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SESSION I : Problems associated with the lack of coordination in national and international health statistics

HARMONISED SYSTEMS OF INDICATORS FOR INTERNATIONAL REPORTING

Supporting paper submitted by the National Statistical Institute (ISTAT),
Italy¹

1. New needs for a European health report

The growing convergence process of European Countries and the increasing number of common economic and social policies adopted by the Community make the need for comparable information greater and greater. In the health field, initiatives about drug addiction, HIV and the HFA by 2000 strategy (developed by WHO) should be mentioned. Thus it is necessary to develop systems of indicators to monitor health conditions of populations as well as the fulfilment degree of established targets.

Even at national level, the growing limitation of resources and the growing complexity of health care services and technology, rapidly rising health care expenditure, require the rationalisation of social policies while available resources for management, investigation and analysis must be used as efficiently as possible to keep progressive reduction of state-provided social services from necessarily worsening the quality of life of the population and, above all, of the most disadvantaged groups.

¹ Prepared by Viviana Egidi.

The management of information resources is thus of crucial importance for a series of public and private decision-makers: policy makers, social and economic operators, and private citizens (Jacobson *et Al.*, 1990; Danish Ministry, 1994; RIVM, 1994). It also plays a fundamental role in the public's need to be informed and to control policy choices and government activity, guaranteeing that everyone can express their rights as citizens.

Unfortunately, the risk of modern societies largely based on information, including statistics, is that the disorderly proliferation of various kinds of statistical data of unequal quality makes information less efficient just when it is needed most. These problems acquire specific importance and criticality when the statistical information user has particular functions, such as directing and monitoring functions at supranational level. In this case the necessary statistical information should satisfy, apart from the usual relevance, accuracy and timeliness requirements, also the *comparability* requirement, despite social, cultural and normative differences existing among countries and which often make a direct comparison between apparently similar phenomena quite difficult.

This paper is an attempt to analyse difficulties in building a harmonised system of health and health care indicators at European level. Indicators are a basic tool in establishing an international reporting system to monitor each state progress in the fulfilment of common health goals.

2. From national concerns towards international health report

The majority of industrialised countries has a reporting system about population health conditions, the trend of main causes for illnesses and health conditions, the availability and efficiency of health systems. Each reporting system stresses health concerns that are considered to be most important. Thus highly differing health reports are constructed, as shown by the European Data Base implemented within Euroreves (Concerted Actions, Biomed 1995-1997) by the "Health and demography" of the Inserm team (Cambois, 1997). The different normative contexts of countries is another source of incomparability not to be neglected. The notion of normative context is not limited to the strictly juridical field, but the broader notion "covering institutional, cultural, traditional, moral and any other determinant of human behaviour which may assume the role of norm" (Franz, 1998).

To build a European health report based on an harmonised system of indicators is not an easy task and data comparability would not arise out a straightforward process. This task is to be attentively planned, and should be based on a number of elements: first of all the accurate definition of the health policy goals pursued at international level, secondly agreement on a shared conceptual framework should be built. This framework should allow selecting relevant indicators and monitoring the several incomparability sources, using a strict methodology. A system of comparable indicators for a

common health report would be available only when above steps have been completed.

Many international subjects (WHO, OCDE, Eurostat, Reves) recommend indicators and propose conceptual frameworks for the specific field of public health in order to harmonise health information and encourage international comparison. However, it is to be solved how to integrate within a common framework these different recommendations, without wasting strength and resources in a number of initiatives not carefully co-ordinated.

2.1 The identification of health policy goals

An initial, fundamental distinction must be made between objectives of *knowledge* and objectives of *political actions evaluation*. These two types of objectives are not necessarily alternative, since the first is normally a premise for the identification of specific actions from which goals of the second type may originate. The distinction is aimed at clarifying an objective's level of generality and the way that indicators are generated: the first are general objectives such as the evaluation of a population or group's 'healthiness' or 'unhealthiness', the evaluation of differentials to further the promotion of health equity, the identification of groups or areas with specific problems, the monitoring of particular diseases with great social and health impact, etc. In this case, the system of indicators is generated 'a priori' and may, or may not, lead to identification of specific goals for initiatives in health care policy, depending on the use made.

The case of political actions evaluation is different. Here the system of indicators is closely connected to the specific aims to be pursued and generally is generated as an integral part of political activity to be evaluated for effectiveness. Thus, for example, an initiative aimed at improving effectiveness of health care structures should indicate beforehand the tools for evaluation to be used to measure the way in which the programme achieves its goals. It is well known that some evaluation criteria may conflict. A more intense use of the structures, witnessed by higher utilisation rate, doesn't necessarily correspond to a better efficiency but could be the result of an improper prolongation of the average hospital stay.

The objectives of health care policy may also be divers in relation to the *actors*: from the local to the national to the supranational, each actor is located at a different level of general knowledge and initiatives and requires distinct forms of support for its activities and decisions. Thus, for example, the role of the European Union in terms of health care policy explicitly provided for in the Maastricht Treaty, is to formulate a common health care policy at the European level on general problems of widespread social importance (cancer, drugs, AIDS, health promotion and education, accidents, pollution-related diseases), therefore it requires comparable statistical information from the various Member states. The objectives pursued by national and local governments can differ remarkably from one country to another, depending on the type of internal organisation and the delegation system that exists in the area of health care. In Italy, for example, the area of care and aid to drug addicts includes the work done by

communities for the rehabilitation of drug users, which is an important phenomenon in Italy. The scope of these communities goes far beyond therapy during addiction, and includes the opportunity for a new foothold in society and for psychological recovery. In evaluating the progress of policies for drug addicts rehabilitation we cannot ignore the differing cultural and organisational situations leading to realities that are difficult to compare, and all the methodological problems that this variability poses.

The identification of the objectives to be achieved through intervention in health care policy presumes that choices are made on the basis of a scale of priorities. The objectives must also allow for guidelines for a cost-benefit analysis of the initiatives. In this regard, a circular process is set off which goes from the need for statistical information to direct the definition of policy goals and to assign priorities, on one hand, to the need to have objectives to direct the collection and processing of statistical material, on the other. This contradiction can only be solved through an interactive procedure of progressive reciprocal adjustment.

Every type of report and each decisional level is associated with a specific type of report. Therefore monitoring and informational reports can be established at local, national and supranational level. Informational reports aim to know the background context and allow to outline the profile of a State or the profile of a community from several viewpoints. Knowing the health conditions of population groups studying social differentials, identifying highly difficult areas or groups, are some possible developments of this initial approach. The harmonisation of indicators poses complex problems since each decisional level favours those areas which are considered more urgent or which are its responsibility. Therefore, hardly ever, the aggregation of the different cognitive needs may produce integrated reporting systems on which the decisions of the different levels can be based.

Monitoring reports are based on systems of indicators strictly connected to objectives to be pursued, and they are usually generated as integral parts of health policies. Therefore they are typical of the decisional level which generated the political action and their comparison poses less problems than comparing the indicators on which they are based.

2.2 The conceptual framework

The construction of a conceptual framework from which the system of indicators draws justification and meaning presumes that there is reference to a 'theory of health' or, at least, to a system of relations between the state of individual and collective health and the differing factors, and/or phenomena that can act on it. Without making explicit this framework, it is difficult to construct that 'consensus' of health scientists and policy makers, and of policy makers and citizens that, in our pluralistic societies, should be the basis for the selection of policy goals and for the preparation of a supporting information base.

Figure 1 shows a theoretical reference chart for the description and analysis of the state of health, which is a sort of adjustment of the Weber action

model to the study of population health conditions (Boudon, 1984). The individual, characterised by his/her specific bio-demographic characteristics (sex, year of birth, genetic and biological heritage, etc.), goes through life constantly exposed to the influences of various environments (Caselli et Al., 1990): the *physical environment*, made up of the system of natural resources and man-made external conditions; the *life environment*, made up of the elements required for life (water, air, food); the *social environment*, in other words the system of social relations of which a person is part, from the family to the network of relatives and friends, school, work, and the system of cultural values dominant in the society and in the individual's reference group; the *medical environment* from which the individual extracts information on behaviour that is beneficial or not beneficial to health, and to which he turns at the onset of a health event in order to obtain a diagnosis of his state of health and of the type of treatment needed to re-establish psycho-physical balance or restore self-sufficiency. Naturally, the relationship that is established between the various environments of the context is not in one direction only. On the contrary, for some less formalised environments, such as the family or network of relatives and friends, the individual and his history greatly condition the type and quality of relations with the outside contexts, and chains of action-feedback which should be taken into account are established.

The individual health history develops as part of, and closely connected to, the individual life history. The former is marked by various relevant events and conditions: the onset of disease, the occurrence of trauma, or the abnormality of a psychological, physiological or anatomical structure or function, depending on the type of health process being analysed. Particularly in the case of disease, such facts may not be immediately perceived by the individual, delaying diagnosis and the start of treatment, often considerably. Diagnosis of the disturbance or transition from latency of the body's mental or physical structure or functioning (impairment); the intermediate outcome (disability) and final outcome of the process that might either be positive (recovery, rehabilitation), or negative (chronicity, handicap, death) are all effected. An individual experiences and interprets his entire life history and, within that, his health history, through the lens of his perception (Bowling, 1993). This lens substantially modifies his ability to interact with different environments, and has notable consequences in the development and outcome of his various health histories.

Collective phenomena and processes are aggregations of these individual events and phases. Phenomena and processes which are the reference point for intervention in health care policy. Thus we find the classic *disease specific* indicators such as incidence, prevalence, fatality, mortality, duration, or the *condition specific* health indicators such as disability.

Different typologies of indicators are located within this conceptual framework, each of which is used to illustrate different contexts (indicators of condition, indicators of supply, indicators of resources, etc.) and health care demand.

2.3 Strategies for harmonisation

The harmonisation process is a continuum starting from *harmonisation of the product* to the *harmonisation of method*. The two approaches are not mutually excluding, and quite often they are integrated along a continuous line on which different strategies of harmonisation can be represented following the particular mixture of *ex post* and *ex ante* actions to create comparability. However, the construction of comparable indicators is marked by a great number of analyses and actions aiming at identifying and monitoring the different sources of incomparability.

Ten years have gone by since the first "Consultation to develop common methods and instruments for health interview surveys" took place under the aegis of the Netherlands Central Bureau of Statistics and the WHO's Regional Office for Europe (WHO, 1988);. Two other consultations took place in 1990 and 1992 and these were also dedicated to household health surveys. The two meetings determined significant progress toward achieving greater comparability between countries, above all in terms of measurement of disability (WHO1990;1992). Much remains to be done before concluding that we have travelled far enough along the road toward harmonisation of health indicators (a road we have actually only just embarked upon), or even sufficiently explored prospects. Different measures based on household health surveys should be analysed, as well as other sources (registers, hospital statistics etc.). Once the specific features which contrast utilisation of sources for comparative purposes are removed or controlled, such information sources will prove to be of great value.

The challenge now is to continue along the road we have taken and broaden the field to include other instruments and indicators, to analyse the characteristics of these and their efficiency in various conditions, and to enucleate those factors which prevent or contrast the possibility to have a satisfactory level of international comparability. Identification and removal (or, at least, control) of such elements will increase comparability of indicators without thereby requiring us to sacrifice information relevance. This is clearly a difficult task - as may be noted when considering the not always successful efforts made - but it is a task which must be faced up to if a measures system is to be constructed which will permit comparative evaluation of the health conditions of populations, also with a view to providing guidelines for social and health policy makers in various countries and to monitoring the measures taken by each country in order to achieve Health for All by the year 2000.

A further problem to consider arises out of the growing limitation of resources and the deep differences in social, economic, cultural and normative contexts characterising European populations. The requirement of comparability may conflict with the requirement of statistical information relevance. For complex concepts, for which would be necessary to jointly consider different aspects affecting the phenomenon, the aim would be to identify the so called "pure signal" that would be the indicator, or the system of indicators, which are influenced as little as possible by the

unobserved or unconsidered heterogeneity. However the empirical side of phenomena cannot be always separated from the effects of the several confounding factors, therefore the problem is represented by the difficult balance condition between the two requirements, relevance and comparability, and by a clear definition of informational content of indicators especially processed for comparison, and which are normally differentiated from those indicators whose purpose is to describe the characteristics of the same phenomenon and trends in the specific context in which the examined phenomenon occurs.

3. Concepts, procedures and methods: the sources of incomparability

It was attempted to simplify the manner whereby comparability is achieved by standardising instruments and measurements in the mistaken belief that rigid definitions, the same survey procedures, the same questions and the same methods of processing and estimating the indicators will automatically assure comparability. Unfortunately, many factors contrast such a simplistic solution (fig. 2). Indeed, standardisation may even have an adverse effect on comparability. Questions formulated in the same manner, for example, may obtain differing responses in various populations according to different norms and institutions, and in various population groups, according to the different context (social, economic, cultural) in which respondents live and which affects his or her health behaviour. If this difference is not properly considered in advance, it may become a snare for which no corrective measure can be taken later. *Harmonisation* of concepts, survey instruments and processing methods which, within the context of a conceptual framework and quality profile are clearly defined and fully agreed upon, would be a better strategy to cope with the challenge of comparability precisely because being less *efficient* if compared to standardisation which in a short time can provide apparently comparable data, it may prove to be more *efficacious* since it is possible to control and counter a number of factors which hinder comparability. In other words it is because of the part played by the construction of agreement in harmonisation, that it is necessary to explain clearly and control constantly the whole process of statistical information production, defining the quality profile that information and processes must comply with.

3.1 Concepts and definitions

The first move which must be made for the construction of a harmonised system of measurements of the health conditions of the population is, undoubtedly, that of providing clear indications of what is actually meant by good or poor health. Many of the difficulties involved in evaluation and comparison of measurements arise out of the extreme complexity of the object of study. Good or, alternatively, poor health are vaguely defined conditions which overlap by degrees and cannot be sharply defined.

3.2 Data collection methods

Methods of collecting data on the health conditions of the population and morbidity may be grouped under two general headings: those based on (cross sectional or longitudinal) sample studies conducted by interview, and those based on ongoing surveys of events (hospital statistics, administrative statistics, disease registers). Many factors of low comparability between countries are determined by methodological and organisational survey procedures. Here, we shall list some of the more important of these:

Sample factors (size, structure, method of stratification...) The size of the samples used may vary considerably from country to country. In some cases, the smallness of the sample in numerical terms means that it is impossible to work on data transposed to a level of specification that will permit enucleation of homogeneous groups vis-à-vis internationally comparable definitions. Sample structure is another element seriously affecting comparability. The reference population is made up of the total of individuals who, in a given territory and at a given time, live in households, or who live in institutions (hospitals, hostels, homes for the elderly, prisons etc.), or both. People living in private households generally form the basis of surveys, but it would be necessary to broaden the sample basis to take in those who live in institutions on a regular basis since, above all among the elderly, the health conditions of those who live in institutions are worse than those who live in households. Comparison between countries may be adversely affected by proportional differences in the numbers of the institutionalised and the population as a whole.

Methods of data collection Methods of data collection adopted during surveys may vary greatly from country to country. The task of health evaluation may be delegated to a medical team with the backup of appropriate diagnostic instruments (Health Examinations Surveys), or this task may be carried out by means of questionnaires (Health Interviews Surveys). In the latter case, traditional face-to-face interviews may be conducted or the respondents may fill in questionnaires (self-completion method), which may be preferred for sensitive questions and to avoid proxy interviews. Face-to-face interviews may be computer assisted (CAPI method); alternatively, interviews may be carried out initially by telephone or successively by the same means (CATI method). Given the role played at all times by subjective considerations with regard to the object of study, data collection methods and the capacity of such methods to reflect the specific cultural characteristics of the population examined are crucial aspects of measurement quality and comparability. Here, questions put in the same way may turn out not to assure comparability of answers when survey methods vary. Alternatively, questions put in the same way, and analogous methods of data collection, may finally differ in terms of performance according to population or sub-population and the differing cultural features of these. Besides survey methods, some source of incomparability arises out of the data collection stage:

- characteristics of the **data collection network**. Professional, specifically trained interviewers are the best solution. Often, however, interviewers are not specifically trained and are often not professionals. Differences in terms of quality among countries depends to a great extent on this aspect, and comparability may therefore also be greatly affected.
- **Schedule** of interviews over the year. In some countries, the survey design includes interviews at various times of the year (often on a quarterly basis) to monitor season-specific development of morbidity. In other countries interviewing is not repeated, and carried out on a specific date.
- **Reference period** For health interview surveys, this factor may have a considerable effect on the estimates and the options taken up by each country and, in fact, within the same country, on various occasions, reference periods have varied considerably. At present there seems to be a general move toward a single reference period for the self-rating of health condition, at a certain time decided before the interview as a reference point for the occurrence of events such as accidents, illnesses or use of health services.
- **Proxy response acceptance** Most certainly, individuals behave differently when called upon to rate their own state of health or that of others. Acceptance or non-acceptance of proxy responses and the proportion of such responses considerably modifies morbidity estimations. This is not an easy problem to solve, also because deciding not to dispense with the possibility of collecting information when each individual cannot be interviewed is in fact acceptable as a solution. It is enough to consider the very elderly or young or those with mentally debilitating diseases. Correction procedures with regard to inconsistencies and imputation of missing responses. Various compatibility plans and correction systems based on deterministic or probabilistic models are adopted by countries. Assessment of the impact of these various methods of correction on measurements obtained requires specific study.

4. **Strategies for reporting**

4.1 **Reporting guidelines**

As we said before, the construction of an harmonised system of indicators is the required basis for international report. However, this is a necessary, but not sufficient condition, since each state would differently stress topics according to its own specific current health concerns. Such differences highly contrast with a general comparable view. Thus, international reports (informational reports in particular) do not result from a direct superimposition of national health reports. A specific project and an independent data base of regularly updated indicators are required. The lack of a shared notion of health report is a problem since the following elements are not defined: topics to be dealt with, indicators to be used and which layout is to be used in presenting information.

4.2 The methodological support

Therefore, the harmonisation of statistics and indicators produced by different countries requires the creation and sharing of a common *language* concerning every element affecting information comparability. A common statistical language whose main elements should be the definitions of examined phenomena, of the examined statistical units, of detected variables, and of classifications adopted. The next step is represented by making consistent the *methodologies* used to collect, to process and to control the information produced. A great advantage for this step is represented by establishing guidelines, shared by all the countries, to design new surveys or to re-design current surveys and it is represented by the definition and sharing of the quality profile required by the production process and by the produced information.

From this viewpoint, *informational systems for survey documentation* can play an important role in supporting the harmonisation process and creating systems of indicators which allow the users to control comparability. Those systems would handle *metainformation* concerning the survey informational content and definitions used, allowing analysis, comparison and reconciliation, which are basic activities to construct informational systems able to integrate different sources.

The second aspect too, concerning the harmonisation of statistical methodologies, can be helped by the implementation of a documentary informational system to manage *metainformation* regarding the controlling and organisational characteristics of production processes. The quality of the different processes could be evaluated through a set of *quality indicators* that would assure the possibility of making comparisons.

With reference to the first aspect, the harmonisation of definitions and of classifications requires the development of documentation systems that would handle *metainformation* concerning the survey informational content, allowing analysis, comparison and reconciliation. In Italy ISTAT (Italian National Statistical Institute) is currently designing SDOSIS, a documentation system for surveys, which provides a generalised instrument for those operations. The purpose of this system is not only to document the different definitions adopted by specific surveys but also to analyse those definitions, underlining and explaining their differences. This is a basic activity to construct informational systems able to integrate different sources.

4.3 The quality profile

Quality control is a crucial care for national and international statistical agencies. As far as statistics become more used by policy makers and non specialists in general, documentation and dissemination of quality features have also become an important goal, to offer to the users the basic elements to understand the instruments that they are willing to use. The goal is also pedagogical, in the sense that it is usually not easy to explain to non specialists the characteristics of the statistical approach which is built on averages and variability but also on errors and their control.

To be effective, quality control must be conceived as an integral part of the harmonisation process (Grais,1998). Moreover, the harmonisation process itself, especially in the case of input harmonisation, needs that the quality profile of data has been designed at the same time than survey procedures.

This goal can be helped by the implementation of a documentary informational system to manage *metainformation* regarding the controlling and organisational characteristics of production processes. The quality of the different processes could be evaluated through a set of *quality indicators* that would assure the possibility of making comparisons.

The Italian Survey Documentation System (SIDI) which is now being implemented by ISTAT, allows to meet these goals and can be an instrument to face and solve the problems posed by process harmonisation. SIDI most remarkable aspect, with reference to harmonisation, is given by the action of documenting different surveys using *standard* descriptions of the most important aspects of the production process (phases, operations, controlling actions, agents, authorities in charge of operations). This aspect was overcome by providing people in charge of the survey with a set of *thesauri* to give standard descriptions of operations, of the controlling actions and of other remarkable aspects. Using *standard* descriptions of operations and of basic actions has a fundamental importance to compare surveys, and for queries aimed at selecting groups of homogeneous surveys. The system also provides an important support to design surveys, because it is possible to identify methodologies and techniques which can be adopted, depending on phenomenon, statistical units, expected quality levels, and, generally speaking depending on survey targets. In this way a progressive harmonisation of adopted methodologies can be achieved, and thus a greater comparability and integration of different sources (D'Angiolini, Fortini, Signore, 1996).

4.4 Technical support

A further step for harmonisation and reporting is represented by the technical computer support. It can play an important role since imposing standard protocols for transmission can help states in preparing comparable data bases. Furthermore, cutting transmission times, it helps cooperation efforts between international agencies and national statistical offices. In this scenario, two aspects can be analysed: (a) the harmonisation of methods to transmit data to international organisations and (b) the harmonisation in implementing database.

4.4.1 Harmonisation of transmission methods

The DSIS project (Distributed Statistical Information Services) is an example of transmission method harmonisation. In 1992 the DSIS project started with an analysis and a feasibility study made by Eurostat, supported by a number of preparatory interviews with Member States. Interviews aimed at obtaining details about national environments, concerning hardware, software and telecommunication networks, besides organising and operative details

about information production and dissemination. The gradual introduction of telecommunications in each activity performed within the official European statistical environment is the general purpose of the project. It involves a number of different activities, such as survey micro-data gathering, information dissemination channels, with special attention to the enhancing existing informational flows and the definition of a "reference" environment, shared by Eurostat and Member States. This "reference" environment should allow mutual exchange of previously normalised data supplied with required meta-data.

The IDA-HIEMS (Interchange of Data between Administrations- Health Indicators Exchange and Monitoring System) project represents another example. The HIEMS is a three-year telecommunication project (1996-1999) which was implemented by the European Committee within the larger project IDA. HIEMS points at creating a monitoring system for health whose main purpose is the implementation of a network at European level. The European Committee will organise and co-ordinate States, whereas technical and computer topics will be dealt with by a Pool of Contracting Parties. This Pool will be composed of several Firms and a number of users co-ordinated by the Danish Health Ministry, the latter will act as intermediary between the Contracting Parties and Member States.

A Project Committee, composed by seven Member States and Eurostat, supervises the project implementation. The Committee should check that Pool products fulfils the needs of the States, and that criteria established in the IDA project are met.

4.4.2 Harmonisation of database construction.

As an example of the positive role played by common data bases, reference could be made to the *Data Presentation System (DPS)*, which is an important effort that WHO is making within *Health for All by 2000* strategy. DPS allows to enter, query and analyse indicators in the demographic and health fields for European and extra-European countries. WHO is also available to adjust DPS to analyse geographical sub-national differences of the requiring Countries. So it is a very useful instrument also for national users, encouraging its adoption and, indirectly, harmonisation process and international reporting.

The DPS is projected to disseminate indicators and no specific hardware and/or software resources are required. Query functions are very easy, and several analyses can be performed: from time series indicators to territorial comparisons, as well as comparisons of indicators related to population subgroups.

5. Some final remarks

Producing comparable indicators and an efficient reporting system on all those fields for which European Union has the competence to formulate policies and to monitor the path through the achievement of the objectives posed by the Treaties is an imperative commitment. This was clear for

unemployment, for which a major effort was made to define common concepts and definitions. With regards to other notions such as health status, living conditions, or proper social protection or economic and social exclusion, which can be found in the Agreement on Social Policy annexed to the Maastricht Treaty there is still a lot of work to be done to achieve a sufficient comparability. On these themes a wide consideration in order to better clarify the concepts which are very complex and multidimensional have to be promoted by international agencies, thus continuing the work which has been done in the latest years. With reference to health topics, there are many initiatives proposed by WHO (EuroHis), Eurostat (Legs on health statistics), OECD (Health data base), Reves network (Health expectancies data base; REVES, 1993) and they should not overlap so that efforts are better used and the limited resources not lost.

International reporting systems are more likely successful if, maintaining high quality profiles and timeliness of indicators, can meet national needs for comparative evaluation.

Recommendations play an important part, since they suggest common definitions and methodologies to countries. Therefore they can face the issue of international comparability without irremediable conflicts with national needs, represented by the continuity of time series data and by the specific importance of indicators. Recommendations have to be: complete, clear and precise. Three basic requirement which are not always respected in Community recommendations, directives and regulations because of the difficulty to reach formal agreement of member states, and which are essential to allow a real harmonisation (Franz, 1998).

Figure 1. The morbidity process. Context, individual events and statistical measures

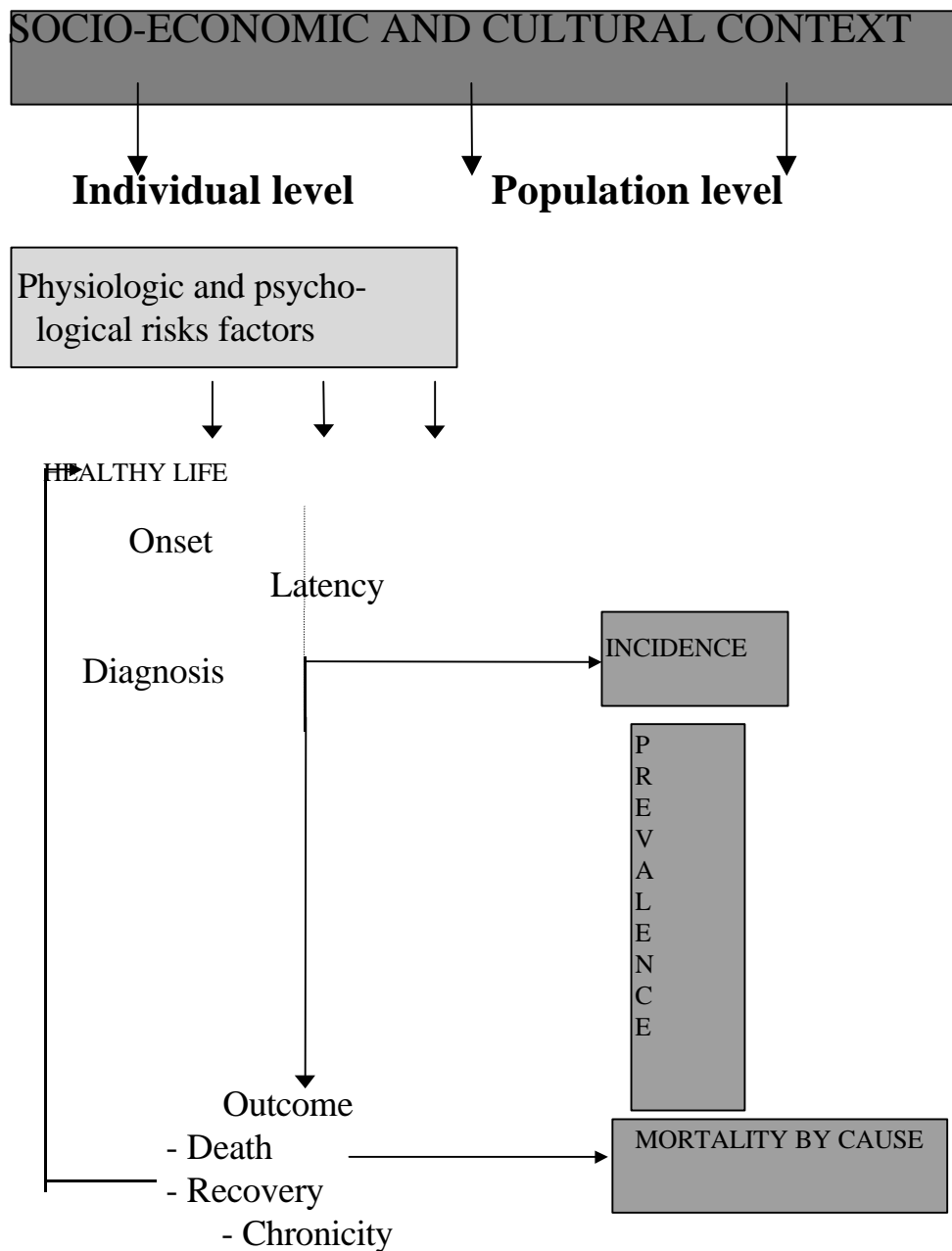


Figure 2. Methods and procedures of data collection

Type of survey	Main sources of incomparability	Specific aspects
Household survey	Sample design	<ul style="list-style-type: none"> • Sample magnitude • Sample structure • Stratification criteria • Non responses sample treatment
	Survey technique	<ul style="list-style-type: none"> • Face-to-face interview • CAPI interview • Telephone interview • CATI interview • Self-administered questionnaire • Health examination survey
	Questionnaire design	<ul style="list-style-type: none"> • Questions wording and structure • Question sequence • Reference periods
	Respondent selection	<ul style="list-style-type: none"> • Self responses • Proxy responses admitted
	Survey interviewers network	<ul style="list-style-type: none"> • Professional interviewers • Non professional interviewers
	Quality control and evaluation process	<ul style="list-style-type: none"> • Probabilistic criteria • Deterministic criteria • Mixed criteria • Quality measurement operation
Panel surveys	Interview spacing	<ul style="list-style-type: none"> • Sub-annual • Annual • Other
	Tracking of mobile respondents	<ul style="list-style-type: none"> • Follow-up for everyone • Follow-up for people moving in the same reg • Follow-up for people moving in the country
Continuous survey (administrative survey), hospital statistics, registers)	Source of information	<ul style="list-style-type: none"> • Statistical institute • Administrative department
	Definition and classification in use Registration technique	<ul style="list-style-type: none"> • ICD IX, ICD X... • Manual registration • Automatic registration • Computer assisted registration
	Coverage of the survey	<ul style="list-style-type: none"> • Sample survey • Partial survey • Integral survey

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