social accomodation, e.g. old people's homes and other homes, institutions for invalids, such as the blind, deaf and dumb, etc. It appears necessary to lay down a rule of thumb, so that institutions which devote half or more of their activities to providing medical care are included under hospitals and clinics; otherwise they fall under social homes activities.[13]

It would also be desirable to determine the proportions of teaching and medical research activities included in medical care activities, particularly in hospital care, of which they are linked products. In practice the three activities, care, teaching and research, are usually indissolubly combined and are financed without distinction by hospital costs. The expenses relating to each separate activity can be valued only on the basis of conventional approximations. Nevertheless some estimates would have to be made if only to distinguish care from teaching and research combined in teaching hospitals. The usefulness of this distinction would lie in making it easier to estimate distortions in value from one country to another, and it would also produce better estimates of prices and quantities.

Lastly, it is of fundamental importance to keep to the concept of activity as a group of similar branches in the field of hospital care and care provided by independent practitioners. In all countries hospitals, and particularly private clinics, provide on the one hand a lodging service and every-day care through their employees, i.e. doctors, nurses, etc., and on the other hand some of the care provided by independent practitioners, such as surgeons, anaesthetists, etc. The first sub-group of these services is covered financially by the daily price or cost, which represents the largest proportion of the hospital's income. The second sub-group is invoiced as fees for individual consultations and forms part of the independent practitioners' turnover. The concept of activity therefore calls for, in the first instance, a clear distinction between hospital branches, independent doctors, auxiliary medical practices, medical laboratories, etc. Secondly it means that the activities of hospitals and clinics must include the proportion of services

[12]In developing countries it would often be necessary to include traditional healers who practice a customary medicine in so far as they represent a large part of health manpower.

[13]ISIC class 934, NACE class 962.

provided by these independent practitioners in these institutions, which in fact constitute intermediate consumption of hospital output.

This accounting method is indispensible, both for reasons of general methodology and also because it touches on the essential definition of medical services, which is that the main activity of hospital institutions is to provide care for patients confined to bed and the production function involves practitioners, para-medical personnel, administrative staff, etc. Therefore they must all be included in the accounts so as to give a complete picture of the content of the various medical activities. Furthermore, it must be emphasized that the independent practitioners who conduct a portion of their activities in hospitals or clinics are, for the most part, specialists whose fees are higher than those of the general practitioners who practice elsewhere. The proportion of their production stemming from hospital care must be included in hosptial services; otherwise major distortions will arise in comparing values, prices and quantities from one country to another, particularly since the proportion of specialists to the total number of doctors varies from one country to another. The same remark applies to medical analyses, and to a less extent, to medicaments and prostheses, because it is rare, particularly in the case of private clinics, for all the institutions to have their own laboratories and to stock all the pharmaceutical products, so that they have to obtain these goods or services from other branches of medical activities.

(b) Associated medical activities

These also concern medical services. For reasons which are more historical or organizational than scientific, they are firmly embedded in branches whose main activity is not in the health sphere. They are comparable to joint products as defined in the SNA.[14]. Two categories may be distinguished:

(b1) Medical activities associated with market activities mainly comprise industrial medical services in industry, particularly in mines, railways and large undertakings, as well as those in homes and institutions for invalids, if less than 50 per cent of their activity is devoted to medical care.

(b2) Medical activities associated with non-market activities cover industrial medical services of government and private non-profit institutions; school and university medical services (usually included in education activities); armed forces medical services (included in national defence activities); prison medical services (included in activities of law and justice); care and ambulance services (attached to the police force and fire brigade).

2.2.3. Other Health Activities

The field of health cannot be extended to all economic activities without causing total confusion. However, it must be recognized that it cannot be restricted to purely medical activities concerning medical care for individuals. A large number of services, divisible or not, overlap either upstream or downstream with provision of care, either because there are structural links or because

[14]SNA paragraph 3.15.

they have a direct effect on the supply and demand for care. These activities concern:

- collective preventive health measures,
- teaching and medical research,
- general health administration services.

(a) Collective Health Protection Services

When measuring health expenses for the purposes of inter-country comparisons, the field of collective heatlh protection must therefore be given a precise and workable definition which can be the basis of valuation. The two distinguishing criteria will be, firstly, that the services should be directly aimed at avoiding the occurrence, or aggravation, of health disorders, and secondly, with regard to existing structures, that they should be identifiable as a service and measurable in terms of expenditure. Collective health protection will therefore include only the following activities: health checks at national borders; public health services, e.g. drains, prevention of atomospheric pollution, abattoirs, etc. (NACE group 91); collective services aimed to combat radiation; government controls on food and pharmaceutical products; road safety, if it can be shown separately from public security and law and order activities (NACE group 913); health education and information on the dangers of alcoholism and smoking. These activities are usually indivisible services provided in non-market form by general government or private non-profit institutions.

(b) Teaching and Medical Research

Medical teaching and medical research form part of health expenditure. They include training of medical and para-medical personnel outside hospitals, which is part of the education activities; medical research activities shown as such; and valuations which can be made separately of research activities in the pharmaceutical and other medical goods industries. As in the previous case, these activities take the form of non-market services provided by general government or private non-profit institutions, except for research on medical goods, which falls under the corresponding market activities as products linked to them.

(c) General Health Administration

General government and private non-profit institutions carry out control, coordination and public information activities which in every case are indivisible and non-market. As shown in the NACE and ISIC nomenclatures they mainly cover administration activities by local government and general surveillance which, as we have seen, concern public health protection, at least as regards some of the services. To avoid confusion in terminology, we have devised the activity of general health administration, which consists exclusively of Ministry of Health and local authorities administration where the health component can be shown separately; administration of health insurance schemes, both social security and mutual funds, where these finance all or part of current expenses for medical care and are not confined to paying compensatory benefits for loss of income through sickness or accident; in some cases, administration of private medical insurance schemes.

2.2.4. Consumption Nomenclatures

In the second phase the value of identifying precisely the provision of goods and services in the sphere of health is that this shows their final use. It may even be claimed that since the field of health is mainly composed of divisible or indivisible services intended for people, information on the distribution of this output over the different consumption categories is easily the most pertinent to economic analysis while the branch accounts are mainly useful for showing the structures of output costs and added values. We are concerned here only with current transactions and not with those concerning investments and financial transactions.[15] Two categories of functional nomenclatures have to be analysed, viz. that relating to final consumption of households and that relating to general government functions.

2.2.5. The Functions of Final Consumption of Households

Code 5, excluding sub-code 55 (service charges on accident and health insurance) in the nomenclature for final consumption of households is the only one which is involved here. Its content and the definition of each of the sub-codes are explained both in the ESA and the SNA.[16] Nevertheless, a number of clarifications may be made in this respect.

First, it is essential to make detailed breakdowns of each of the two sub-codes, 51 (medical and pharmaceutrical products), and 52 (therapeutic appliances). This allows us to show the structural distribution of types of basic products by categories and also to show the prices conveniently. If pharmaceutical products were broken down in this way there would be about 24 classes of therapeutic supplies (anodynes, narcotics, vaccines, diuretics, etc). As regards therapeutic equipment, any classification should contain at least the four following categories; medical optical instruments, orthopedic appliances, orthophonic and auditive prostheses, other therapeutic appliances, e.g. belts, corsets.

Secondly, it is important to observe the following distinction[17] between the services under sub-codes 53 and 54, which is based on the distinction between ambulatory and home care and hosptial care. Sub-code 53, physicians, nurses and related practitioners, includes only activities relating to medical services provided for non-hospitalized persons, and thus covers services of independent practitioners which have not been imputed to hospital care as intermediate consumption; care provided by other health institutions such as dispensaries; ambulatory care provided by the out-patient departments or units of hospitals and clinics. For the same reasons as those given for medical goods these consumption items must be broken down under several headings (cf. Table 3). Ambulatory and home care must appear with the distinction between independent generalists, independent specialists, independent dentists, dispensaries, out-patient

[15]The inclusion of these latter two categories should not cause major problems other than those concerning the distinction between intermediate consumption and capital formation for certain medical goods (surgical supplies, etc.) and the valuation of consumption of capital by non-market producer units, and also the precise description in terms of national accounts transactions of a large number of financial flows between the state, local government and social security schemes.

[16]ESA annex p. 238; SNA paragraph 693 *et seq.*, Table 6.1.

[17]The classification of health services in the ICGS, UN-EEC/WHO, ref SEC/AC. 36/17, EURO/I.C.P./D.H.S. 003/10, September 1976.

departments of hospitals and clinics, etc. Likewise hospital care and the like covers only the care given to patients in bed and should be broken down between public teaching hospitals, other public general hospitals, public specialized hospitals, private general clinics, etc.

In most cases the categories of hospital care will have to be divided into two: practitioners' fees (doctors, etc.) and accommodation fees, since the procedures for paying for practitioners' services and accommodation charges vary widely from one country to another. For instance, the proportion of independent doctors working in hospitals and clinics is greater in Belgium than in the United Kingdom, daily costs in Ireland differ considerably from those in France. The distinction is therefore basic to determining and comparing the value structures of hospital care expenses, and also to estimates of prices and costs for each of the above headings.

2.2.6. The Functions of General Government

Function 4 covers two categories of goods and services, i.e. medical activities which, even though they are products in a non-market form, are individual items of consumption, and other non-market health activities which are mainly items of collective consumption.

Sub-function 41, General administration, regulation and research, should be corrected, e.g. to exclude civil status registration and include collective health protection, as previously defined, and which, therefore, should not be in the hygenic services of sub-function 63. Sub-codes 42, Hospital institutions and clinics, and 43, Individual health services, correspond to sub-codes 54 and 51–53 of final consumption of households, in so far as they concern goods and services deemed to be "consumed" by government. Sub-codes 42 and 43 also include all associated medical services expenditure (medical services in schools and universities, prisons, etc.) which presently appear under other functions without any functional justification.[18]

It is obvious that in so far as the goods and services produced in nonmarket form are recorded under government consumption the same methodological precautions and the same requirements regarding breakdowns are required as when they are imputed to final consumption of households. Otherwise the value structures cannot be compared and output costs for each country cannot be determined properly.

2.2.7. Distributive Transactions

(a) Distributive Transactions Linked to the Production Process

These present no problem as regard activities in the sphere of health. Only two specific points need to be made. Firstly, a minimum amount of data is necessary on the structure of production costs and income, and it is therefore desirable to have for each activity, in addition to intermediate consumption, a breakdown of costs homogeneous enough to be compared between countries.[19]

[18]Note that military hospitals in Italy and school medical care in Italy, Germany and Denmark are already included in the health function.

[19]E.g., compensation of employees, subsidies, property and entrepreneurial income, etc.

Secondly, it is essential that each country should follow the SNA definitions in the breakdown of transactions into subsidies, social benefits and transfers within general government. The distinction between market and non-market production, and also practically the whole structure of the handling of health expenditure in the national accounts, depends on this requirement.

(b) Distributive Transactions Linked to Consumption

The distributive transactions which are the direct counterpart of Final Medical Consumption of households, as defined below, are:

(1) *Final expenses of households* which are not covered by any public fund or any private insurance scheme, i.e. first, all expenditure on medical care by those categories of households which are not in any compulsory or voluntary health insurance scheme, and, second, acquisitions of households protected by any health insurance, or a national scheme, which do not cover such acquisitions, e.g. purchases of pharmaceutical products "over the counter," "ticket modérateur" system, lump sum payments for individual consultations or extras on hospital charges. Obviously these are financed by part of the disposable income of households.

(2) *Social benefits and accident insurance claims in kind* paid for by general government and insurance companies solely for medical goods and services.[20] These transactions may relate to a wide variety of procedures, such as total or part reimbursement to households by social security, total or part reimbursement directly to the providers of the care ("tiers payant" system), lump sum advances from social security or other general government sources for the day-to-day running expenses of hospitals, etc. It is these two latter types of procedure, "tiers payant" and advances from public funds, which give rise to the greatest ambiguities in categorizing social benefits, subsidies and current transfers within general government or other institutions. It appears that different countries have adopted different methods, but these are not always logical or compatible with the other parts of their national accounts.

(3) *Imputed social contributions* which are the counterpart of industrial medicine of market activities. In so far as the economic units, as employers, supply their employees with a benefit in kind, usually under a legal obligation, which corresponds to the industrial medical service, this item should be treated as a social benefit to be provided by the employer and, in accordance with the SNA rules, balanced by an imputed social contribution.[21]

[20]Transfers to maintain income are outside the scope of health expenditure.

[21]It can appear, for statistical or methodological reasons, that industrial medicine services of market activities cannot be assimilated to social benefits in kind and, therefore, cannot be considered as being financed by imputed social contributions. In this case these services do not belong either to the Final Medical Consumption of Households or to that of the Government, but must be isolated as Intermediate Medical Consumption which is financed by the general turnover of the enterprises without the possibility, in most cases, of identifying any special transaction devoted to paying for this kind of service.

The distributive transactions which form part of the health function of general government are:

(1) In the first instance, linked to final consumption purchases of health goods and services by government. Where the corresponding producer units are regarded as non-market they may be directly assimilated to government, and the current transactions which finance them are therefore *transfers within government* which do not appear unless the accounts of the various units are distinct. In any event they disappear in the consolidated accounts and implicitly form part of the total income of government, in the form of taxes, etc. On the other hand if the producer units from which the goods and services are purchased are market, these goods and services are deemed *intermediate consumption* of which the counterpart, for an equivalent value, is a production of goods and services by government itself.

(2) In the second instance, linked to part or total financing of medical consumption of households. These are the *social benefits* in kind which we saw in various forms above.

(3) In the third instance, in the form of *subsidies*, intended to finance certain current expenditures of market producer units.

(4) Fourthly, imputed to various units of general government concerned with health, either as current income, e.g. *actual interest*, etc., or for their investments.

(5) Lastly, *transfers to private non-profit institutions* to finance a proportion of their activities, e.g. Red Cross, anti-smoking association, etc.

3. The Accounts and Statistical Tools

Certainly it is premature to think of setting up a satellite system of accounts on health such as exist already in France and the Netherlands[22], when it is still doubtful whether the SNA method has been perfectly assimilated in the different countries for compiling the main accounts. In any event, the general principles of subsidiary accounting systems should be discussed beforehand, and considerable improvements made in the statistical data in the sphere of health. In the first phase of harmonization the objective must be restricted to compiling additional tables which show health expenditure in a uniform manner for each country and which are compatible with the main accounts. The object of these tables is to give a clear and logical picture of the value and quantity structures and also the price/cost indices for the different components of the health system. We shall therefore examine the additional tables themselves and then the statistical tools required to build them up.

[22] *Kosten en financiering van de gezondheidszorg in Nederland, 1953, 1963, 1968, 1970, 1972, 1974, 1976.* Centraal Bureau voor de Statistiek, Gravenhage; J. R. P. Bonte and H. W. J. Donkers, "Development of health accounts within the system of national accounts," UNO, WHO, CES/AC 36/14, EURO-ICP/DHS 003/6, October 1976; A. Foulon, "Les comptes nationaux de la santé" *Economie et Santé*, no 2, Ministère de la Santé Publique, Paris, 1972; *Les comptes de la santé, Méthodes et séries 1950–1977*, Ministère de la Santé et de la Famille, CREDOC, INSEE, Paris, 1979.

3.1. *Additional Tables*

3.1.1. Production

Two tables are essential when considering the structure of production of health goods and services. One table identifies health goods and services in the different activities specified in the SNA, and the other splits medical activities by type of care. Table 1 identifies the production of health goods and services in the context of all activities. It summaries all current expenditure on activities in the field of health and cross references them with those in the input-output tables. There must be a basic minimum breakdown of medical activities in the left-hand column of this table, as given in Table 2. The total per row corresponds to the total values of the production items in Table 1. However, these assessments are not meaningful unless the production structures can be analysed from the point of view of the interdependance of the activities, and also of the cost structure of each unit of production. This can be done through the production accounts elaborated, at least for the main medical producers (hospitals, independent practitioners, etc.), showing intermediate consumption, compensation of employees, etc. and the different types of receipts (sales of goods and services, subsidies, etc.).

3.1.2. Consumption

Three major items of information should emerge from the additional consumption tables, viz. whether the output is of market or non-market origin, the purposes of medical consumption, and how these are financed. These dictate the structure of Tables 3 and 4.

Table 3 shows purposes of final consumption by market and non-market activities. The purposes of consumption are given in detail as proposed previously. It also yields the following information:

- Final Medical Consumption of Households, which includes all market medical activities;
- Final Medical Consumption of General Government and Private Non-Profit Institutions, which includes all non-market medical activities;
- Intermediate Medical Consumption of market enterprises[23], which gives the total: National Medical Consumption.

It also yields: Final Consumption of General Government and Private Non-Profit Institutions of Health Services[24] which equals Final Medical Consumption of General Government and Private Non-Profit Institutions plus Final Collective Health Consumption (health administration and public health protection). In addition, it will be noted that this system makes it possible to show, by rows, Individual Final Medical Consumption (equivalent to National Medical

[23]Only in the case when it is impossible to include industrial medicine services provided by market enterprises, in the Final Medical Consumption of Households (see above note 21).

[24]Strictly speaking, the term Final Medical Consumption of General Government and Private Non-Profit Institutions should include consumption of fixed capital by nonmarket producer units. In most cases this value will be omitted because it is difficult to estimate, particularly for all the output of medical care establishments which are closely integrated with government. In the interests of compatibility with the aggregate concerning households the term Final Consumption has been retained.

TABLE 1

CROSS-CLASSIFICATION OF NACE ACTIVITIES AND HEALTH ACTIVITIES

Economic Activities Concerning Health \ NACE Activity Class (Group)	25 Chemical Industries (257 Pharmaceutical)	37 Optical Instruments (372–373)	Other Medical Supplies (Textile, Rubber)	64/65 Retail (643–644)	82 Distribution Insurance	91 Public Administration, National Defence, Social Security	92 Public Hygiene	93 Education	94 Research	95 Health	96 Other Services Provided to the General Public (962)	All Activities	
Medical Activities													National Medical Consumption
951 Hospitals, nursing homes										χ			
952 Other institutions providing medical care										χ			
953 Medical practices										χ			
954 Dental practices										χ			
955 Midwives, nurses										χ			
643 Dispensing chemists				×									
644.1 Retailing of orthopaedic supplies				χ									
Other activities concerning medical goods				×									
Prison medical services						×							
Armed forces medical services						×							
School medical services								×					
Homes and institutions for invalids										χ	×		
Police/fire service ambulances						×							
Industrial medicine												×	
Other Health Activities													Other Health Expenses
Public health protection						×	×						
Medical teaching								×					
Medical research	×	×	×						×				
General health administration					×	×							

χ indicates that all of the NACE branch activity (see columns) is included in the corresponding health activity (see rows).
× indicates that part of the NACE branch activity (see columns) is included in the corresponding health activity (see rows).

TABLE 2

MEDICAL ACTIVITIES BY TYPE OF CARE

NACE	Type of Care	Medical Goods	Hospital Care		Ambulant Patient and Home Patient Care		Patient Transport	Total
			Public	Private	Public	Private		
951	Hospitals, nursing homes and sanatoria		×	×	×	×	×	×
	Teaching hospitals[a]		×	×	×	×	×	×
	Other general hospitals and clinics		×	×	×	×	×	×
	Hospital institutions and specialist clinics (including dental clinics)		×	×	×	×	×	×
	Homes and institutions for the physically handicapped or mentally disordered[b]		×	×	×	×	×	×
	Patient transport (private ambulances, Red Cross, etc. . .)[c]						×	×
952	Other institutions providing medical care							
	Medical laboratories		×	×	×	×		×
	General and specialist dispensaries[d]				×	×		×
	Health centres				×	×		×
	Routine check units (for tuberculosis, cancer, etc. . .)				×	×		×
	Maternity and child health centres				×	×		×
	Family planning centres				×	×		×
	Thermotherapy centres[e]				×	×		×
953	Medical practices							
	General practitioners		×	×	×	×		×
	Specialists		×	×	×	×		×
954	Dental practices and dental clinics		×	×	×	×		×
955	Own account midwives, nurses and the like							
	Midwives and nurses		×	×	×	×		×
	Physiotherapists		×	×	×	×		×
	Other para-medical personnel		×	×	×	×		×
643	Dispensing chemists	×	×	×				×
644.1	Retail distribution of orthopaedic goods	×	×	×				×
	Other activities concerning medical goods (made of textiles, rubber, etc. . . .)	×	×	×				×
912	Justice and judicial authorities (prison medical services)	×	×		×			×
913	Public security, law and order (police force ambulances)						×	×
914	Fire service (ambulances)						×	×
915	National defence (armed forces medical services)	×	×		×		×	×
93	Education (school and university medical services)				×			×
962	Social homes (homes and institutions for invalids, etc. . . .)[f]				×	×		×
	All activities (industrial medicine)				×	×		×

[a]Including external consultancy services.

[b]When 50 percent or more of their activities are devoted to medical care.

[c]For simplicity these activities are attached to hospitals.

[d]Dispensaries not attached to hospitals

[e]Not including thermotherapy hospitals attached to specialist hospitals.

[f]When less than 50 per cent of their activities are devoted to medical care.

Consumption), which gives details by function and sub-functions regardless of whether the output is market or non-market. Individual Final Medical Consumption plus Final Collective Health Consumption gives Final Consumption of Health Goods and Services. Moreover, this is obviously equal to Final Medical Consumption of Households plus Final Consumption of General Government and Private Non-Profit Institutions of Health Services (plus, possibly, Intermediate Medical Consumption).

Table 4 shows National Medical Consumption and the transactions which finance it. Since Final Medical Consumption of Households is valued at market prices, and consumption of general government and private non-profit institutions at factor costs, all the transactions for financing National Medical Consumption are necessarily shown in this table. However, as we shall see in the following paragraph, they must not be regarded as the whole of the transactions for financing health expenditure since Final Medical Consumption of market goods and services is assessed without taking subsidies into account, and consumption of non-market services does not cover all the activities of general government and private non-profit institutions in the sphere of health.

3.1.3. Current National Expenditure on Health and its Financing

As we saw above, all the current economic flows in the field of health cover a very wide range of activities and involve a large number of distributive transactions. In order to show conveniently the relationships between all these expenditures and the financing transactions involved, all the aggregates and their components must first be specified. These are summarized in Table 5. Current National Expenditure on Health as defined in this table may also be analysed with reference to the structure of its financing transactions, as shown in Table 6.

3.2. *Statistical Tools*

The statistical methodology required to compile these additional tables is quite vast and complex. We do not presume here to dictate the methods which each country should use or the exact form of the tools for compiling these data. We merely wish to emphasize a number of important points.

3.2.1. Statistics on Production and Financing

In almost all countries, when medical expenditure is met from public funds accountancy documents or statistics must be produced, as these are essential for monitoring the use of these funds and for the public authorities' budget estimates.

Public institutions are generally obliged to keep accounts in a standard form and to provide the supervisory authority with fairly comprehensive data on their activities. These data include a generation of current income account and an investment account; numbers of admissions, patients per day, beds, etc.; personnel employed, physicians, nurses, etc; prices charged or average costs for one day of hospitalization.

Statistics for private institutions, non-profit making or otherwise, are often more flexible. However, if the care they provide is paid for by government sources these institutions often have to supply supporting documents containing accounts and statistics when discussions are held on prices and taxes.

TABLE 3

FUNCTIONS OF CONSUMPTION BY OUTPUT ACTIVITIES

General Government and Non-Profit Administrations	Households	Functions of Consumption / Health Activities (Type of Output)	Medical Activities: Medical Goods (Market)	Medical Activities: Medical Care Services of Hospitals, Clinics, Independent Practices and Other Health Institutes (Market)	Medical Activities: Medical Care Services of Hospitals, Clinics, Independent Practices and Other Health Institutes (Non-Market)	Medical Activities: Associated Medical Activities (Market)	Medical Activities: Associated Medical Activities (Non-Market)	Other Health Activities (Non-Market)	Final Individual Medical Consumption	Final Consumption of Health Goods and Services
43	51	Medical and Pharmaceutical Products								
		Medical products	×				×			
		Minor medical supplies	×				×			
43	52	Therapeutic Equipment								
		Medical optical goods	×				×			
		Orthopaedic appliances	×				×			
		Orthophonic and auditive prostheses	×				×			
		Other therapeutic equipment	×				×			
43	53	Physicians, Nurses and Related Practitioners								
		Services of independent general praetitioners		×	×	×	×			
		Services of independent specialists		×	×	×	×			
		Services of independent dentists		×	×	×	×			
		Services of independent midwives and nurses		×	×	×	×			
		Services of other independent paramedical practitioners		×	×	×	×			
		Services of dispensaries, health centres, hospital external consultancy services		×	×	×	×			
		Medical analysis		×	×	×	×			
		Home care provided by homes and institutions for invalids		×	×	×	×			
43	54	Hospital Care and the Like								
		Services of state teaching hospitals		×	×					
		Services of state general hospitals (non-teaching and the like)		×	×		×			
		Services of state specialist hospitals		×	×		×			
		Services of private general hospitals		×	×		×			
		Services of private specialist hospitals		×	×		×			
		Patient transport		×	×		×			
41		General Administration								
		General health administration						×		
		Ministry of health and other ministries						(×)		
		Local authorities						(×)		
		Social security funds						(×)		
		Public health protection						×		

Final Collective Health Consumption

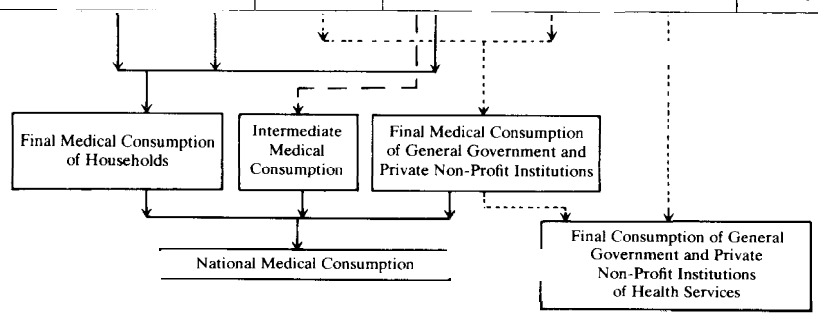

TABLE 4

NATIONAL MEDICAL CONSUMPTION BY FINANCING TRANSACTIONS

Purposes of Consumption \ Financing Transactions	Social benefits			Accident Insurance Benefits	Transfers Within General Government	Transfers to Private Non-profit Institutions	Imputed Social Contributions	Household Expenses	Total	
	State	Local Authorities	Social Security Funds							
Final Medical Consumption of Households										Financing of Final Medical Consumption of Households
51. Medical and pharmaceutical products	×	×	×	×				×	×	
52. Therapeutic equipment	×	×	×	×				×	×	
53. Physicians, nurses and related practitioners	×	×	×	×			×	×	×	
54. Hospital care and the like	×	×	×	×			×	×	×	
Final Medical Consumption of General Government and Private Non-Profit Instititutions										Financing of Final Medical Consumption of General Government and Private Non-Profit Institutions
42. Hospitals and clinics				×	×	×	×	×	×	
43. Individual health services										
Medical and pharmaceutical products				×	×	×		×	×	
Therapeutic equipment					×	×		×	×	
Physicians, nurses and related practitioners				×	×	×	×	×	×	
Intermediate Medical Consumption							(×)			
Total	×	×	×	×	×	×	×	×	×	
	Structure of the Financing of National Medical Consumption									

TABLE 5

AGGREGATES IN THE FIELD OF HEALTH

	Transactions in Goods and Services	Financing Transactions	Contents
	Final Medical Consumption of Households	Social benefits and insurance claims in kind, imputed social contributions, liabilities of households	Market medical goods and services (hospitals, independent practitioners, etc.)
+			
	Final Medical Consumption of General Government and Private Non-Profit Institutions	Transfers within general government and to private non-profit institutions, liabilities of households	Non-market medical services (hospitals. etc.)
+			
	Intermediate Medical Consumption[a]	Turnover of market enterprises	Industrial medical services of market enterprises
	National Medical Consumption		
+			
	Collective Health Consumption	Transfers within general government and to private non-profit institutions, eventually liabilities of households	Public health protection and management of local government and private non-profit institutions
+			
	Medical Teaching[b]	— idem —	Medical teaching
+			
	Medical Research[b]	Idem + turnover of market enterprises Subsidies	Market and non-market medical research Subsidies received by market producer units[c]
		+	
		Other Current Transfers	(International cooperation, WHO, etc.)
	Current National Expenditure on Health		

[a]See above note 21.

[b]Of course these items include only medical teaching and research services output which are not financed, wholly or partly, by a proportion of National Medical Consumption. In so far as a more extensive valuation of teaching and research may be required (see above section 1.23) on must add these medical teaching and research expenses to the estimates of similar services which are financed through medical activities, especially in teaching hospitals.

[c]Since market production is estimated at market prices.

TABLE 6

FINANCING OF CURRENT NATIONAL EXPENDITURE ON HEALTH

	Financing Transactions	Entries in Institutional Unit Accounts	
		Uses	Resources
	Social benefits (in kind)	General government (state, social security . . .) and all employers	Households
+	Insurance claims (in kind)	Insurance undertakings	Households
+	Transfers within general government	General government	General government and non-market producer units of general government
+	Transfers to private non-profit institutions	General government and households	Private non-profit institutions and non-market producer units of private non-profit institutions
+	Imputed social contributions	Households	All employers
+	Liabilities of households (disposable income of households)	Households[a]	Households[a]
+	Subsidies	General government	Market producer units
+	Other current transfers	General government and non-profit institutions	Market and non-market producer units, rest of the world . . .
+	Turnover of market enterprises[b]	Enterprises	Enterprises
	Current National Expenditure on Health		

[a]Liabilities of households, i.e. the proportion of medical expenses for which they remain liable (see above section 2.2.9.(a)) appears under resources of households since it is a component of their disposable income, and under uses in order to balance, implicitly, their Final medical Consumption Expenditure.

[b]See above note 21.

The amount of information on independent practices is generally more restricted. However, when decisions are being made on agreed prices or tariffs, capitation levels or salaries for these practitioners, the authorities sometimes have access to information on the professional fee structure and number of patients by type of specialist.

Lastly, the authorities which provide the finance, i.e. social security funds, the state and local authorities and insurance companies, keep their own statistics. The public bodies' accounts (social security, state, etc.) generally contain a wealth of data on financing transactions, e.g. breakdowns of social benefits in kind by type of producer of care, type of medical service, method of payment (reimbursement/"tiers-payant" system, etc.), number of persons covered by the different schemes, etc. And tax documents, though their confidentiality makes them difficult to work out, may yield information on turnover and cost structure of private health institutions.

However, even if uniform accounts and statistics existed, which is far from being the case, the data would have to be compiled through a variety of widely dispersed organizations. To retrieve these data from the central authorities, process them and rearrange them require considerable resources in manpower and equipment which are not always available.

3.2.2. Surveys

Sample surveys are a means of filling the gaps in government data, and are also the easiest way to obtain information which falls outside the scope of the authorities' interests. It is obvious that in many situations representative surveys are the only way of obtaining reliable data relatively quickly for various purposes, viz: for drawing up accounts for state and private hospital institutions showing the structure of their resources and production costs and also the prices and tariffs which they apply; for showing prices in the whole sector of market medical goods and services, particularly if these are different from the prices and tariffs for collective financing schemes; for providing indicators of quantities or volumes, such as hospitalization rates, length of stay, etc. This type of information is particularly useful as an indirect lead to assessing quantities when the system for producing care is completely non-market, and therefore yields no information on prices; lastly, to give access, e.g. by using a system which gives a double guarantee of confidentiality, to tax statistics which very often fill an information gap in the private sector or confirm information obtained from other sources.

In addition, representative surveys of households are a means of establishing their medical consumption. The methodology is often complex[25] and they are laborious to operate. However it must be emphasized that since these surveys concern households, they are generally unsuitable for establishing the structure

[25]Cf. in particular:
France: *L'enquête de 1970 sur les Consommations Médicales*, A. and A. Mizrahi, *Consommation*, No. 2, 1976.
United Kingdom: *The general household survey*, H.M.S.O. (Office of Population Censues and Surveys, Social Security Division), 1975.
U.S.A.: *National Medical Care Expenditure Survey (1977-1978)*, U.S. Department of Health, Education and Welfare, N.C.H.S.

and quality of expenses relating to hospital care, since the hospitalized patients cannot be interviewed, or for making any detailed analysis of what payments they are ultimately liable for, since the reimbursements of the social security funds or insurance schemes are not always known precisely by the individuals and sometimes are made late, outside the survey periods. However, since these household surveys can be supplemented by hospital surveys and searches in the administrative records of benefits paid, while preserving confidentiality, the total information obtained in this way is a convenient method of studying medical consumption of households.

4. Conclusions

It is difficult to make an economic analysis of the sphere of health for several reasons:

- —it forms a complex system of highly interdependent goods and services, but in terms of economic activities it may be defined very differently from one country to another, depending mainly on historical traditions and a more or less comprehensive conceptualization of health;
- —since health activities are mainly composed of very diversified and decentralized services, it is difficult to quantify them in physical terms, and their value can be measured only by indirect cross-referencing of producer costs and their means of financing;
- —in addition, all the economic analyses of services, both theoretical and empirical, are still far too dependent on conceptual and methodological tools which have been developed for goods—the shortcomings of the National Accounts are very obvious in this respect. In particular, the economic nature of services can be brought out only by considering three aspects simultanously, i.e. market/nonmarket, individual/collective, and public/private, and then, on this basis, really making the National Accounts suitable for detailed analyses and intercountry comparisons.

The methods of achieving harmonization within the SNA which we have described in the preceding sections have already produced some very interesting results from various points of view. In France and the Netherlands the assessments made under similar systems have particularly enhanced the main accounts.

The six tables which we propose certainly constitute a basic minimum for understanding the health systems of different countries. They may be used as a basis for a large number of breakdowns or additional tables, particularly as regards price systems and physical data, such as numbers of medical personnel, categories of insured households, etc. In addition, they may also in their turn influence the methodology and structure of the main accounts themselves, producing more precision in certain branches of input-output tables and in the detailed content of the classification of purposes of consumption. However, we are very aware of the fact that to produce these tables is a fairly difficult task. Even if the few essential revisions in the SNA nomenclatures could be accepted quickly by all countries, it is still true that not all of them could quickly and easily obtain the statistical data required. Certainly the main task, and the longest, is to develop, and in some cases set up, a system of economic statistics suitable

for the sphere of health, since such an undertaking would be methodologically complex and also expensive. But it is the price to be paid for a better understanding in a field where, from year to year, costs and quantities rise rapidly taking up a larger proportion of national resources.