

Design for a set of European Community Health Indicators

Final report by the EHCI project

February 15, 2001

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EUROPEAN COMMUNITY
HEALTH INDICATORS**

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The ECHI project was carried out by a working group under the co-ordination of the National Institute of Public health and the Environment (RIVM), Bilthoven, The Netherlands, with financial support of the European Commission, under the Health Monitoring Programme.

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PREFACE

To the final report of the ECHI project

This report has been arranged in several sections, for different readership. First, the Executive Summary gives a concise view of the project and its results. Those who want to spend some more time can read the Abridged Version (Part I). This part is printed in a different letter type. Finally, the Extended Version (Part II), together with the Annexes, provides the full details of the proposed indicator list and all the considerations involved in its design.

This final version is based on an alternating scheme of (1) discussions during the five meetings of the ECHI project group and (2) successive drafts drawn up between these meetings. Additional input took place via bilateral contacts between working group members and from reports and communications by other projects under the Commission's Health Monitoring Programme (HMP). The final draft of November 20, 2000, was distributed among several circles within the Commission, a.o. the Committee of the Health Monitoring Programme, the HMP project coordinators and the Eurostat/DG Sanco Working Group on Public Health Statistics, as well as within Member States and other international organisations. Comments received from this circulation round have been included in this final report.

Since this final report is not the final stage in indicator establishment, readers are invited to send their comments to the project co-ordinator or to the Commission Services in charge of the Health Monitoring programme.

The project co-ordinator wishes to thank all persons who contributed to this report. He especially wants to acknowledge the ECHI project group for their constructive and stimulating participation, during the project meetings as well as in between. This has really made the result a joint achievement.

EXECUTIVE SUMMARY

This report presents a proposal for a set of European Community Health Indicators (ECHI). It is produced by a project financed by the Commission under the Health Monitoring Programme. In this project, experts participated from all EU Member States, from Norway and Hungary, and from international organisations, i.e. WHO Europe and OECD. The Commission was represented by experts from DG Sanco and Eurostat.

By proposing a comprehensive list of health indicators, the report focuses on the core of the European Commission's Health Monitoring Programme: *'to contribute to the establishment of a Community health monitoring system'*, in order to:

1. Measure health status, its determinants and the trends therein throughout the Community;
2. Facilitate the planning, monitoring and evaluation of Community Programmes and actions, and
3. Provide Member States with appropriate health information to make comparisons and support their national health policies.

In the design of the indicator set, a set of explicit criteria was applied. These included:

- Be *comprehensive and coherent*, i.e. cover all domains of the public health field;
- Take *account of earlier work*, especially that by WHO-Europe, OECD and Eurostat;
- Cover the priority areas which Member States and Community Health Policies currently pursue.

Flexibility is an important characteristic of the present proposal. This implies that the interest in specific indicators may change with changing policy interests and scientific developments, but also that modern database technology allows a flexible entry to a system of indicators and data according to one's personal interest. In our project, this flexibility has been emphasised by the definition of 'user-windows'. These are subsets from the overall indicator list, each of which should reflect a specific user's requirement or interest. Moreover, this approach can be used to underpin *current priorities* of the European Community, or to *prioritise efforts in improving data* collection and harmonisation, and thus to formulate a set of 'core indicators', within a certain time-frame.

The proposed indicators are, in most cases, defined as generic indicators, i.e., their actual operational definitions have not yet been attempted. This work has to be carried out to a large part by other projects financed under the HMP, which cover specific areas of public health or areas of data collection. We have been able to refer to some of the early results of these HMP projects. Also, apart from indicators covered by regularly available data, we have proposed indicators (or areas) for which data are currently difficult to collect but which from a policy point of view would be needed. All this points to the fact that this report in no way presents a final stage. In fact, establishing an indicator list which is actually *used* by Member States is a constantly developing process.

This dynamic situation requires the continued interest and commitment of the Member States, as well as the maintenance of an expert facility linked to the Commission, which can co-ordinate and guide the process. The intentions laid down in the newly proposed Programme of Community Action in the Field of Public Health are promising in this respect. In order to support this process further, the ECHI project group has submitted a proposal to the HMP to continue the work on an EU Health Indicator list for another two years.

PART I

HEALTH INDICATORS FOR THE EUROPEAN COMMUNITY

Abridged version

- I-1. Why European Community Health Indicators?**
- I-2. The ECHI project**
- I-3. Which health indicators?**
- I-4. Applying the criteria**
- I-5. A flexible approach to indicators: user-windows**
- I-6. Future use and maintenance of EC health indicators**
- I-7. The proposed list of EC health indicators**
- I-8. Examples of user-windows**

I-1. Why EC health indicators?

The European Commission's Health Monitoring Programme

The European Commission's Health Monitoring Programme (hereafter called HMP) was established in 1997 to take forward the enhanced public health responsibilities of the EU in the public health field. It has as its objective *'to contribute to the establishment of a Community health monitoring system'*, in order to:

1. Measure health status, its determinants and the trends therein throughout the Community;
2. Facilitate the planning, monitoring and evaluation of Community Programmes and actions; and
3. Provide Member States with appropriate health information to make comparisons and support their national health policies.

The activities under the HMP have been set out under three 'Pillars':

- Pillar A: Establishment of Community health indicators;
- Pillar B: Development of a Community-wide network for sharing health data;
- Pillar C: Analyses and reporting.

Under these pillars, projects are funded in specific areas to realise HMP's goals (see *Annex 6*).

I-2. The ECHI project

European Community Health Indicators

This report presents the results of a project under the HMP called *'Integrated approach to establishing European Community Health Indicators'* (ECHI). As indicated by the title, the ECHI project was designed to address the core business of Pillar A. Its objective was formulated as:

'To propose a coherent set of European Community Health Indicators, meant to serve the three purposes formulated for the HMP, selected on the basis of explicit criteria, and supported by all Member States'.

The ECHI project group consisted of representatives from all MS, various international organisations and the Commission (*Annex 1*). It has defined the scope of the project as follows:

- First, to *define the areas* of data and indicators to be included in the system, following a set of explicit *criteria*;
- Next, to define *generic indicators* in these areas, again following these criteria;
- As a novel element, to imply a *high degree of flexibility* in the indicator set, by defining subsets of indicators, or 'user-windows', tuned to specific users; examples of such users are strategic planners, people involved in local health promotion actions, etc.

As to the use of the indicator list, the following was envisaged:

- To provide a guiding structure for the production of public health reports at (inter)-national or regional levels;

- To provide the logical framework for the development of the EUPHIN-HIEMS (Health Information and Exchange Monitoring System) electronic data exchange system being developed under the HMP, Pillar B;
- To identify data gaps and thereby help to indicate priorities for data collection and harmonisation, also as guidance for other projects under the HMP;
- To serve as a guiding framework for follow-up. The result of the project clearly is not a final stage and needs continuous elaboration and update. This can be taken up by the Commission's new Public Health Action Programme.

I-3. Which health indicators?

Prerequisites, criteria, backgrounds

Three general objectives of a European health indicator set have been defined by the HMP, i.e., *monitor trends throughout the EU, evaluate EU policies, and enable international comparisons.*

This calls for the explicit definition of a set of criteria. Thus, the indicator set should:

- Be *comprehensive*, i.e. the multi-purpose nature of the monitoring objectives require the coverage of all domains which are normally included in the public health field; in addition, the indicator set should be *coherent*, in the sense of *conceptual consistency*.
- Take account of earlier work in the area of indicator selection and definition, especially that by WHO-Europe, OECD and the Commission Services in Eurostat; thus *avoiding duplication of effort* and promoting cooperation between international organisations;
- Cover the areas in the Public Health field which Member States want to pursue (*MS policy priorities; also regions within MS may have their own health policies*); in addition, it should meet the needs of Community Policies (*Community policy priorities*);

In terms of the selection of indicators at the detailed level, the following prerequisites are formulated in addition:

- The actual selection and definition of indicators within a specific public health area should be *guided by scientific principles*.
- Indicators (and underlying data) should meet a number of methodological and quality criteria concerning e.g. validity, sensitivity, timeliness, etc. (*quality, validity, sensitivity and comparability*);
- The probability of changing policy interests calls for a *high degree of flexibility*, made possible by current electronic database systems.
- Selection of indicators should be based, to start with, on existing and comparable data sets for which regular monitoring is feasible, but should also indicate *data needs and development areas*.

I-4. Applying the criteria

Comprehensiveness and conceptual consistency

Health is a broad issue and the eventual health indicator set should constitute a balanced collection, covering all major areas within the field of public health. Based on the HMP's Annex 2 and many other sources and considerations, the main categories of indicators were proposed as in the box below:

| Main categories for the ECHI indicator set | |
|---|--|
| 1 | Demographic and socio-economic factors |
| 1.1 | Population |
| 1.2 | Socio-economic factors |
| 2 | Health status |
| 2.1 | Mortality |
| 2.2 | Morbidity, disease-specific |
| 2.3 | Generic health status |
| 2.4 | Composite health status measures |
| 3 | Determinants of health |
| 3.1 | Personal and biological factors |
| 3.2 | Health behaviours |
| 3.3 | Living and working conditions |
| 4 | Health systems |
| 4.1 | Prevention, health protection and health promotion |
| 4.2 | Health care resources |
| 4.3 | Health care utilisation |
| 4.4 | Health expenditures and financing |
| 4.5 | Health care quality/performance |

Taking account of earlier work

As a precursor of the HMP, a study was carried out by the 'Working Party on Community Health Data and Indicators', chaired by the Danish Ministry of Health. In this study, an inventory was made of data available at WHO-Europe, The Commission and OECD. This effort was followed up by WHO-Europe (with Commission support) in 'ICHI': International Compendium of Health Indicators. In addition, the current updating of WHO's HFA 21 indicators, the 2000 version of OECD health indicators and the developments in the Commission's data collection at Eurostat have been closely taken into account.

Coverage of Member States and Community focus of interests

Member States' health policy priorities

Increasingly, EU Member States, or regions within MS, have formulated priority areas or targets for their health policies. From these sources, a short list of items appears to occur very frequently:

- Increase the number of healthy years lived, by tackling the main causes of death, ill-health and functional limitations (including physical and mental health aspects);
- Reduce health inequalities, by means of health policies but also by social policies;

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- Improve effective health promotion and disease prevention especially aiming at lifestyle and at young people;
- Improve the quality and accessibility of care, including community care;
- Improve the quality of life and participation of the elderly.

Besides national governments, sub-national (regional) authorities very often have responsibilities as well as explicit policies in health.

Meeting the needs of Community Policies

In the first EU 'Framework for action in the field of Public Health' (1993), eight action programmes were proposed (AIDS and other communicable diseases, cancer, drug dependence, pollution-related diseases, injuries, rare diseases, the Health Promotion Programme and the Health Monitoring Programme). Recently, a new Programme of Community Action in the Field of Public Health has been proposed. Basically, three 'strands' of action have been addressed:

- Improving health information and knowledge;
- Responding rapidly to health threats;
- Addressing health determinants.

Another source is the publication 'Priorities for public health action in the European Union', which states the following Community priorities: Social gradients, alcohol, illicit drugs, tobacco, health surveillance, quality of health care, mental health, environment and food/nutrition.

Scientific principles and quality aspects

In working out the indicator selection, quantitative principles such as the size of a health problem, its total costs, or the degree of preventability of the problem have served as criteria. This particularly applies to the selection of cause-specific mortality, of disease-specific morbidity, and to the selection of indicators in the area of health determinants.

It is evident that in the actual operational definitions of the indicators, we should meet certain quality criteria. In the Danish Ministry of Health Study, nine such criteria were formulated. In short, an indicator should measure what we think it measures (validity), be sensitive to changes over time or by place, be comparable between countries or regions, to mention the three most important aspects.

Flexibility and the continuous improvement of indicators and data collection

Basically, flexibility means that a system of data and indicators should never be fixed, and is never final. Policy interests change, scientific views and electronic tools evolve, with associated shifts in data collection activities.

Many indicators currently in use reflect the availability of more or less comparable data sources. In some areas, however, data are not readily available in many Member States, even though the need for fully comparable information is strongly felt. These areas deserve extra efforts in R&D. They include, a.o. (not exhaustive):

- Disease-specific morbidity at population level.
- Integrated measurement of generic health status (functional limitations, health-related quality of life, composite health measures).
- Health inequalities.
- Determinants of mental health, social determinants of health.
- Increased comparability of health care data.

- Indicators of the performance of health (care) systems.

Below we will address another aspect of flexibility.

I-5. Flexible approach to indicators: User-windows.

Applying the above criteria has resulted in a quite extensive indicator list. Yet, it is limited for each of the areas covered. It is anticipated that the system will be used by many different users, for many different purposes. This may require specific subsets from the total array of indicators. These subsets are named '*user-windows*'. Technically, a modern database systems (like HIEMS) should allow this sort of use. Specific user perspectives could be: (i) areas of health policy interest; (ii) thematic entries such as age groups, (iii) disease groups with their determinants and costs, etc. Examples are:

- *Cockpit information*; to have a quick view on the major trends in public health, including recent relevant signals, for medium or long-term policy strategies;
- *EU priority list*; to follow developments for specific EU policy areas or targets, programmes or projects; this user-window can be shaped as a guide or tool for EU action;
- *The WHO/HFA21 indicator set*; to follow this list of indicators for the countries of the EU;
- *Health and services for mother and child*; to focus on reproductive health, health of children and family structure.

Three of these examples have been implemented, by way of illustration, in *Section I-8*. More examples have been mentioned in *Chapter II-5* and worked out in *Annex 7*.

The user-window concept is a more flexible approach of the original idea of 'core indicators'. Yet, policy development as well as focusing R&D activities need the formulation of priorities. We may in fact move in two divergent directions simultaneously:

- (1) Choose a user-window named 'EU-priority list' as a set of 'core indicators', to focus on a *limited set of issues* thought the most important in EU public health policy and therefore as a priority focus for work on data harmonisation;
- (2) At the other extreme, consider the entire 'multi-purpose' indicator set or whatever user-window not as a fixed entity as such, but mainly as a reflection of data collection activities. This implies that we are defining comparable data sources rather than indicators.

I-6. Future implementation, use and maintenance of EC health indicators

Thinking of the appropriate follow-up for this project, we may quote the newly proposed EU Public Health Action Programme now under discussion, stating (version of May 15, 2000): '*... a comprehensive health information system ... , based on the establishment of **agreed Community-wide indicators** for health status health determinants interventions costs*'. These quotations provide the grounds for the further development and future use of the indicator list proposed in this report.

The presently proposed indicator list (see *paragraph I-7* and *part II, Table II-4.1*) is by no means definitive. It sets a framework for further development, for a consistent arrangement of databases and for focusing further work, but much of its implementation and preparation for actual use still has to follow.

For this follow-up, we envisage that projects under the HMP and related initiatives should work together on the operationalisation and harmonisation of selected indicators. More important is what lays behind: the collection of the underlying data in a comparable manner, i.e. the definition of comparable data sources and data collection methods. All this work should be co-ordinated closely with the Commission's Services at Eurostat, with WHO/Europe and OECD. In order to support this process further, the ECHI project group has submitted a proposal to the HMP to continue the work on an EU Health Indicator list for another two years.

For the longer term, the maintenance of a system of indicators and data on health requires an infrastructure which has continuity and expertise. The new Public Health Action Programme mentions the 'development of a Community network to undertake analysis and reporting' (page 33). This idea has recently been endorsed by the European Parliament, although there is still much debate on this issue. In fact, it seems mandatory to think of a centralised, or at any rate co-ordinated body or facility with responsibility for the overall field of data collection prioritisation, data evaluation, analysis and reporting. This facility should have professional expertise and authority, but at the same time be a light and flexible structure. It should develop an agenda determined by the needs of the Commission and the Member States.

I-7. The proposed list of EC health indicators;

This list gives the *generic* names of the indicators. *Part II* of this report gives more details such as comments on age/gender/SES/etc. stratification, on similarities with existing indicators, possible data sources, or specific problems. It also addresses possible operationalisation.

Class 1. Demography and Socio-economic situation

These indicators provide a general picture of the situation in a country or region, and a frame of reference for many of the other health indicators. Moreover, the population data provide e.g. the denominator for calculating many other indicators.

1.1 Population

- Total population
- Median age of population
- % of population under 15 of age
- % of population age 65 and over
- Live births
- Aged mothers, teenage mothers
- Crude birth rate
- Total deaths
- Crude death rate
- Net migration
- Total fertility rate
- Annual in(de-)crease %
- Population by region
- Population by urbanisation level
- Population projections

1.2 Socio-economic factors

- Education attainment
- Education enrolment
- Literacy rate
- Population by employment type
- Population by occupational class
- Total labour force
- Total employment
- Total unemployment
- Population by ethnicity
- Population by household situation
- Population by income level/income distribution
- Gross Domestic Product (GDP)
- GDP Purchasing power parity

Class 2. Health Status

This section contains indicators on various aspects of the actual health situation of the population. Disease groups have been selected because of their substantial share in the total burden of ill-health or because of their reference to known risk factors or to identified activities in prevention and health care (e.g. avoidable mortality). In this context we have not used the term 'Health outcomes'. We prefer to reserve this term for situations where a clear link can be made to an intervention.

2.1 Mortality

2.1.1 Life expectancy & related indicators

- Life expectancy
- Chance of dying in age intervals

2.1.2 General mortality

- Crude death rate
- Standardised death rate
- Infant mortality
- Neonatal mortality
- Postneonatal mortality
- Perinatal mortality
- Inequality in deaths

2.1.3 Cause-specific mortality

- Numbers of deaths
- Crude death rates
- Standardised death rate
- Years of life lost (PYLL)
- PYLL fraction

Which causes of death (COD) to include? We propose (a) the 'main causes of death', in terms of size, using the European shortlist of 65 causes; and (b) a limited set of COD selected as relevant for certain risk factors or issues of prevention or health care.

2.2 Morbidity, disease-specific

- Incidence/prevalence of selected diseases/disorders

Which diseases/disorders should be selected for the indicator list? Getting comparable data on population incidence or prevalence of diseases/disorders is an important development area. Analogous to 'mortality', we propose (a) diseases that are responsible for a large share of the burden of ill health (large impact) in the population (based on Burden of Disease studies and WHO HFA list), and (2) a limited set of diseases selected as relevant for certain risk factors or issues of prevention and health care. Disease definitions should coincide with the causes of death, where applicable.

(a) Diseases/disorders of large impact

- HIV/AIDS
- Tuberculosis
- Sexually transmitted diseases
- All cancers
- Lung etc. cancer
- Breast cancer
- Cervix uteri cancer
- Colorectal cancer
- Prostate cancer
- Melanoma and other skin cancer
- Diabetes
- Dementia/Alzheimer
- Depression
- Generalised anxiety disorder
- Alcohol-related disorders
- Ischaemic heart disease
- Acute myocardial infarction
- Heart failure
- Cerebrovascular accident
- COPD (Chronic obstructive pulmonary disease)
- Asthma
- Decayed etc. teeth: DMF-12
- Musculoskeletal disorders
- Congenital anomalies
- Down's syndrome
- Road traffic injuries
- Occupational injuries
- Home/leisure injuries

(b) Diseases selected for other reasons

- Communicable diseases in vaccination schemes
- Water- and foodborne diseases
- Alcohol-related traffic accidents
- Occupational disease
- Creutzfeld-Jacob disease

2.3 Generic health status

- Perceived health
- Chronic disease general
- Functional limitations
- Activity limitations
- Global activity limitations indicator
- Short-term activity restrictions
- General mental health

- General quality of life
- Absenteeism from work
- Appropriate inequality measure

2.4 Composite measures of health status

- Disability free life expectancy
- Other health expectancies

Class 3. Determinants of health

This group contains all factors determining health, outside the health care system. It includes (i) the 'personal and biological factors'; (ii) health behaviours (lifestyle factors) and (iii) living and working conditions, more to be viewed as the wider environment. For all these categories of determinants, selection criteria have been: their importance in determining a substantial share of (ill-)health; the degree to which they can be influenced, and the cost-effectiveness of the interventions involved.

3.1 Personal and biological factors

3.1.1 Biological (risk) factors

- Body mass index
- Low birth weight
- Blood pressure
- Serum cholesterol
- Nutritional status indicators

3.1.2 Personal conditions

- Coping ability
- Sense of mastery
- Optimism
- Knowledge/attitudes on health issues

3.2 Health behaviours

3.2.1 Substance use

- Regular smoking
- Smoking in pregnant women
- Former smoking
- Amount smoked
- Alcohol use: non-drinkers
- Alcohol use pattern
- Total alcohol consumption
- (Il)licit drug use
- Road traffic accidents involving alcohol

3.2.2 Nutrition

- Energy from food
- % energy from fat
- % energy from sat. fatty acids
- % energy from protein
- Consumption of bread/cereals
- Consumption of fruit excl. juice

- Consumption of vegetables excl. potatoes
- Consumption of fish
- Consumption of micronutrients
- Breastfeeding
- Contaminants

3.2.3 Other health-related behaviours

- Physical activity
- Sexual behaviour
- Induced abortions
- Traffic behaviour
- Other health promotion behaviours?

3.3 Living and Working conditions

3.3.1 Physical environment

- Outdoor air
- Housing
- Drinking water supply
- Sewage system
- Ionising radiation
- Noise

3.3.2 Working conditions

- Physical workplace exposures
- Mental workplace exposures
- Accidents related to work
- Occupational diseases

3.3.3 Social & cultural environment

- Social support
- Social isolation/networks
- Life events
- Violence

Class 4. Health systems

This group includes indicators on the health services system, as well as on prevention and health promotion. In some areas indicator definition is tentative only.

4.1 Prevention, health protection and health promotion

4.1.1 Disease prevention

- Vaccination coverage
- Screening for breast cancer
- Screening for uterus/cervix cancer
- Screening for blood pressure/cholesterol levels
- Prenatal screening
- Neonatal screening
- General preventive examination
- Integrated children's health monitoring

4.1.2 Health promotion

- Campaigns on health behaviours
- Mental health promotion

4.1.3 Health protection

- Regulations on public smoking
- advertising restrictions
- Average price of cigarettes
- Regulations on alcohol and driving
- Regulation on seat belts, cycle helmets
- Regulations on food safety and quality
- Regulations on air/water quality

4.2 Health care resources

4.2.1 Facilities

- Hospital beds total
- Hospital beds acute care
- Hospital beds private in-patient
- Psychiatric care beds
- Nursing/elderly home care beds

4.2.2 Manpower

- Health services employment
- Physicians employed
- Nurses employed
- Midwives employed
- Dentists employed
- Pharmacists
- Paramedical professions
- Hospital staff ratio: acute care
- Nurses staff ratio: acute care

4.2.3 Education

- Number of physicians graduated
- Number of nurses and midwives graduated
- Number of pharmacists graduated
- Number of dentists graduated

4.2.4 Technology

- No. of units of specified equipment

4.3 Health care utilisation

4.3.1 In-patient care utilisation

- Beddays: in-patient/acute care
- Occupancy rate: in-patient/acute care
- Average length of stay: in-patient/acute care
- Discharges; total, by disease group

4.3.2 Out-patient care utilisation

- Out-patient contacts

4.3.3 Surgical operations

- CABG (Coronary Artery Bypass Grafting)
- PTCA (Percutaneous Transluminal Coronary Angioplasty)
- Hip replacement
- Knee replacement
- Cataract operation
- Caesarean section
- Others?

4.3.4 Medicine use/medical aids?

- Medicine use total
- Use of specific groups of medicines
 - Peptic ulcer drugs
 - Diabetes drugs
 - Cholesterol/triglyceride reducers
 - Cardiac glycosides
 - Anti-arrhythmics
 - Antihypertensives
 - Diuretics
 - Beta blocking agents
 - Systemic antibacterials
 - Analgesics
 - Benzodiazepine derivatives
 - Psychoanaleptics
 - Antiasthmatics
- Use of medical aids

4.4 Health expenditures/financing

4.4.1 Health care system

- Key indicators for the structure/financing of the national health care system
- Insurance coverage
- Distribution of household expenditures on health

4.4.2 National expenditure on health

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- Total/public/private expenditure on health
- Total/public/private expenditure on personal health
- Total/public/private expenditure on collective health

4.4.3 Expenditure on medical services

- Expenditure on in-patient care (total/public/private)
- Expenditure on out-patient care (total/public/private)
- Expenditure on ancillary services (total/public/private)
- Expenditure on home care services (total/public/private)

4.4.4 Medical goods dispensed to out-patients

- Expenditure on pharmaceutical goods and other medical non-durables
- Expenditure on medical appliances/other durables

4.4.5 Total health expenditure by age group

- Expenditure (%) 0-64 (m/f)
- Expenditure (%) 65-74 (m/f)
- Expenditure (%) 75+ (m/f)

4.4.6 Health expenditure by fund source

- By government/ social security/ own pocket, etc.

4.5 Health care quality/performance

4.5.1 Subjective indicators

- Perception of the health system
- Complaints

4.5.2 Health care process indicators

- Autopsy rate
- Waiting lists/times
- Number of surgeries/interventions considered inappropriate
- Variations in numbers of specific surgeries/interventions
- Quality of blood products; amount of blood transfused

4.5.3 Health outcomes

- Avoidable Deaths
- Iatrogenic disease/death
- 30-days in-hospital mortality
- 28-day readmission rate
- Surgical wound infection
- Incidence of end-stage renal failure per 1000 diabetics
- Nosocomial Infections
- Antibiotic Resistance
- Cancer survival rates

I-8. Examples of user-windows

Example: 'Cockpit information'

The major purpose of this user-window would be the ability to get a quick glance of the overall situation in the Community and the MS, with reference to medium- and long-term policy strategies. It could include alerts for issues likely to influence these strategies. This user-window requires a limited though comprehensive set of general indicators, covering all aspects of public health. It might also present a basic set for comparison with countries outside the EU (accession countries, other OECD countries, etc.). A proposal is presented below:

- Population distribution
- Education attainment
- Unemployment
- Income variation
- Life expectancy at birth and age 65
- Infant mortality
- Cardiovascular mortality
- Mortality by external causes
- Perceived health, by SES
- General quality of life measure, by SES
- Selected health expectancy
- Body Mass Index, by SES
- Smoking prevalence
- Consumption of fruit/vegetables
- Housing
- Vaccination coverage
- Physicians per inhabitant
- Health expenditures as % of GDP
- Use of pharmaceuticals

Example: 'EU priority list'

This user-window is designed to follow developments for specific EU policy areas or targets. As it arises from the new EU policy, priority areas include: better information; reaction to threats; relevant determinants; health impact assessment (agriculture, transport, SES). Based on this, the present subset could be a mix of examples 2, and 4, with a few additions on communicable diseases. We propose:

- Fertility rate
- Population by urbanisation
- Education: attainment
- Unemployment
- Employment by ISCO class
- Income disparity
- GDP PPP
- Life expectancy
- Inequality in deaths, by a few main causes
- Injuries/deaths from road traffic accidents
- Occupational injuries/deaths
- Home/leisure injuries/deaths
- Perceived health by SES
- Absenteeism from work
- Body Mass Index
- Smoking prevalence
- Alcohol use
- Drug use
- Nutrition: energy from fat/protein
- Nutrition: consumption of bread/cereals; vegetables/fruit
- Physical exercise
- Housing
- Drinking water supply
- Sewage system
- Outdoor air quality
- Noise
- Emotional support
- Violence
- Occupational diseases
- Vaccination coverage
- Screening programmes
- Medicine use
- Health insurance coverage

Example: : 'Health and Services for Mother and child'

This subset, presented below, would serve the purpose of focusing on reproductive health, health of children, on the family situation, and on activities that relate to prevention and health services for children. Again we have not looked at the availability or operationalisation of these indicators.

- Median age of population
- % Population under 5, 18
- Aged mothers/teenage pregnancies
- Mean age at delivery (from live births by age of mother)
- Crude birth rate
- Total fertility rate
- Education enrolment
- Female employment (from total)
- Population by household situation
- Infant/neonatal/postneonatal mortality
- Perinatal mortality
- Chance of death in ages 0-5-14
- Selected communicable diseases (incidence, mortality)
- Congenital disorders, incl. mental handicap (incidence, mortality)
- Incidence of asthma in children (other?)
- Low birth weight
- Smoking in pregnant women
- Breastfeeding
- Sexual behaviour
- Induced abortions
- Social support/networks
- Life events
- Housing
- Vaccination coverage
- Perinatal/neonatal screening
- Integral children's health monitoring
- No. of midwives/specialised nurses
- Caesarean sections
- 30-days in-hospital mortality below 1 year of age

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PART II

HEALTH INDICATORS FOR THE EUROPEAN COMMUNITY

Extended version with annotated indicator list

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II-1. Why European Community Health Indicators? *The European Commission Health Monitoring Programme*

The European Commission's Health Monitoring Programme (hereafter called HMP: see European Commission, 1997) was established in 1997 to take forward the enhanced public health responsibilities of the EU in the Public Health field. It has as its objective '*to contribute to the establishment of a Community health monitoring system*', in order to:

1. Measure health status, its determinants and the trends therein throughout the Community;
2. Facilitate the planning, monitoring and evaluation of Community Programmes and actions; and
3. Provide Member States with appropriate health information to make comparisons and support their national health policies.

The activities under the HMP have been set out under three headings, or 'Pillars':

- Pillar A: Establishment of Community health indicators;
- Pillar B: Development of a Community-wide network for sharing health data;
- Pillar C: Analyses and reporting.

These three Pillars serve different functions. Pillar A asks the question *which* data and indicators should be included in a Community health data exchange system. Pillar B addresses the question *how* this system should, technically, be made to operate. Pillar C refers to the use of the data afterwards, e.g. in terms of making the data and their analysis readily available for policy makers.

The actual work is arranged in projects funded from the Programme. Under Pillar A, a number of projects covering data and indicators in many areas of public health are now in progress (see *Annex 6*). Under Pillar B the EUPHIN-HIEMS (Health Information and Exchange Monitoring System) project is the predominating one, under which the electronic data exchange network is being built. Under Pillar C, projects are set out to prepare annual reports on aspects of health in the EU.

This report presents the results of a project under Pillar A, named '*Integrated approach to establishing European Community Health Indicators*'. The project has used the acronym 'ECHI' (European Community Health Indicators). As indicated by its title, the ECHI project was designed to address the core business of Pillar A.

II-2. The ECHI project *European Community Health Indicators*

The objective of the ECHI project was formulated as:

'To propose a coherent set of European Community Health Indicators, meant to serve the three purposes formulated for the HMP, selected on the basis of explicit criteria, and supported by all Member States'.

Pillar A of the HMP in fact refers to two basic questions, i.e. (1): for which public health areas do we *want* data and indicators included in the system? and (2): for which areas do we *have* usable and comparable data or indicators available from the various Member States? The ECHI project has addressed question (1), but has also taken question (2) into account. Most other projects under Pillar A address question (2) for a specific area. Results from other projects have been taken on board by the ECHI project as much as possible. For many projects the results were not yet available at the time of drafting of this report, and these may be incorporated in the follow-up procedure.

Before going ahead we want to address the important question: *What is an 'indicator'?* One answer is: *'A concise definition of a concept, meant to provide maximal information on an area of interest'*. The German health information system (GBE, Gesundheits Bericht Erstattung) states that the purpose of an indicator is giving quantitative information about an 'indicandum', which is the topic that is to be addressed by the indicator (Federal Statistical Office, 2000). An indicator can be defined at the *generic* level, e.g. 'smoking behaviour', or in an *operational* manner, e.g. '% of women in age group x smoking between y and z cigarettes per day'. Operational indicators are always in terms of a *number, calculated from primary data* in a more or less complex manner. An example of a complex calculation is 'life expectancy at birth', which is calculated from a large set of age-specific mortality data (cf. ICHI, WHO/EC, 2000). Health indicators have been used for years by e.g. WHO-Europe (WHO, 1999, 2000) and by national statistical agencies.

Indicators are often linked to a *purpose*. This is especially obvious when indicators are connected to health *'targets'*. Targets are concrete policy objectives, often stated in quantitative terms. The report 'Health policies on target' (van de Water and van Hertem, 1998) discriminates between 'goals' described in general terms (e.g. a longer and healthier life), 'objectives', being more concrete (e.g. remove specific causes of ill-health), and precisely defined 'targets' (e.g. reduce the percentage of smokers below 20 years of age by 25% within 5 years). In this context, indicators are formulated for following the progress towards targets (see for instance the English health strategy 'Saving Lives: Our Healthier Nation': Stationery Office, 1999).

Recently much discussion refers to indicators that should serve the purpose of assessing the 'performance of health (care) systems' (WHO, 2000b; OECD 2000b). Although this scope is rather wide, it is more restricted than the three general purposes defined for the HMP. Therefore, within the ECHI project we have aimed at proposing a 'multi-purpose' set of indicators, from which smaller sets can be selected for specific uses (see *paragraph II-5* on 'user-windows').

The ECHI project group, which consisted of representatives from all MS, various international organisations and the Commission (see *Annex I*), has defined its approach as follows:

- As a first step, to *define the areas* of data and indicators to be included in the system, following a set of explicit *criteria*.

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- As the next step, to define *generic indicators* within these areas, again following these criteria.
- Where appropriate, to come close to the actual *definition of the indicators*. For these, reference could often be made to existing sources, such as available indicator definitions from international organisations, i.e. WHO (WHO, 1999, 2000), OECD (OECD, 1999) and Eurostat (Eurostat, 2000), from results of various HMP projects (under Pillar A), or from other relevant projects or activities.
- As a novel element, to imply a *high degree of flexibility* in the indicator set, by defining subsets of indicators, or ‘user-windows’, tuned to specific user groups; examples of such groups are strategic planners, people involved in local health promotion activities, etc. This should be easy to implement into the practical possibilities of modern database technology (e.g. HIEMS).

As areas for the use of the resulting indicator list, the ECHI project group has considered the following:

- To provide a *guiding structure* for the production of public health reports at the level of international agencies, Member States as well as subnational authorities.
- To provide the contents structure for the development of the EUPHIN-HIEMS electronic data exchange system being developed under the HMP, Pillar B.
- To *identify data gaps* and thereby help to indicate priorities for data harmonisation and collection; specifically, to give *guidance* in this respect to other projects under Pillar A, and to indicate areas for further research and development.
- To serve as a guiding framework for *follow-up*. The result of the project clearly is not a final stage and needs continuous elaboration and update. A mechanism is needed to take care of this. This is closely linked to the intentions and views of the Commission’s new Public Health Action Programme on handling public health information in the EU in the future.

The above points explain the expected added value of the ECHI exercise and its contribution to the process of improving the coherence of health monitoring and reporting within the European Union, in close alliance with WHO-Europe, OECD and the Commission’s Services at Eurostat. However, it is important to stress that the development and use of the system is to be of the MS, by the MS and for the MS.

II-3. Which health indicators?

Prerequisites, criteria, backgrounds

II-3.1 Prerequisites and criteria for European Community Health Indicators

Three general objectives of a European health indicator set have been defined by the HMP, i.e., *monitor trends throughout the EU, evaluate EU policies, and enable international comparisons* (cf. Chapter II-1).

This calls for the explicit definition of a set of prerequisites and criteria for the design of the full indicator set. Therefore, the indicator set should:

- Be *comprehensive*, i.e. the multi-purpose nature of the monitoring objectives require the coverage of all domains which are normally included in the public health field; in addition, the indicator set should be *coherent*, in the sense of *conceptual consistency* within and between the different domains of indicators.
- Take account of earlier work in the area of indicator selection and definition, especially that by WHO-Europe, OECD and Eurostat (*avoiding duplication of efforts, promoting cooperation between international organisations*);
- Cover the areas in the Public Health field which Member States want to pursue (*MS policy priorities; also regions within MS may have their own health policies*); in addition, it should meet the needs of Community Policies (*Community policy priorities*);

In terms of the actual selection of indicators at the detailed level, the following prerequisites are formulated in addition:

- The actual selection and definition of indicators within a specific public health area should be *guided by scientific principles*, i.e. their relevance for public health as derived from research and monitoring results. This includes *quantitative considerations*, such as the size of a health problem (e.g. number of cases, degree of lethality, amount of disability associated), the degree of preventability of a health problem or its total costs.
- Indicators (and underlying data) should meet a number of methodological and quality criteria concerning e.g. validity, sensitivity, timeliness, etc. (*quality, validity, sensitivity and comparability*);
- The probability of changing policy interests call for a *high degree of flexibility*, made possible by current electronic database systems.
- Selection of indicators should be based, to start with, on existing and comparable data sets for which regular monitoring is feasible, but should also indicate *data needs and development areas*.

The sections below will address these issues subsequently.

II-3.2 Comprehensiveness and conceptual consistency

Health is a broad issue and the eventual health indicator set should constitute a balanced collection, covering all major areas within the field of public health. This comprehensiveness has already been indicated in Annex 2 of the Health Monitoring Programme (HMP; see European Commission, 1997), which has given the following list of main areas in which health indicators should be established:

- health status

- life style and health habits
- living and working conditions
- health protection (*meant to include health services*)
- demographic and social factors, and
- miscellaneous.

Although this HMP Annex 2 list was indicated as being ‘preliminary’, it does not merely present a series of issues but also implies their logical coherence. I.e., in a comprehensive indicator set we want information about the health status of a population, as well as about the complex range of factors which determine health (determinants of health). These determinants are usually taken to include health habits, living and working conditions, demographic and socio-economic conditions, as well as the complex of activities that are aimed at maintaining or improving health (including prevention, health protection and health and social services). It is primarily on these determinants of health status that health policies can act. This logical coherence is often presented in so-called ‘conceptual schemes’ (see e.g. Ministry of health, Denmark, 1994; Ruwaard and Kramers, 1998). From this point of view, the above list has been taken as the starting point for our work.

II-3.3 Taking account of related and earlier work

Much work has been done previously in the area of selecting, defining and grouping health indicators for European countries. In the 1980’s, WHO/Europe formulated its HFA strategy, involving 38 targets and associated indicators. On this basis it operates the HFA database. In the new HFA21 strategy, the number of targets was reduced to 21 and the indicator list is being finalised according to the new set of targets (WHO, 1999, 2000). Presently, The WHO European region includes 51 Member States.

OECD has since the end of the 1980’s presented its own list of indicators and underlying database, for its now 29 Member States. It is updated yearly, the most issue is of November 2000 (OECD, 2000c). Finally, Eurostat is collecting large amounts of data in the social and economic fields, including health-related data, from the 15 EU Member States (Eurostat, 2000).

As a precursor of the HMP, a comprehensive study was carried out by the ‘Working Party on Community Health Data and Indicators’, chaired by the Danish Ministry of Health (Ministry of Health, Denmark, 1994). In this study, an inventory was made of data and indicators available at WHO-Europe, Eurostat and OECD. A first proposal was made for a set of indicators based on readily available data. Following up on this work, WHO-Europe issued the ‘International Compendium of Health Indicators’ (ICHI, WHO/European Commission, 1999). This project, supported by the EC, produced a detailed inventory of health indicators and their definitions as listed by the three international organisations, but not including recent updates by these organisations.

All of these international operations defined their health data and indicators more or less covering the same general field as indicated by Annex 2 of the HMP. They all implicitly or explicitly used the kind of conceptual view discussed above. The main classifications used by the different international organisations and by ICHI are given in *Annex 3*. Clearly, these listings, as well as the HMP Annex 2 list, are all different, but most of the differences reflect a different order, the use of different hierarchical levels for the same entities, or slight differences in definitions. In fact, the similarities are greater than they appear from *Annex 3*.

All of these developments have been taken closely into account in the present proposal, both in defining the indicator categories and in the selection and definition of the indicators themselves.

II-3.4 Coverage of Member States and Community focus of interests

Coverage of the policy priorities of both the Member States and the Commission are two of the major objectives of the future EC indicator set. It has been attempted to implement this into our choices of indicators.

Member States health policy priorities

Increasingly, EU Member States, or regions within MS, have formulated priority areas, objectives, or even targets for their health policies. Often this has coincided with the publication of national public health reports. Priority areas are usually triggered by a combination of evidence of current trends and political considerations, in any kind of mix, and are sometimes inspired by supranational targets (e.g. WHO-HFA). The report 'Health policies on target' (van de Water and van Herten, 1998) has analysed the use of (HFA) objectives and targets by 18 European countries, i.e. 12 EU Member States (excl. Luxembourg, Belgium and Greece) plus Czech Republic, Hungary, Romania, Norway, Poland and Switzerland. Of these 18 countries, 4 had not, by 1998, formulated targets (Czech Republic, Denmark, The Netherlands and Poland).

In *Annex 4*, we have compiled current priority areas and objectives of Member States, taken from policy documents and public health reports. It should be noted that these are brought together by the participants of the ECHI project from authorised sources. However, the collected information may, at the time of appearance of this report, deviate in details from official positions of Member States. In fact, it was hoped in ECHI to include a comprehensive overview of Member States' health policy priorities. This objective could not be fully realised within the available time frame. The information presently collected in *Annex 4* can serve as a first step, which may be followed up by further inventories, either focused on public health reports or on actual health policy priorities. From the TNO report mentioned above (van de Water and van Herten, 1998) and the information summarised in *Annex 4*, the following areas emerge as dominant ones that are present in many countries' priority lists:

- Increase the number of healthy years lived, by tackling the main causes of death, ill-health and functional limitations (including physical and mental health aspects).
- Reduce health inequalities, by health policies but also by social policies.
- Improve effective health promotion and disease prevention especially aiming at lifestyle and at young people.
- Improve the quality and accessibility of care, including community care.
- Improve the quality of life and participation of the elderly.

Mostly, these areas cover only a part of the full public health field and would require only part of the full indicator set. The related policy priorities have been taken on board to shape the choice of indicators in the present proposal. More specifically, indicators specified by the Member States have been taken in close consideration in formulating the final indicator set, although not all have been included. The issue of responsibilities and data/indicator use at the regional level is the subject of a specific project under the HMP (*Appendix 6*, no. 12).

Meeting the needs of Community Policies

After the Public Health mandate of the European Community was expanded by the Maastricht Treaty, Community priorities in the health area were laid down in the 'Framework for action in the field of Public Health' (European Commission, 1993). Within this framework, eight action

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programmes were proposed: (1) on AIDS and other communicable diseases, (2) on cancer, (3) on drug dependence, (4) the Health Promotion Programme, (5) *the Health Monitoring Programme (HMP)*, (6) on pollution-related diseases, (7) on the prevention of injuries and (8) on rare diseases.

In the meantime, a follow-up to the first 'Framework for action' has recently been proposed, the Programme of Community Action in the Field of Public Health (2001-2006) (European Commission, 2000; version of May 17). In this proposal, basically three priority areas of action have been defined:

1. Improving health information and knowledge;
2. Responding rapidly to health threats;
3. Addressing health determinants.

More specific objectives were mentioned under these headings as (abbreviated):

Under 'Improving ... knowledge':

- Establish Community indicators for health etc., methods for monitoring and analysis, corresponding databases.
- Improve the system for data transfer and sharing.
- Develop mechanisms for analysis and advice on health issues.
- Report on health issues.
- Consultation ... dissemination of reports and recommendations.

Under 'Responding to health threats':

- Further implement network on surveillance of communicable diseases.
- Enhance safety/quality of human blood.
- Enhance safety/quality of organs/substances of human origin.
- Develop strategies for responding to non-communicable disease health threats.
- Promote guidelines/measures on electromagnetic fields and other physical agents.

Under 'Addressing health determinants':

- Implement strategies on life-style related health determinants, integrate these in overall health promotion activities (items: tobacco, alcohol, drug dependence, nutrition, physical activity, sexual behaviour, mental health).
- Contribute to strategies/measures on socio-economic determinants.
- Contribute to strategies/measures on health determinants related to the environment.

Besides this, the issues of costs of health systems, health impact of other policies, health technology assessment and cost-effectiveness of interventions have been addressed in the proposed programme.

As another source, we have consulted the publication 'Priorities for public health action in the European Union' (Weil et al., 1999), which states the following Community priorities: Social gradients, alcohol, illicit drugs, tobacco, health surveillance, quality of health care, mental health, environment and food/nutrition.

On most of the topics mentioned, data or indicators are more or less readily available. For some, however, special efforts are needed to define suitable indicators and appropriate data collection, or they do not fit naturally into a continuous monitoring system. Such topics are:

- Inequality: to calculate inequality indicators, a database structure along SES gradients is needed as well as specific indicator definitions.
- It is difficult to define indicators for 'pollution-related diseases', since most disease caused by pollution is not specific for this pollution. To monitor main causes of pollution itself is the answer. In a few instances, outbreaks can serve as proxies.

- ‘Rare diseases’ are many, and mostly not detected by regular monitoring schemes. They should be detected by directed surveys. Disease registers are important here.
- ‘Emerging threats’ are also not easily covered by indicators, for the simple reason that they may arise as surprises, and one does not know what to look for beforehand. This could be covered by an open category, or in a different programme.
- ‘Impact of other policies’ is another difficult issue. The most appropriate place is to include items under the category ‘Living and working conditions’.

In short, most of the priority issues formulated in the EU context are specific enough to be a guide for the definition of indicators. Some are so general that rather we have checked whether the area is generally covered.

II-3.5 Scientific principles and quality aspects in the selection and definition of indicators

Quantitative criteria

In the selection of indicators within specific areas, quantitative principles such as the size of a health problem, its total costs, or the degree of preventability of the problem have served as the criteria. This particularly applies to the selection of cause-specific mortality, of disease-specific morbidity, and to the selection of indicators in the areas of health determinants, but less so in the issues under health services. It has been mentioned specifically in the indicator list if and how such criteria have been applied.

Areas of research needs

In our indicator list, we want to use data/indicators which are readily available. Some areas, however, specifically deserve R&D investments to arrive at reliable and comparable collection of data. Running the risk of excluding some, we list the following:

- Disease-specific morbidity at population level.
- Integrated measurement of generic health status (functional limitations, health-related quality of life, composite measures of health).
- Health inequalities.
- Determinants of mental health, social determinants of health.
- Increased comparability of health care data.
- Indicators of the performance of health (care) systems.

Continuity of data collection

The development of an indicator list needs underlying data collection. When the selection of indicators is both to serve policy priorities and to guide data collection development, we should be aware of the fact that the organisation of a reliable data collection infrastructure is a longer term process than the shifts in policy direction. This issue can be taken care of by choosing appropriate user-windows (see *section II-3.6 and II-5*).

Quality aspects

It is evident that in the actual operational definitions of the indicators, we should meet certain quality criteria. In the Danish Ministry of Health Study (Ministry of Health, Denmark, 1994), nine such criteria were formulated. In short, an indicator should measure what we think it

measures (validity), be sensitive to changes over time or in place, be comparable between countries or regions, to mention the three most important aspects. In developing the operational definitions of the indicators, these quality aspects addressed by the above study are a very useful checklist. In particular, considerations of statistical significance and minimal sample sizes are to be addressed. These issues become central at the stage of the definition of the operational indicators.

II-3.6 A flexible approach to the indicator set: User-windows

Basically, flexibility means that a system of data and indicators should never be fixed, and is never finished. First of all this derives from the fact that policy interests change, but also from developments in scientific knowledge and associated shifts in data collection activities. Finally, a system of data and indicators may be designed to serve a variety of different purposes.

Flexibility in relation to various users perspectives: the 'User-windows'

This chapter has considered criteria for assessing a comprehensive set of indicators. In the original text of the Health Monitoring Programme, as well as in the Danish Ministry of Health study, a distinction was made between 'core' and 'background' indicators. The former was intended as a subset including the 'most crucial' ones. Actual criteria for this subset selection were not given, however. An example from the U.S.A. is the definition of 10 'Leading Health Indicators', among the total set of a few hundred, designed for the Healthy People 2010 Strategy (Chrvala and Bulger, 1999). These leading indicators, however, more or less depict specific subareas rather than indicators.

In this proposal we have *not* selected one 'core set'. Instead, we realised that there may be many different angles or positions from which one may ask questions to a comprehensive database. In other words, different users may have different specific needs, which can be served by looking at specific subsets of the overall indicator collection. These subsets can therefore be named '*user-windows*'. This concept will add *flexibility* and *clarity of purpose* to a comprehensive indicator set. Technically, the HIEMS system should allow this sort of use, in terms of predefined 'queries'.

This novel concept of user-windows has been worked out as follows. As a basis, the overall set of indicators is (1) comprehensive in covering the whole public health field for which we need sustainable data collection, and (2) arranged according to a logical hierarchy: health status, health determinants, etc. (see *paragraph II-4*). The user-window approach now enables us to select and define any subset of indicators throughout all the categories of the hierarchical system, at our own wish. Criteria (or the specific user's perspective) for selecting user-windows could be: (i) specific areas of health policy interest (prevention oriented, services oriented, intersectoral policies); (ii) specific thematic entries such as age groups, (iii) specific disease groups with their determinants and costs, etc.

User-windows for stressing EU priorities

Fundamentally, the number of possible user-windows is countless. However, apart from stressing the flexibility of the system to create personal interest profiles, user-windows can be defined deliberately to underpin *current priorities* of, e.g., the European Community. Here we return to the original idea of the 'core indicators', being specifically relevant to EU health policy. The advantage is that selecting a limited number of indicators for a certain period of time can help

much in stressing the importance of EU policy issues and, more importantly, to prioritise efforts in improving data collection and harmonisation on these issues.

Emerging health threats

Emerging health threats are a priority in the new EU public health action programme. By definition, a monitoring system with predefined indicators and data sources is not the system of choice for alerting the unexpected. Nevertheless, when arriving at the situation that countries are indeed entering data into the system, a special chapter with free format could be created where Member States can enter new items of concern, e.g. challenges for health, prevention and health care, *with* actual data on them where appropriate. If such an item turns out to be of Europe-wide concern, it may be subsequently taken up as a defined indicator. These items could be a disease, a behavioral factor, an environmental determinant of disease, or a specific problem in prevention or health care. This could be another aspect of the flexibility of a data system.

II-4. Applying the criteria:

A proposed list of generic health indicators for the EU

II-4.1 Establishing the main indicator classes

As stated earlier, the list of items mentioned in Annex 2 of the HMP was taken as the starting point. In this ECHI report, we propose a slightly but not basically different set of main categories, based on (i) considerations of conceptual (logical) coherence, (ii) an optimal consensus among the classifications used by other international organisations (see *Annex 3*), and (iii) new developments in public health monitoring. This proposal is given in the box below. It is followed by the full list of proposed indicators, given in *Table II-4.1*.

| Main categories for the ECHI indicator set | |
|--|--|
| 1 | Demographic and socio-economic situation |
| 1.1 | Population |
| 1.2 | Socio-economic factors |
| 2 | Health status |
| 2.1 | Mortality |
| 2.2 | Morbidity, disease-specific |
| 2.3 | Generic health status |
| 2.4 | Composite health status measures |
| 3 | Determinants of health |
| 3.1 | Personal and biological factors |
| 3.2 | Health behaviours |
| 3.3 | Living and working conditions |
| 4 | Health systems |
| 4.1 | Prevention, health protection and health promotion |
| 4.2 | Health care resources |
| 4.3 | Health care utilisation |
| 4.4 | Health expenditures and financing |
| 4.5 | Health care quality/performance |

II-4.2 A proposed list of generic health indicators for the EU

Table II-4.1 gives the proposed list of EU health indicators. The indicators are ordered according to the categories given in *section II-4.1*. It should be stressed again that they have been selected with careful consideration of the criteria discussed in *Chapter II-3*.

Following the table, *section II-4.3* gives some general comments for each group of indicators, on how the criteria were applied, and why certain choices were made.

The indicators in the list are described, in most cases, as *generic indicators*. *Operational definitions* should be set up as a follow-up of this project. There is some variation: Sometimes there is hardly more than a statement that an indicator is needed in a particular area. In other cases, elements of operationalisation have been mentioned, usually referring to a specific source, project or study. Otherwise, it should be remembered that the use of databases as the basis of the

information system, as intended in HIEMS, in principle should allow for the flexible definition of other calculations than a predefined set of indicators only.

The first column in *table II-4.1* gives the names of the indicators. The second one presents a rough indication of the type of primary source from which the data for the indicator is usually or preferentially derived. A rough discrimination has been made between (i) registrations of any kind (including e.g. population registries, hospital registries) and (ii) surveys, (e.g. HIS, Health Interview Survey or HES, Health Examination Survey). The primary aim of this distinction is to clarify that data or indicators referring to a specific item or contained in one group may be derived from different types of sources. E.g., data on morbidity or medical consumption can come from hospital registries as well as from HIS.

Columns 3-5 indicate whether the indicator is mentioned in listings of WHO/HFA, OECD or the Commission (usually Eurostat). There is a difference in the sense that the Commission list shows what Eurostat is collecting as statistics, whereas the other two rather show what the organisations ask the Member States to submit to them. In a few instances a (+) is used to indicate a limited or shortly planned coverage of an indicator. As a rule we propose, for establishing the operational definitions of the indicators, to follow the existing definitions. There is a problem, however, that in quite a few instances, operational definitions used by these organisations are not identical. This is something which has to be sorted out, among others by area-specific projects under the HMP. On the other hand, one database may allow many indicators to be calculated. The real thing is the definition of the databases themselves from which, if so desired, comparable indicators can be extracted.

Columns 6-8 refer to stratification by (1) gender and age, (2) region, and (3) socio-economic status. In general, this has been indicated as '+' in all those cases where this information seems of interest and reasonably feasible to collect. There are some important issues here:

- Age: When data are represented by age groups, it is recommended that this grouping is similar for all types of data, unless good reasons suggest otherwise. For some indicators, underlying data will be present by 5-year age classes. If not, an age grouping such as: birth-5-15-45-65-75 is used quite a lot, and could be used by preference. Another crucial issue is age standardisation. This is needed to compare meaningfully between countries and represent trends. For the mortality chapter this is explicitly included by the SDR (Standardised death rate). But the same applies to comparisons of any item for which the age structure is relevant. It is recommended that the European Standard Population should be used in all cases of age standardisation.
- Region: Many data can be arranged to any geographical level desired, but not all of this is useful. Some data (mortality) have earlier been presented by NUTS levels (Nomenclature of Territorial Units for Statistics). Also, The Commission has many of its data available at regional levels. In the project on regional use of health indicators (project no. 12, see *Annex 6*) the issue is being addressed as to which particular regional level is relevant from a health policy point of view, in each Member State, for the collection and use of health data. The recommendations of this project could be followed. In a few cases (not indicated) stratification by the degree of urbanisation could be a relevant issue.
- Socio-economic status: Such information is sometimes available for mortality statistics, and often for health issues collected by population surveys. The project no. 6 on SES (*Annex 6*) has given a series of precise guidelines on how to approach this. In summary, they advise stratification of data by at least two SES criteria; mortality data preferably by educational level and occupational class, and issues of self-reported health (by HIS) preferably by educational level and income level. They also give guidelines for the preferred classification of educational (4), occupational (6) and income (5) classes. For details see section 1.2 in

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Table II-4.1. This is a very useful set of recommendations with respect to harmonisation of indicators related to health inequalities.

Column 9 is intended to give a qualitative indication of the degree to which data/indicators are regularly available, or more of a developmental nature. The four used codes are:

- ‘a’, for indicators based on data regularly available from international sources (e.g. causes of death; European Community Household Panel); the indicators are usually conceptually clear, valid and reliable; improving comparability may still be needed.
- ‘b’, for indicators based on data regularly available from national sources (e.g. national health interview surveys, hospital data); also here, the indicators are conceptually clear, valid and reliable; improving comparability between countries is usually a major issue.
- ‘c’, for indicators that have to rely on incidental national or regional sources (e.g. surveys on specific topics or target groups); these indicators may be conceptually clear, valid and reliable, but efforts have to be made to make these regularly available within Member States’ information systems; clarifying definitions and establishing comparability between countries is a major issue.
- ‘d’, for indicators or topics on which data are needed but generally not available; especially here an R&D trajectory is needed, including concept development, data collection logistics, indicator definition, etc. It is advisable to undertake such activities at the EU level.

A sharp distinction is not always possible, and classification in *Table II-4.1* may need improvement. Still, these classes represent a gradient from data/indicators which can be considered as reasonably standard, to those for which much developmental work has to be carried out on data collection, indicator definition and enhancement of data comparability.

Column 10 cites projects funded under the HMP, if present, and occasionally other ongoing activities with closely linked objectives. The HMP projects are given in *Annex. 6*.

Column 11 gives remarks, mostly concerning the operationalisation of the indicator, recommendations by the various HMP projects, etc.

In some cases an indicator could be entered under more than one heading. E.g., ‘Avoidable mortality’ fits under ‘mortality’ as well as under ‘quality of care’; ‘accidents at work’ could come under morbidity as well as under ‘working conditions’. Under ‘population’, several items are included which could just as well be arranged under social determinants, and which serve as indicators for socio-economic status (SES). For the calculation of indicators of inequality, these data have to be linked to data on mortality, disease, health behaviours etc. In these cases the most logical solution was followed. Other options can be realised by proper selection of user-windows.

last update: 23 January, 2002

Table II-4.1

Full list of ECHI indicatorsFor explanation of the columns and groups, see *sections II-4.2 and II-4.3.*

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|-------------|-------------|------|------------|--------------|--------|-------|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender /age | Region | SES | | | |
| 1.DEMOGRAPHY AND SOCIO-ECONOMIC FACTORS | | | | | | | | | | |
| 1.1 Population | | | | | | | | | | |
| • Total population | Reg. | + | + | + | + | + | below | a | | Methodological harmonisation on time of year for measurement is underway |
| • Median age of pop. | Reg. | - | - | - | gg | + | - | a | | Same |
| • % pop. under 15 | Reg. | - | + | + | gg | + | - | a | | Same |
| • % population 65 and over | Reg. | - | + | + | gg | + | - | a | | Same |
| • Live births | Reg. | + | + | + | gg | + | - | a | | By mother's age group |
| • Aged mothers; teenage mothers | Reg. | + | - | + | - | + | +? | a | | Specification of above, e.g. % live births in mothers over 35, under age ?18 |
| • Crude birth rate | Reg. | - | + | + | gg | + | - | a | | |
| • Total deaths | Reg. | + | + | + | gg | + | - | a | | |
| • Crude death rate | Reg. | - | - | + | gg | + | - | a | | |
| • Net migration | Reg. | - | - | + | gg/a | + | - | a,b | | Immigration and emigration separately |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability | HMP Proj. | Operationalisation, remarks |
|------------------------------------|---------------|-------------|---|---|--------------|---|------|--------------|-----------|--|
| • Total fertility rate | Reg. | + | + | + | - | - | - | a | | |
| • Ann. in(de-)crease % | Reg. | - | - | - | - | + | - | a | | Define: over 2, 5, or 10 yrs; calculate on preceding figures |
| • Population by region | Reg. | - | - | + | g/a | + | - | a,b | 12 | Define region level (project no 12); In Eurostat many data on regional levels (boundaries:) |
| • Population by urbanisation level | Reg. | - | - | - | g/a | - | - | a,b | | Select definition |
| • Population projections | Reg.+ calcul. | - | - | + | + | + | - | a,b | | In-(de)crease over e.g. 20, 40 years, for: total population, % under 15, % over 65 |
| 1.2 Socio-economic factors | | | | | | | | | | These items are in part considered (distal) determinants of health, related to sections 3.2 and 3.3. Extended sets of detailed data in Eurostat |
| • Education attainment | Reg., survey | + | + | + | g/a | + | - | a | 6 | No, %; 4 classes: elementary, lower secondary, upper secondary, tertiary (grouping of ISCED); these classes to be used when stratifying to SES/education; Eurostat key indicator: % of 18-24 y-old not in education and with low qualifications |
| • Education enrolment | Reg. | - | + | - | g/a | - | - | a | | No, %, 4 classes ISCED |
| • Literacy rate | Reg. | + | - | - | g/a | + | - | a | | |
| • Population by employment type | Reg., survey | - | - | + | g/a | + | n.a. | a | | ISCO classes 2-digit. Useful in a health context? |
| • Population by occupational class | Reg., survey | - | - | - | g/a | + | - | b, d | 6 | No, %; current or last occupation; 6 broad groups: upper non-manual, lower non-manual, skilled manual, unskilled manual, self employed, farmer; these classes to be used when stratifying to SES/occupation. (can be calculated based on 3-digit level of ISCO classification) |
| • Total labour force | Reg. | + | + | + | g/a | - | - | a | | |
| • Total employment | Reg., survey | - | + | + | g/a | + | + | a, b | | Eurostat: employment rate 15-64; LFS |
| • Total unemployment | Reg., survey | + | + | + | g/a | + | + | a,b | | % of population not in labour force; Eurostat: unemployed proportion in active population. Longterm: >12 mnths (for 15-24: <6 mnths); Eurostat: from LFS |
| • Population by ethnicity | Reg., survey | - | - | - | g/a | + | - | a,b | | Select definition; probably only feasible by nationality; |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability | HMP Proj. | Operationalisation, remarks |
|--|----------------|-------------|---|---|--------------|---|---|--------------|-----------|--|
| • Population by household situation | Reg., survey | - | - | + | g/a | + | - | a,b | | Eurostat: 5 categories: 1-person; lone-parent; couples with/without children; other. |
| • Population by income level; distribution of income | Reg., survey | - | + | - | g/a | + | - | a,b,c | 6 | GINI coeff.; Eurostat: % of population with income below 60% of national median (equivalised; 'poverty line'), and/or: 80/20 share ratio of total income by quintile; these quintile classes also to be used when stratifying to SES/education |
| • GDP (Gross Domestic product) | Reg. + calcul. | + | + | + | - | + | - | a | | |
| • GDP PPP (GDP Purchasing Power Parity) | Reg. + calcul. | + | + | + | - | + | - | a | | |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|---------------|-----------------------------------|-----------|---------------------|--------------|--------|------|-------------------|--|---|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 2. HEALTH STATUS | | | | | | | | | | |
| 2.1 Mortality | | | | | | | | | | |
| 2.1.1 Life expectancy and related indicators | | | | | | | | | | |
| • Life expectancy | Reg. | + | + | + | g/a | + | + | a | 6 | Birth, ages 1, 15, 45, 65, 75; gender. NB: calculations done by WHO and Eurostat give different results. Resolve! |
| • Chance of death in age intervals | Reg. | (+) | - | + | g/a | - | - | a,b | | 0-5-15-45-65-75-+ |
| 2.1.2 General mortality | | | | | | | | | | |
| • Crude death rate | Reg. | + | - | + | g/a | + | + | | 6 | For total deaths and crude rate see under 1.1 Advised for SES comparisons; use age windows |
| • Standardised death rate | Reg. | + | - | + | g/a | + | - | a | | Europ. Standard population; 0-64; 65+ |
| • Infant mortality | Reg, survey | + | + | + | g | + | + | a | | < age 1 yr; total, rate |
| • Neonatal mortality | Reg. | + | - | + | g | + | + | a | | < age 28 days; total, rate |
| • Postneonatal mortality | Reg. | + | - | + | g | + | + | a | | Age 28 days – 1 year; total, rate |
| • Perinatal mortality | Reg. | + | + | + | g | + | + | a | | Stillb. – 1 wk |
| • Inequality in deaths | Reg.+ calcul. | - | - | - | g | + | n.a. | a,b,d | 4, 6 | Rate ratios & absolute rate differences; preferably by extreme groups for education and occupational class |
| 2.1.3 Cause-specific mortality; include: - Shortlist 65 causes (see Annex 5) - Avoidable mortality (selected causes) | Reg. | 29 causes, incl. avoidable deaths | 38 causes | Shortlist 65 causes | | | | a | Project no. 4 on comparability of COD (Causes Of Death) data | We propose to select the ‘main causes of death’ as defined in the European Shortlist of 65 COD. This list includes all ICD chapters + a few main groups within these. This shortlist is also selected for applicability of regional and age/gender partitions, and for usability across ICD versions. The lists of WHO/HFA and OECD are quite close to it. Annex 5 gives the complete list and the overlap between the three. Added are certain causes of ‘avoidable mortality’ as indicators of health care quality. |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|---|----------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender /age | Region | SES | | | |
| <i>Further include:</i> - Smoking-related deaths - Alcohol-related deaths - Fatal accidents at work - Drug-related deaths | Reg.+ calcul.; | | | | | | | a,d | 1,9 | Smoking- and alcohol-related deaths to be calculated by Population-Attributable Risk (PAR) for each country. Work accidents: Eurostat and EFILWC (European Foundation for the Improvement of Living and Working Conditions). Mental health project suggests drug-related death, source EMCDDA. |
| • No. of deaths | | + | + | + | g/a | - | - | a | | |
| • Crude death rates | | + | + | + | g/a | - | + | a | 4,6 | Project no. 6: SES for large ICD groups and large single COD |
| • SDR (Standardised Death Rate) | | + | - | + | g/a | (+) | + | a | 4,6 | 0-64, 65+, all ages; European standard population |
| • PYLL (Potential Years of Life Lost) | | - | + | - | g | - | - | a,b | 4 | Remaining life expectancy in MS or > top life expectancy in EU (m 78, w 83)(note: normative choice! To be discussed); reason for inclusion: better indicator for premature death. |
| • PYLL fraction | | - | - | - | g | - | - | a,b | | PYLL cause-spec. as fraction of total PYLL |

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| Indicator (group) | Source Type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|---|--------------|-------------|------|------------|--------------|--------|-----|-------------------|---------------------|---|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 2.2 Morbidity, disease-specific | | | | | | | | | | |
| <ul style="list-style-type: none"> Incidence/prevalence of diseases; selection see below | Reg., survey | + | (+) | + | G/a | +? | +? | a,b,c,d | 2,3,5,9,13,26,27,28 | Incidence for acute, prevalence for chronic conditions, sometimes both; disease definitions like COD. Select best available data source for each disease (HMP projects! also EuroHIS) |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source Type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|---|-------------|------|------------|--------------|--------|-----|-------------------|---|-----------------------------|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| Selection of large-impact diseases/disorders | <ul style="list-style-type: none"> HIV/AIDS; incidence/prevalence (WHO, OECD, ECEMA) Tuberculosis (WHO, European network EuroTB) Sexually transmitted disease (D) All cancers; incidence (WHO, OECD, IARC) Lung etc. cancer; incidence (WHO, OECD, IARC) Breast cancer; incidence (WHO, OECD, IARC) Cervix uteri cancer; incidence (WHO, OECD, IARC) Colorectal cancer; incidence (OECD, IARC) Prostate cancer (WHO, OECD, IARC) Melanoma & other skin cancer (IARC) Diabetes; incidence/prevalence (WHO, Eurostat) (D) Dementia/Alzheimer; incidence/prevalence (Eurostat) (D) Depression; incidence/prevalence (mental health project: CIDI, year prevalence) Generalised anxiety disorder; incidence/prevalence (mental health project: CIDI, year prevalence, second choice: CID-S); attempted suicide (CIDI) (D) Alcohol-related disorders; incidence (prevalence) (WHO: psychosis; mental health project: alc. dependency, source CAGE method) (WHO) (D) Ischaemic heart disease; incidence (prevalence) (WHO) (D) Acute myocardial infarction; incidence (D) Heart failure; incidence/prevalence (D) Cerebrovascular accident; incidence (prevalence) (WHO) (D) COPD; prevalence/incidence (WHO) (D) Asthma; prevalence/incidence (D) Decayed etc. teeth; DMFT-12 index (WHO, OECD) Musculoskeletal disorders; incidence/prevalence (?) (D; specify further) Congenital anomalies; incidence (WHO, OECD, Eurostat; source Eurocat; specify) Down's syndrome; incidence (WHO, OECD; discriminate abortion vs. live birth?) Road traffic injuries; incidence (WHO, OECD) (D) Occupational injuries; incidence (WHO) (D) Home/leisure injuries; incidence (WHO, OECD) (D) | | | | | | | | <p>It is proposed to first include the 'main causes of ill-health' These 'main causes' are derived from a set of 70 based on the DALY order from the GBD study, for the 'established market economies' (see Annex 5). From these 70, a subset of 25 or so is selected for practical purposes, also covering WHO/HFA indicators (see left, arranged according to ICD).</p> <p>Disease-specific morbidity can be measured in terms of incidence (first occurrence) or as prevalence (presence at the time of measurement). In general, incidence indicators are used for diseases of shorter duration or with a clear-cut onset (infectious diseases, accidents, cancers), whereas prevalence is the preferred measure for e.g. chronic diseases. Basically, point prevalence = incidence * duration.</p> <p>Depending on the type of disease, preference will be given to either incidence data or prevalence data, but preferably both are included. The best available data should be used for each disease. This may be national population surveys, GP registries, hospital data or data derived from international networks.</p> <p>'D' means that data collection has to be developed. For most diseases only part of the EU countries have data, often from regional sources.</p> | |
| Selection of diseases related to specific determinants, prevention programmes, or to emerging threats. | <ul style="list-style-type: none"> Communicable diseases in vaccination schemes; incidence (WHO) Water- and foodborne diseases (incidence, outbreaks)(European network on Human Gastrointestinal infections?) Alcohol-related traffic accidents (injuries) Occupational disease (WHO, Eurostat) Creutzfeldt-Jacob Disease | | | | | | | | | |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source Type | Present in: | | | Stratify by: | | | Availab- ility Code | HMP Proj. | Operationalisation, remarks |
|---|-----------------|-------------|------|----------------|----------------|--------|-----|---------------------------|--------------|--|
| | | WHO | OECD | Commi- sion | Gender/ age | Region | SES | | | |
| 2.3 Generic health status | | | | | | | | | | This field is rapidly developing. Indicators proposed below are <i>not yet the preferred choice</i> . They are partly overlapping, notably the functional and activity limitations, general mental health and general quality of life. WHO-Headquarters develop ICIDH-based instrument covering these domains. We favour a conceptually integrative approach, using current experience, and not the simultaneous development of multitudes of new instruments. |
| • Perceived health | Survey | + | + | + | g/a | + | + | b | 2,3,6 | % (very) good/less than good/less than fair; use WHO recommended instrument |
| • Chronic disease general | Survey | - | - | - | g/a | + | + | b | 2,3,6 | Illness not specified; % reporting at least one chronic disease (also EUROHIS) |
| • Functional limitations | Reg., survey | + | - | + | g/a | + | + | b,d | 2,3,6 | Usually physical/sensory limitations; many instruments in use; covers ~ 'disability' as formerly used; project Euro-reves advise: make new instrument based on 13 items, covering sight, hearing, speaking, eating, aspects of mobility/agility; % with one or more limitations of a certain level. Also recommend addition of cognitive dimension later. |
| • Activities (limitations) | Survey | - | - | + | g/a | + | + | b,c | 2,3 | Basic activities for independence (feeding, dressing, bathing, etc.); only few instruments. Euro-reves: compose and validate new instrument; add instruments on household and other activities. Eurostat: give relation to chronic conditions. % with one or more restrictions of a certain level. |
| • Global activity Limitations indicator | Survey | - | - | - | g/a | + | + | d | 3 | New instrument recommended by Euro-reves: % limited in usual activities over past 6 mnths by health problem, by degree. |
| • Short-term activity restrictions | Survey | - | - | + | g/a | + | + | b | 2 | WHO recommended instrument; % incidence in short period. |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source Type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|---|-----------------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| • General mental health | Survey | - | - | - | G/a | + | + | c | 3, 9 | Euro-reves advises GHQ-12; Mental health project advises MHI-5 of SF-36, as well as energy/vitality scale and role limitation scale (emotional); % below cut-off point. |
| • General quality of life | Survey | - | - | - | G/a | + | + | c,d | 2,3,9 | Instruments should cover issues above: functional limitations, activity limitations, physical, mental health; candidates: SF-36? Euroqol? EuroHIS proposes WHOQOL (these three do not cover the same ground). WHO/HQ proposes new instrument. |
| • Absenteeism from work | Reg. | + | + | - | G/a | + | + | b,c | 9 | Comparability? Probably focus on HIS sources for best comparability (e.g. Labour Force Survey); main groups of causes: mental, musculoskeletal, infectious, other. |
| • Inequality in any above measure | Survey + calcul. | - | - | - | G/a | + | + | b,c | 6 | Rate ratios and absolute rate differences; preferably by extreme groups for education and income (occupational class); WHO/HQ: inequality to be measured as such, not with reference to any gradient. |
| 2.4 Composite health status measures | | | | | | | | | | |
| • Disability-free LE | Reg, survey + calcul | + | + | + | g (a) | - | + | b | 3,6,30 | Cf. 2.1, 2.3: use the same instruments and cut-off points; Sullivan method. |
| • Other HALEs | Reg., survey + calcul | - | - | - | g (a) | - | + | b/d | 3,6,30 | Cf. 2.1, 2.3: Euro-reves: take perceived health; ADL; mental health; global disability. WHO/HQ: DALE eventually based on general QOL instrument. We advise at most a restricted set of complementary HALEs, only if underlying HIS-instrument is harmonised. |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|-------------|-------------|------|------------|----------------------------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 3. DETERMINANTS OF HEALTH | | | | | | | | | | General criteria in this group were: (1) importance in determining a share of (ill-)health, (2) can it be influenced? (3) cost-effectiveness |
| 3.1 Personal and biological factors | | | | | | | | | | |
| 3.1.1 Biological (risk) factors | | | | | | | | | | |
| • Body mass index | Survey | + | + | + | g/a | - | + | b | 2, 16 | Average (sd) weight and height; average (sd) BMI (Body Mass Index); prevalence over 30; definition by EHRM project (no. 16) |
| • Low birth weight | Survey | + | + | - | | + | + | b,c | | Cut-off 1500 g, 2500 g. By mother's age? |
| • Blood pressure | Survey | + | - | - | g/a 25-35- 65-74 recom. | + | + | c | 16 | Average (sd) systolic, diastolic; prevalence of hypertension; prevalence of drug use in hypertensives; definition by EHRM project (no. 16) |
| • Serum cholesterol | Survey | + | - | - | g/a 25-35- 65-74 recom. | - | + | c | 16 | Average (sd) total cholesterol; prevalence over limit; prevalence of drug use in population; definition by EHRM project (no. 16) |
| • Indicators of nutritional status? | Survey | - | - | - | g/a | - | + | d | 19,29 | Items? To be defined, if considered necessary; project 19: focus on folate; iron; vitamin D; iodine; sodium |
| 3.1.2 Personal conditions | | | | | | | | | | |
| • Coping ability | Survey | - | - | - | g/a | - | - | d | | Mental health proj. advice? |
| • Sense of mastery | Survey | - | - | - | g/a | - | - | d | 9 | Five item scale; Instrument? |
| • Optimism | Survey | - | - | - | g/a | - | - | d | 9 | 'LOT-R' instrument (10 items) |
| • Knowledge and attitudes on health | Survey | - | - | - | g/a | - | - | d | | To be specified; (concise) questionnaires available or feasible? |
| 3.2 Health behaviours | | | | | | | | | | |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|--------------|-------------|------|------------|--------------|--------|-----|-------------------|--------------|---|
| | | WHO | OECD | Commission | Gender /age | Region | SES | | | |
| 3.2.1 Substance use | | | | | | | | | | |
| • Smoking prevalence | Survey | + | - | + | g/a | + | + | b | 2, 16 | % regular smokers |
| • Smoking pregnant women | Survey | - | - | - | a | - | + | b,c | | % regular smokers |
| • Former smoking | Survey | - | - | - | g/a | - | + | b | 2, 16 | % quitting in period (ever) |
| • Amount smoked (cigarettes) | Reg., survey | + | + | + | - | - | - | a,b | | Ave. no. cig/person/year |
| • Alcohol: non-drinkers | Survey | + | - | + | g/a | - | + | b | 1, 2 | % of population |
| • Alcohol use (patterns) | Survey | - | - | (+) | g/a | - | + | b | 1, 2 | Regular/binge, comparable patterns? HIS project asks for frequency per week/month. EuroHIS. |
| • Total alc. consumption | Reg. | + | + | - | - | - | - | a,b,c | | Litre pure alc / person/year |
| • (Il)licit drug use | Survey, reg. | - | - | + | g/a | + | + | a,b,c | EMCD DA | Illicit (+ problem licit) drugs; Eurostat/emcdda: lifetime prevalence for cannabis, cocaine, amphetamine, ecstasy, other illicit. Better also include month/year prevalence. Data from surveys/ Problem drug use estimated separately from other data sources. |
| • Alcohol-related traffic accidents | Reg. | + | - | - | - | - | - | a,b | 1 | No, % of accidents. WHO definition |
| 3.2.2 Nutrition | | | | | | | | | 11,20, 29,31 | Recommendations from projects nos. 11(Dafne), 20 (EFCOSUM), Eurodiet and ref. (French presidency) taken into account (all preliminary); for individual survey 24h recall advised as first choice; other methods (incl. household budget) useful. Feasible to compare with recommended intake? |
| • Energy from food | Reg., survey | + | + | + | - | - | - | a | 11, 20 | Cal/person/day; traditionally from FAO; if possible complement with indiv. Survey |
| • % energy from total fat | Reg., survey | + | - | + | - | - | - | a | 11, 20 | Traditionally from FAO; if possible complement with indiv. Survey |
| • % energy from SAFA (saturated fatty acids) | Reg., survey | - | - | - | - | - | - | a | 11, 20 | Traditionally from FAO; if possible complement with indiv. Survey |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|--------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender /age | Region | SES | | | |
| • % energy from protein | Reg., survey | + | - | + | - | - | - | a | 11, 20 | Traditionally from FAO; if possible complement with indiv. Survey; not recommended by project 20. |
| • Consumption of bread/cereals | Survey | + | - | (+) | g/a | + | + | b,c | 11, 20 | Kg/person/day; preferably from individual (simple) survey |
| • Consumption of fruit excl. juice | Survey | + | + | (+) | g/a | + | + | b,c | 11, 20 | Kg/person/day; preferably from individual (simple) survey |
| • Consumption of vegetables ex. Potatoes | Survey | + | + | (+) | g/a | + | + | b,c | 11, 20 | Kg/person/day; preferably from individual (simple) survey |
| • Consumption of fish | Survey | - | - | - | g/a | + | + | b,c | 11, 20 | Kg/person/day; preferably from individual (simple) survey |
| • Consumption of calcium; other micronutrients by biomarker approach | Survey | - | - | - | g/a | + | + | d | 11, 20 | Kg/person/day; to be calculated from complete individual food survey; supplemented by HES biomarker determination |
| • Breastfeeding | Survey | + | - | - | a | + | + | b,c | 31 | Cut-off age 3 months? |
| • Consumption of contaminants | Survey | - | - | - | | | | d | ECEH | Food sample surveys? Relate to thresholds. Select contaminants |
| 3.2.3 Other health-related behaviours | | | | | | | | | | |
| • Physical activity | Survey | - | - | + | g/a | + | + | b | 2 | Definition? HIS project: active leisure time activities; work up sweat > 3 days/week; EuroHIS and project no.2: IPAQ (international physical activity questionnaire) or other instruments. |
| • Sexual behaviour | Survey | - | - | + | g/a | + | + | b,c | | Eurostat: ave. no. of partners; condom use never; other contraceptive use; ave. age first intercourse; ave. freq. /week |
| • Induced abortions | Reg., | - | - | + | + | +? | +? | b | 23 | Legal abortions, no., rates per 1000 live births; by mother's age (>35, <19) |
| • Traffic behaviour | Survey | - | - | - | g/a | + | + | c,d | | Seat belt use? Helmet use? |
| • Other health promotion behaviours? | | | | | | | | | | Items? Attempted suicide suggested |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|--------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|---|
| | | WHO | OECD | Commission | Gender /age | Region | SES | | | |
| 3.3 Living and working conditions | | | | | | | | | | |
| 3.3.1 Physical environment | | | | | | | | | | Most items according to core environmental health indicators of WHO/ECEH (European Centre of Environment and Health); precise indicator definitions are given. Not all core indicators recommended by ECEH are proposed here. |
| • Outdoor air | Reg., survey | + | + | + | - | + | - | b,c | ECEH | Weighted exceedance of reference values for NO ₂ , PM ₁₀ (particles under 10 micrometer), SO ₂ , O ₃ ; only local/regional use! Second choice: annual emissions of SO ₂ , PM ₁₀ , NO _x , VOC (volatile organic chemicals) (national level) |
| • Housing | Reg., survey | + | - | + | - | + | - | a,b | ECEH | No persons/ room (WHO) or floor area/person (WHO, ECEH)? |
| • Drinking water supply | Reg. | + | - | + | - | + | - | b,c | ECEH | % population on piped water |
| • Sewage system | Reg. | + | - | + | - | + | - | b,c | ECEH | % population connected to adequate excreta disposal; % of waste water adequately treated |
| • Ionising radiation | Survey | - | - | - | - | + | - | b,c | ECEH | % population receiving cumulative dose > 5 mSv/year; indicator constructed from measurements and modelling. |
| • Noise | Survey | - | - | + | g/a | + | + | b,c | ECEH | % of people annoyed; ECEH advises 6 main sources of noise; harmonisation in progress |
| • Other? | | | | | | | | d | ECEH | Suggestions: Indoor air; items from healthy Cities initiatives? |
| • | | | | | | | | | | |
| 3.3.2 Working conditions | | | | | | | | | | Employment and occupation: see under 1.2; data at EFILWC (European Foundation for the Improvement of Living and Working Conditions) |
| • Physical workplace exposures | Survey | - | - | - | g/a | - | - | b,c | EFILWC | Vibrations, noise, bad temperatures, chemicals |
| • Mental workplace exposures, complaints | Survey | - | - | - | g/a | - | - | b,c | EFILWC | Tight time constraints, violence, stress, monotony, general satisfaction |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|---|--------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| • Accidents related to work; see also 2.2 | Reg. | - | - | + | g/a | - | - | a,b,c | | Incidence, deaths; Eurostat: incidence per 100.000 employed, ages; including fatal accidents by 9 branches. In development (a.o. Labour Force Survey); also data in EFILWC |
| • Occupational diseases; see also 2.2 | Reg. | + | - | + | - | - | - | b,c | | Eurostat: 9 classes of diseases; also data in EFILWC |
| 3.3.3 Social/cultural environment | | | | | | | | | | |
| • Social support | Survey | - | - | - | g/a | - | + | b,c | 9 | For education, income, household situation, ethnicity, see section 1.2 Social support (Oslo scale), poor, moderate, strong. |
| • Social isolation/networks | Survey | - | - | + | g/a | - | + | a-d | 9 | Mental health project: 4 item scale on isolation; ECHP: Contact with neighbours/others; participation in activities/associations |
| • Life events | Survey | - | - | - | g/a | - | + | c,d | 9 | Short list of life-threatening events: prevalence >1 event over last 6 mnths |
| • Violence | Survey, reg. | - | - | + | g/a | + | + | b,c | | Survey: % people exper. violence of specific kinds. Police reports: reported incidents. |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

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|--|--------------|-------------|------|------------|--------------|--------|-----|--|---|---|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 4. HEALTH SYSTEMS | | | | | | | | | | |
| 4.1 Prevention, health protection, health promotion | | | | | | | | 19 | Items in this section are collected from various sources. Project no. 19 (assessment of health interventions) is compiling a list of proven preventive interventions. From this a selection will be made, based on e.g. impact and degree of provenness, to update the listing below. | |
| 4.1.1 Disease prevention | | | | | | | | This group covered extensively by EuroHIS. | | |
| • Vaccination coverage | Reg. | + | - | + | g | + | + | a,b | % children immunised against diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, tbc, hepatitis, hemophilus; a.o. Eurosurveillance; also coverage influenza vaccination by age? | |
| • Breast cancer screening coverage | Reg., survey | - | - | + | a | + | + | b | | |
| • Cervix cancer screening coverage | Reg., survey | - | - | + | a | + | + | b | | |
| • Hypertension/cholesterol screening coverage | Reg., survey | - | - | - | g/a | + | + | c | 16 | Population prevalence of blood pressure/cholesterol measurement |
| • Prenatal screening coverage | Reg. | - | - | - | a | + | + | c | By age of mother | |
| • Neonatal screening coverage | Reg. | - | - | - | a | + | + | c | By age of mother; PKU, other | |
| • General preventive examination | Survey | - | - | + | g/a | - | - | d | Eurostat: 10 items; + 6 in women | |
| • Integral children's health monitoring | Reg. | - | - | +? | g/a | + | + | d | % of children visiting health centres within age range (?) | |
| 4.1.2 Health promotion | | | | | | | | | | |
| ? | | | | | | | | | | |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|-------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|---|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| <ul style="list-style-type: none"> Health behaviour campaigns: smoking, alcohol, diet, safe sex, drug use, sunlight exposure, physical activity, etc. | | - | - | - | | + | | d | | No of campaigns in given year; specify by medium; no of hours of physical training in primary schools? other? |
| <ul style="list-style-type: none"> Mental health promotion | | - | - | - | | | | d | 9 | Mental health project: supporting parental skills |
| 4.1.3 Health protection | ? | | | | | | | | | Information collected by Sanco on national and EU actions; this is the area to cover 'health in other policies' |
| <ul style="list-style-type: none"> Regulations on public smoking | | - | - | - | | + | | c | ECEH | Smoking restrictions in 9 types of buildings or situations; ECEH definition |
| <ul style="list-style-type: none"> Advertisement restrictions | | - | - | - | | + | | c | ECEH | Advertisement restrictions in which media? ECEH definition |
| <ul style="list-style-type: none"> Average price of cigarettes | | - | + | - | | + | | b | | Price per package of (no.) cigarettes and of tobacco; other? |
| <ul style="list-style-type: none"> Regulations on alcohol and car-driving | | - | - | - | | + | | b | | Allowed limit of alcohol blood level |
| <ul style="list-style-type: none"> Regulations on seat belts, cycle helmets | | - | - | - | | + | | b | | Obligation for seat belts in front/back, helmets for big/small motor cycles, bicycles |
| <ul style="list-style-type: none"> Regulations on food safety/quality | | - | - | - | | | | a,b | ECEH | Feasible indicator? Many regulations at EU level |
| <ul style="list-style-type: none"> Regulations on air/water quality | | - | - | - | | | | b | | |
| 4.2 Health care resources | | | | | | | | | | Existing HFA21 and OECD listing followed closely; adapt following HMP projects and development of SHA (System of Health Accounts) by Eurostat/OECD. |
| 4.2.1 Facilities | Reg. | | | | | | | | 25 | |
| <ul style="list-style-type: none"> Total hospital beds | | + | + | + | | + | | b | | Number, per 100.000 population |
| <ul style="list-style-type: none"> Acute care hospital beds | | + | + | - | | + | | b | | Number, per 100.000 population |
| <ul style="list-style-type: none"> Hospital beds private in-patient | | + | + | - | | + | | b | | Number, % of total; per 100.000 population; share public/private is problem in changing systems; solution from OECD? Deleted in OECD 2001 list |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|------------------------------------|-------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| • Psychiatric care beds | | + | + | + | | + | | b | | Number, per 100.000 population |
| • Nursing/elderly home care beds | | + | + | - | | + | | b | | Number, per 100.000 population |
| 4.2.2 Manpower | | | | | | | | | 24, 25 | Not only no. of persons is relevant, also working time. This may be best approached by fte. |
| • Health services employment | Reg. | - | + | + | g | + | | b | | No of persons (fte?); per 1000 population; % of total employment; total, hospital only; Eurostat: persons |
| • Physicians employed | Reg. | + | + | + | g/a | + | | b | | No. of persons (fte?); per 100.000 population; differentiate by category, at least GP/specialist; by workplace. Eurostat: 23 specialties |
| • Nurses employed | Reg. | + | + | + | g/a | + | | b | | No. of persons (fte?); per 100.000 population; Eurostat: nurses and midwives together |
| • Midwives employed | Reg. | + | - | + | g | + | | b | | No. of persons (fte?); per 100.000 population |
| • Dentists employed | Reg. | + | + | + | g | + | | b | | No. of persons (fte?); per 100.000 population |
| • Pharmacists employed | Reg. | + | + | + | g | + | | b | | No. of persons (fte?); per 100.000 population |
| • Paramedical professions | Reg. | - | - | - | g | + | | b | | No. of persons (fte?); per 100.000 population; define by specialty |
| • Hospital staff ratio: acute care | Reg. | + | + | - | | + | | b | | Hospital staff/no. of beds |
| • Nurses staff ratio: acute care | Reg. | + | + | - | | + | | b | | Nurses staff/no. of beds |
| 4.2.3 Education | | | | | | | | | | |
| • No. physicians graduated | Reg. | + | + | - | g | | | b | | No. of persons, per 100.000 population |
| • No. nurses & midwives graduated | | + | + | - | g | | | b | | No. of persons, per 100.000 population |
| • No. pharmacists graduated | | + | + | - | g | | | b | | No. of persons, per 100.000 population |
| • No. dentists graduated | | + | + | - | g | | | b | | No. of persons, per 100.000 population |
| 4.2.4 Technology | | | | | | | | | | |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availab ility Code | HMP Proj. | Operationalisation, remarks |
|---|-----------------|-------------|------|----------------|----------------|--------|-----|--------------------------|--------------|--|
| | | WHO | OECD | Commi ssion | Gender/ age | Region | SES | | | |
| • No. of units | Reg. | - | + | + | | | | a,b | | 6 items named by Eurostat/OECD: Computed tomography scanners, MRI units, Radiation therapy units, Lithotriptors, Haemodialysis stations, Mammographs. |
| 4.3 Health care utilisation | | | | | | | | | | |
| 4.3.1 In-patient care | | | | | | | | | | |
| 25 | | | | | | | | | | |
| • Beddays, in-patient care | Reg., survey | - | + | - | ? | + | | b | | Per 100.000 population |
| • Beddays, acute care | Reg. | - | + | - | ? | + | | b | | Per 100.000 population |
| • Occupancy rate, in-patient care | Reg. | - | + | - | | + | | b | | |
| • Occupancy rate, acute care | Reg. | + | + | - | | + | | b | | |
| • ALOS in-patient | Reg. | + | + | - | | + | | b | | |
| • ALOS acute, for a few key diagnostic groups | Reg. | + | + | - | | + | | b | | If extended to diagnostic groups, coordinate with disease definitions in 2.1 and 2.2; dilemma: ICD versus DRG |
| • Discharges total | Reg. | - | + | - | g/a | + | | b | | Total, per 100.000 population; if by gender/age, also standardised |
| • Discharges, by disease group | Reg. | (+) | + | + | g/a | | | b | | Total, per 100.000 population; if by gender/age, also standardised; coordinate with disease definitions in 2.1 and 2.2; dilemma: ICD versus DRG |
| 4.3.2 Out-patient care | | | | | | | | | | |
| • Out-patient contacts | Reg., survey | + | + | + | g/a | + | | b | 2,9 | Total, per 100.000 population; if possible by GP/specialist/dentist/ mental health services/other; HIS project: GP, dentist, specialist, physiotherapist, alternative pract., maternal/child care, mental health; treatment for drug problems. |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

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|---|--------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 4.3.3 Surgical operations and procedures | Reg., survey | + | + | (+) | g/a | + | | b | 25 | Selection below is a limited subset from OECD; criteria? Representative for technical progress or regional medical habits, or performance of health system; no. per 100.000 population |
| • Total surgical in-patients; total surgical daycases | | | | | | | | | | New in OECD 2001; invasive surgery public + private; excl. accident emergency surgery and endoscopies. |
| • CABG (Coronary Artery Bypass Graft) | | | | | | | | | | |
| • PTCA (Percutaneous Transluminal Coronary Angioplasty) | | | | | | | | | | |
| • Hip replacement | | | | | | | | | | |
| • Knee replacement | | | | | | | | | | |
| • Cataract operation | | | | | | | | | | |
| • Caesarean section | | | | + | | | | a,b | | No. per 1000 live births |
| • Others considered important? | | | | | | | | d | | Suggested: new mini-invasive surgeries/endoscopies; transplantations; also: certain 'low-tech' revalidation technologies; only effective procedures to be selected |
| 4.3.4 Medicines, medical aids | | | | | | | | | | |
| • Medicine use total | Survey | - | + | + | g/a | + | + | b | 2 | Proportion of population; Eurostat: ave. no. of packages/prescriptions per person (definition problem); HIS project: no. people using prescription/non-prescr. Drugs |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|-------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| <ul style="list-style-type: none"> • Medicine use, specifics: <ul style="list-style-type: none"> • Peptic ulcer • Diabetes • Cholest-/triglyc. reducers • Cardiac glycosides • Anti-arrhythmics • Diuretics • Beta blocking agents • Antibacterials systemic • Analgesics • Benzodiazepines • Psychoanaleptics • Anti-asthmatics | Reg. | - | + | - | | + | | b | 9 | <p>Selection of largest volume groups and diversity of use; suggested list made from actual completion of OECD database; mental health: use (sales) of psychotropic drugs.</p> <p>Option: more explicitly include registry-based and HIS-based data; HIS would focus on diseases as well as on preventive medicine use such as anti-hypertensives, cholesterol lowering medication, aspirin and hormone replacement drugs (EuroHIS and project no. 16 on HES).</p> <p>Mental health project (6): take psycholeptics as broader than benzodiazepines.</p> |
| <ul style="list-style-type: none"> • Medical aids use | Reg, survey | - | - | - | g/a | + | | b | 2 | Proportion of population; possibly specify a few items. HIS project (no. 2): general question. |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

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|---|--------------|-------------|------|------------|--------------|--------|-----|-------------------|--|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 4.4 Health expenditures and financing | | | | | | | | | In this section, the core indicator list of OECD is mainly followed; expenditures/cost by age/gender is added; otherwise follow development of SHA (partition by function, provider, and funds source) | |
| 4.4.1 Health care system | | | | | | | | | | |
| • Key indicator(s) for structure of the national system | Reg., +? | - | - | - | | | | | 7 | To be proposed by Eucomp project; items from Eurostat Health 2000 annex 1? Public/private mix? |
| • Insurance coverage | Rge., survey | - | + | - | g/a | + | + | b | | |
| • Distribution of household expenditure on health | Survey | - | - | - | | | + | b | 2 | Operationalisation WHO/HQ? Included in HIS project |
| 4.4.2 National expenditure on health | | | | | | | | | | |
| • Total/public/private expenditure on health | Reg. | + | + | + | | | | a,b | | Total; PPP\$ per capita; % of GNP/GDP |
| • Total/public/private expenditure on personal health | Reg. | + | + | - | | | | a,b | | Total; PPP\$ per capita; % of total expenditure |
| • Total/public/private expenditure on collective health | Reg. | + | + | - | | | | a,b | | Total; PPP\$ per capita; % of total expenditure |
| 4.4.3 Expenditure on medical services | | | | | | | | | | |
| • Exp. on in-patient care (total/publ/priv) | Reg. | + | + | + | | | | a,b | | % of total expenditure |
| • Exp. on out-patient care (total/publ/priv) | Reg. | + | + | + | | | | a,b | | % of total expenditure |

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| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|--|-------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| • Exp. on ancillary services (total/publ/priv) | Reg. | - | + | - | | | | a,b | | % of total expenditure |
| • Exp. on home care services (total/publ/priv) | Reg. | - | + | - | | | | a,b | | % of total expenditure |
| 4.4.4 Medical goods dispensed to out-patients | | | | | | | | | | |
| • Expenditure on pharmaceuticals and other medical non-durables (total/publ/priv) | Reg. | + | + | + | | | | a,b | | % of total expenditures; PPP\$ per capita |
| • Expenditure on medical appliances and other durables (total/publ/priv) | Reg. | - | + | - | | | | a,b | | % of total expenditures; PPP\$ per capita |
| 4.4.5 Total health expenditure by age group | | | | | | | | | | |
| | Survey/reg. | | | | | | | | | May be a problem in many countries; dropped by OECD in 2001 list |
| • % exp. 0-64 (m/f) | | - | - | - | g/a | | | d | | Calculated from several sources |
| • % exp. 65-74 (m/f) | | - | - | - | g/a | | | d | | Calculated from several sources |
| • % exp. 75+ (m/f) | | - | - | - | g/a | | | d | | Calculated from several sources |
| 4.4.6 Health expenditure by fund source | | | | | | | | | | |
| • divided by: government, social security, out-of-pocket, private insurance, other | Reg. | - | + | - | | | | b | | Follow OECD SHA |

DESIGN FOR A SET OF COMMUNITY HEALTH INDICATORS

| Indicator (group) | Source type | Present in: | | | Stratify by: | | | Availability Code | HMP Proj. | Operationalisation, remarks |
|---|--------------|-------------|------|------------|--------------|--------|-----|-------------------|---|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| 4.5 Health care quality/performance | | | | | | | | | In this area, an expert project to define feasible and useful indicators is needed; some suggestions made by OECD (2000b) | |
| 4.5.1 Subjective indicators | | | | | | | | | | |
| • Perception of the health system | Survey | - | - | + | g/a | + | + | a, c | | % of population satisfied etc.; work out with WHR-2000; OECD (ref) |
| • Complaints | Reg., survey | - | - | - | | | | | | Useful indicator? |
| 4.5.2 Health care process indicators | | | | | | | | | 25 | |
| • Autopsy rate | Reg. | + | - | - | g/a | + | | b | 4 | % of deaths |
| • Waiting lists/times | Reg. | - | - | - | | + | | b,c,d | | Average waiting times, to be specified by services (OECD for details) |
| • No. of inappropriate interventions/surg. | Reg. | - | - | - | | | | b,c,d | | Can a shortlist be agreed? UK has examples |
| • Variations in no. of specific interventions/surg. | Reg., survey | - | - | - | | + | | b,c,d | | Can a shortlist be agreed? Select a few with large variation within or between countries |
| • 28-day emergency readmission rate | Reg. | - | - | - | g/a | | | c | | Used in UK; for specific diseases |
| • Quality of blood products, amount of blood transfused | Reg. | + | - | - | | | | b,c | | Amounts per population; indicator for quality? |
| 4.5.3 Health outcomes | | | | | | | | | 25 | |
| • Avoidable causes of death; see 2.1 | Reg. | - | - | - | g/a | + | | a,b | | Select a shortlist; use earlier studies; maternal, perinatal mortality; maternal deaths? |
| • Iatrogenic disease/death | Reg. | - | + | - | g/a | | | a,b,c | | Define inclusion criteria (OECD for details) |
| • 30 days in-hospital mortality | Reg. | - | - | - | g/a | + | | b,c | | Specified for certain conditions |
| • Surgical wound infection | Reg. | + | - | - | | | | b,c | | Incidence; European HELIX project |

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|--|-------------|-------------|------|------------|--------------|--------|-----|-------------------|-----------|--|
| | | WHO | OECD | Commission | Gender/age | Region | SES | | | |
| <ul style="list-style-type: none"> Incidence of end-stage renal failure in diabetes | Reg. | + | - | - | g/a | | | b,c | | Or broader spectrum of diabetic complications? |
| <ul style="list-style-type: none"> Nosocomial infections | Reg. | - | - | - | g/a + | | | b,c | | |
| <ul style="list-style-type: none"> Antibiotic resistance | Reg. | - | - | - | | | | b,c | | No of cases per population; probably based on laboratory tests; EARSS project; priority on Streptococcus pn. and Staphylococcus aur. |
| <ul style="list-style-type: none"> Cancer survival rates | Reg. | - | - | + | g/a | | | a,b,c | | Calculate from various sources; Eurostat: incidental study; Eurocare/IARC |

II-4.3 Remarks to the selection of indicators, by class and main group

This paragraph explains some general comments for each class of indicators.

Class 1. Demography and Socio-economic situation

These indicators give a general picture of the situation in a country or region, with respect to issues relevant for health. The population data, apart from their own value, provide the denominator for calculating many other indicators, either as overall numbers or stratified by gender, age, or region.

An area of special attention is the comparison of all age-structured indicators between populations having different age structures. In mortality data, the common practice is to calculate the SDR (standardised death rate), using a standard population structure. Basically, this would apply to all indicators for which age-specific data are available and for which we want to calculate overall rates. It is recommended to use the European Standard Population in these cases.

The selection of socio-economic factors is intended to present a restricted set of the most relevant items, in relation to health, from more extended data collection in the economic and social areas by Eurostat and OECD. They may be called 'distal' determinants of health (cf. *section 3.3* in the table), but have been grouped here as 'background information'. Some of them are used to stratify other indicators according to socio-economic status (primarily education, occupational class and income).

Class 2. Health Status

This section contains indicators on various aspects of the actual health situation of the population. Within the class, we discriminate (1.1) all indicators derived from mortality data; (1.2) indicators covering morbidity in disease-specific terms; (1.3) indicators addressing morbidity or health status in more generic, subjective or functional terms; and (1.4) the composite indicators which are calculated from mortality as well as morbidity data. In this context we have not used the term 'Health outcomes'. We prefer to reserve this term for situations where a specific health result can be linked with some certainty to an intervention.

Indicators have been selected largely according to current practice. A special point of interest is in the causes of death and the disease-specific morbidity indicators: which ones to select? Here the first criterion has been their 'size', i.e. their share of the total burden of ill-health. Additional causes have been added because of their association with known risk factors (determinants of health) or to identified activities in prevention and health care (e.g. occupational disease, avoidable mortality).

Mortality

With respect to the causes of death, it is proposed to use the European shortlist of 65 causes. This list includes all ICD chapters plus a number of major groups within these. *Annex 5* gives the

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comparison of this shortlist with the WHO and OECD indicator listings on causes of death. The overlap between the three can be a pragmatic minimum.

Morbidity, disease-specific

With respect to disease-specific morbidity, the size of the population impact was again taken as the primary criterion. As a starting point for this, we took the DALY concept, as presented in the 'Global Burden of Disease' study by Murray and Lopez (1996). DALY's are a composite measure calculated by adding up, for specific diseases/disorders, the mortality in terms of causes of years of life lost (YLL) and the morbidity in terms of Years Lived with Disability (YLD). In the latter, the frequency as well as the severity of the disease has been included. *Annex 5* gives a 'top-70' list of disease categories, as derived for the 'Established Market Economies'. For most of these, accurate comparable data on their population occurrence are not available. To be practical, we propose to start with a smaller set (*table II-4.1*). This selection is taken from *Annex 5*, and at the same time covers the diseases included in the WHO-HFA21 indicators. It is arranged according to ICD chapters. This is done so that the disease definitions coincide with the selected causes of death (see above) as much as possible.

Generic health status

This section includes indicators based on the measurement of health status in a generic, i.e. non-disease-specific way (not to be confused with 'generic indicator' which refers to its lack of precise operationalisation). This includes measures of perceived health and of health-related quality of life, often expressed in functional terms. For the latter, the ICIDH (International Classification of Impairments, Disabilities and Handicaps) provides a useful framework for addressing the different domains of health, as well as the 'consequences of disease' (the disablement process). A related approach is to categorise functional health in terms of the 'physical', 'mental' and 'social' dimensions. Measurement instruments may address each of these health dimensions separately, or may cover all dimensions. Among these general 'health-related quality of life' instruments are the SF-36 and Euroqol-5D questionnaires. Much discussion is presently going on about selecting and harmonising the appropriate instruments, mostly for use in HIS (Health Interview Surveys).

Composite measures of health status

These indicators are constructed as combinations of mortality data, on the one hand, and data on morbidity or generic health status measures, on the other. They are especially helpful in comparing countries or population subgroups, or in comparing the relative impacts of specific diseases in one or more specific areas. Basically, there are two types: (1) Health-expectancies (HEs; life-table based), and DALY-type (based on absolute numbers). Historically, HEs use generic health status measures whereas DALYs use disease-specific information and weighting factors (see above), but mixed forms have been realized. These are known as 'Health-adjusted life expectancies' (HALE), or 'Disability-adjusted life expectancies' (DALE).

It is proposed here to select a few Health Expectancy variants, including both the most commonly used ones and a few that need more developmental work. This should be worked out in parallel with work on the generic measures on which the HEs are based. DALE as used in the World Health Report (WHO, 2000), is one of these tracks of development. When based on occurrences of specific diseases, this particular approach may be too much hampered nowadays by the

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inaccuracies in underlying epidemiological data, to enable comparisons within the group of relatively similar EU countries.

Class 3. Determinants of health

This group of indicators involves basically everything which determines health and disease. It includes 'personal and biological factors', 'health behaviours', and 'living and working conditions'. Although activities in prevention and health care are also expected and intended to influence health, these are taken separately under the Class 'Health systems'.

Analogous to the selection of causes of death and disease-specific morbidity, a quantitative criterion is considered, when possible, in selecting specific indicators, i.e. (1) the importance of a factor in determining a substantial share of (ill-) health, (2) the degree to which it can be influenced, and (3) the cost-effectiveness of the interventions involved.

Personal and biological factors

This category is not present as such in many other indicator listings. It should cover personal characteristics, either hereditary or acquired in the course of life, that are known as 'risk factors' or, conversely, as 'protecting factors' for developing a disease or disorder. In other words, these factors may determine degrees of sensitivity for the development of disease or ill-health, without by themselves being a disease. Examples are: body mass index, blood pressure (although the extreme, hypertension, is considered a disorder), immune status, and in the mental health area, coping ability. These factors can be influenced by *disease prevention* programmes, including screening and subsequent intervention. Although conceptually one can think of a wide range of factors, only a few remain, for which there is good knowledge of their impact on health and a fair availability of data.

Hereditary characteristics belong to this category. Apart from a few agreed issues covered under 'prevention' (screening for PKU) there is a range of possibilities for data collection but a lot of debate about the use of it. Therefore these are not included in the list.

Health behaviours

This section, often called 'lifestyle factors', should include behavioural factors, which have been proven to be clearly associated with, or causally linked to, specific diseases and health problems. Behavioral factors are to a large extent defined by personal choices, and potentially influenced by *health promotion and/or information/education*. Most of these choices (e.g. food selection, physical exercise) may have adverse as well as positive effects on health. Intermediary to actual behaviour, knowledge and attitudes towards health are important in developing policies. Indicators on these may be developed. They are grouped under 'personal factors'.

Living and working conditions

This group is taken to include conditions (exposures) in the physical, chemical, biological and social environment that are known to be associated with or causally related to specific health risks. The distinction is made between the 'physical environment' (general living conditions, outside environment), 'working conditions', and the 'social environment'. Generally speaking,

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this class of determinants can be influenced by *health protection policies* and *policies in other sectors*.

For the physical environment, large lists of indicators have been devised, many of which have only supposed or limited relations with health. In the present selection, we have attempted to focus on a limited number for which the relation with health is relatively clear and substantial. Much use is made of the 'Core list of Environment and Health Indicators', proposed by the WHO European Center for Environment and Health (ECEH).

Under 'working conditions' and 'social conditions', several items are derived from Eurostat listings and from work done by the European Foundation for the Improvement of Living and Working Conditions in Dublin. They include socio-economic variables such as employment status, social networks, and schooling levels. Again, they are selected as having a clear-cut relation to health.

Some of these factors explicitly serve as indicators for socio-economic status (SES): employment, educational level, possibly family structure and income level. Apart from their value as such, they also serve to stratify a range of other data/indicators by SES. The HMP project on SES has made specific recommendations to stratify by education (4 classes), occupational class (6 classes) and/or income (see otherwise section 1.2 in *Table II-4.1*). This implies the collection of data on aspects of e.g. health status and health behaviours *in connection* with those SES data.

Class 4. Health systems

Here we intend to include indicators covering activities in disease prevention and health promotion as well as aspects of the health care system. We have identified one group relating to prevention-related activities, and four groups relating to the health care system in the broad sense.

Within the sections on the *health care services*, we have followed rather closely the categories currently listed by WHO/HFA21 and OECD. This implies that we have included an array of indicators which are of interest from various perspectives, including public health as well as employment and financial issues. The recently developed 'System of Health Accounts' (OECD, 2000a) is envisaged as a major guideline here, but has not yet been assimilated in the present report in detail.

In the further development and use of these groups of indicators, we might want to focus on specific purposes of their use, e.g. from the patient's point of view in terms of accessibility and responsiveness of the services, or from the medical point of view in terms of effectiveness and efficiency of interventions. We intend to use the concept of user-windows (see *paragraph II-5*) to make these approaches explicit.

Prevention, health protection and health promotion

This group has been included as a separate category to stress its importance from a public health point of view. In other classifications, indicators of this sort are dispersed under other headings. Generally speaking, this section should include measures for the existence and extent of disease- or risk factor-specific prevention programmes and for the frequency and effectiveness of their uptake.

We subdivide the group into three subgroups. Under 'disease prevention' we include indicators showing specific activities such as vaccination and screening programmes. In the area of 'health promotion' we envisage indicators on the existence of programmes covering health attitudes and

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behaviours. Finally, we see the 'health protection' group as including e.g. legislation or regulations aimed at prevention of population exposure to adverse factors. One could think of a host of regulations in the areas of building construction, work environment, food safety, advertisement control, taxes on tobacco, traffic safety, emission control etc. It is also clear that many of these regulations are already in force at the EU level. Evidently this is a difficult area for identifying workable quantitative indicators, and very much a development area. In further work, the evidence for the effectiveness of interventions should be a major criterion. At present, part of the designation of indicators is referring to areas for development rather than to established indicators.

Health care resources

For this section, the HFA21 and OECD listings has been followed closely. Precise definitions may differ, however. This has to be resolved.

Health care utilisation

In this section, the WHO/HFA list has been followed (except admissions) with a few extensions, derived from OECD: discharges and medicine use. Discharges are taken as the best indicator to cover disease-specific hospital use, rather from the public health point of view than from the health care production point of view. Medicine use (and perhaps where feasible: medical aids) is included as a policy-sensitive issue for cost-increase arguments as well as for its possible effect of replacing parts of in-patient health care needs. Also here, WHO and OECD definitions should be closely considered. If discharges by disease group are included, this should be put in line as much as possible with the disease categories presented for *mortality* and *morbidity*. Therefore, the ICD entry is probably better than the entry by DRG (disease-related group).

Health expenditures and financing

For most of this section, the list of core indicators of OECD is followed (a subset of their total list under this heading). Expectations are that updates will be provided by the system of 'International Classification of Health Accounts' currently under development (OECD, 2000a).

Health care quality indicators

This section should contain indicators that give information on the performance and/or quality of the medical care system. These may be selected items from the health care process (e.g. accessibility), the availability of specific technology, or 'health outcome' items, i.e. specific health incidents which can be related to the (in)adequacy of an intervention.

II-5 A flexible approach to indicators: *Subsets of indicators, or ‘user-windows’: examples*

Exploiting flexibility

Chapter II-4 defines the comprehensive set of indicators and of relevant types of data and data sources. This entire indicator set, although limited for each of the areas covered, has become quite extended, by meeting all the criteria mentioned. Therefore the concept of the ‘user-windows’ was introduced in *Section II-3.6*: the idea that from a variety of different user’s perspectives, different smaller subsets - user-windows - of indicators could be defined. This approach would allow for maximal flexibility of use of the indicator system. Basically, an unlimited number of different specific user needs can be conceived. At the end, it might well be possible within the HIEMS system to define one’s own profile on the spot.

User windows for focusing on priorities

However, as said in *section II-3.6*, apart from using the flexibility of the system to create personal interest profiles, user-windows can be defined deliberately to underpin *current policy priorities*. This brings us back to the earlier idea of having a small set of ‘core indicators’. The reason to stress this application is that a broad list of indicators is good for defining the overall field, and to direct long term data collection strategies, but is of little help in defining the most urgent issues for short term action. Such priorities can reflect current issues in EU policies, as illustrated in one of the examples (no. 7) given in the box below.

Examples of user-windows

In the box below, we list 17 examples. They should explicitly be seen as illustrations of the concept. The examples have been arranged following a few broader categories: ‘Specific policy views’, ‘thematic entries’, ‘disease-oriented groups’, and a typical ‘personal profile’, etc. Also included is a checklist for defining one’s own user-window. *Annex 7* gives implementations for several of the user-windows given above, by selecting a limited number of indicators from the overall indicator list. These again should only be taken as illustrations of the concept: other selections of indicators may be appropriate. The examples include one (no. 7) which might be selected to implement an ad hoc core list of EU items, and which can be used to focus on short-term priorities for the development of indicators and harmonised data collection.

Examples of user-windows:

By specific policy views

1. Cockpit information; to have a quick view of the major trends in public health, including recent relevant signals, for medium- or long-term policy strategies;
2. Progress in health promotion; to follow trends in priority issues in health promotion and disease prevention policies;
3. View on regional gradients; to focus on issues for which regional differences are relevant;
4. Health in other policies; to focus on health impact assessment of intersectoral and other policies;
5. View to the future; to focus on population or health projections and issues that show relatively marked trends in the recent past;
6. WHO-HFA21; to follow the HFA indicator set for the European Community (additionally: the minimum set of indicators typically used in the WHO's Highlights series);
7. **EU priority list; to follow developments for specific EU policy areas or targets, programmes or projects; this user-window can be shaped as a carrier for EU action;**

By thematic cross-sections through the indicator list

8. Health inequalities; to specifically monitor the situation with respect to health inequalities;
9. Health and services for mother and child; to focus on reproductive health, health of children and family structure;
10. Health of a specific age group (adolescents, working age, elderly); to focus on issues specifically relevant for each age group;
11. Health by gender differences; to focus on items where gender differences are relatively marked, whether in favour of men or women.
12. Performance of the health care system; to focus on the performance of the health care system;
13. Quality and accessibility of care; e.g. subjective assessment by consumers; specific outcomes; avoidable deaths; etc.
14. Elements of health systems; crucial characteristics; key data on resources, utilisation and financing.
15. Work-related health; employment; occupation-related disease and accidents; etc.

By disease groups (including occurrence, determinants, etc.)

16. E.g.: infectious diseases; cancers; cardiovascular disease; mental health; selected incidence/prevalence; determinants; preventive actions; survival rates; health care issues.

Example of a very personal user-window:

17. Smoking/drinking in European capitals; requires the selection of geographical information on health behaviour.

How to build your own user-window?

- Define the precise question or field of interest;
- Check the indicator list, including the stratifications by age, gender, etc., and decide which indicators help you to answer your question.

II-6. Follow-up, implementation and further work *Indicators should be clearly defined and be used*

II-6.1 A perspective on the goals of HMP

This report presents a proposal for the establishment of a list of European Community Health Indicators (*Chapter II-4*). It also proposes the use of subsets (user-windows) of indicators, to be used for specific purposes or needs (*Chapter II-5*). These proposals have been compiled by representatives from all MS and from WHO (Europe), OECD and the Commission Services (including Eurostat). The report builds upon much work done earlier by international organisations and incorporates recent priority areas presented by the MS. Yet, the results of this project do not represent a finished enterprise. They represent rather a step in an evolving process, involving further work on harmonisation of data and indicators, the implementation of indicator definitions, and the stimulation of developmental work in the more difficult areas.

When we think of a logical follow-up for this project, we should consider again, how this would optimally serve the realisation of the ‘ultimate goal’ of the Health Monitoring Programme: *To create a medium for the exchange of data and information between Member States, covering the areas of Public Health considered important for policy purposes by the Commission and the Member States, and efficiently interlinking with other international organisations working with the same information.* Evidently, this goal is a moving target: policy interests will shift, other types of information will be considered important or interesting and, last but not least, improving or even maintaining quality and comparability of data will require continuing efforts by the Member States and the international organisations. For follow-up actions, we may discriminate between the *immediate follow-up* and a more *long-term strategic approach*.

II-6.2 Direct follow up of the ECHI project

For the short term, we envisage that the proposed indicator list can give guidance to the following concrete activities:

1. For the management of the HMP and its successor, to disseminate the result to those involved within Member States and international agencies, and to accommodate and implement received comments.
2. For the management of the HMP and its successor, to support a pathway for the gradual implementation of *operational definitions* of all indicators/data sets. This includes the establishment of meta-information, data dictionaries, etc., and also the identification of similarities, differences or additions with respect to definitions used by the other international organisations (WHO-Euro, OECD, Commission Services). Among other things, this can be followed up from the ICHI initiative (International Compendium of Health Indicators), taken up earlier by WHO/Europe. (see *chapter II-3*). This also involves the definition of data sources and even database structure.
3. For the HMP management and users of the indicators, to further develop the idea of the ‘user-windows’, by defining and using (new) examples and implementing these into action programmes.
4. For the Member States, to investigate whether they can use the results for the development of their respective national (regional) systems of monitoring and reporting on health, more specifically, to recognise data gaps and problems in data harmonisation, and to stimulate developments in data collection accordingly; also to give feedback on improvements to the indicator list, including the use of user-windows.

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5. For the various other projects (to be) financed under the HMP, and other related work, to focus their activity on the indicators and data areas given in the list, with emphasis on data gaps and areas where developmental work is most needed.
6. For the EUPHIN-HIEMS project, to implement the proposed indicator structure in the structure of its database system. At any rate, we recommend a closer co-ordination between the Pillars A and B, that is between contents and technique.
7. For all partners, to maximise the coordination with and between international organisations, as one of the goals of the HMP is to minimise the burden of reporting by the Member States.
8. In order to contribute to this process, the ECHI project group has submitted a proposal to the HMP to continue the work on the EU Health Indicator list for another two years.

II-6.3 Challenges for the longer run

Beyond the term of immediate follow-up, the newly proposed ‘Programme of Community Action in the Field of Public Health (2001-2006)(European Commission, 2000)’, and notably its first goal: ‘Improving health information and knowledge’, is a source of inspiration. Under this first goal, more specific objectives were mentioned as (abbreviated):

- Establish Community indicators for health etc., methods for monitoring and analysis, corresponding databases.
- Improve the system for data transfer and sharing.
- Develop mechanisms for analysis and advice on health issues.
- Report on health issues.
- Consultation ... dissemination of reports and recommendations.

The first two of these items represent a continuation of the HMP. The last three, however, raise the issue of sustainability: If we want the initiatives launched in the HMP to result in a reliable and stable infrastructure of data collection and dissemination in the EU for the longer term, this would need the establishment of a facility having a certain continuity. Whether this is any form of central or network-type body, this facility should have sufficient expertise and manpower to give guidance to these actions, and to act with authority. At the same time this should be a light and flexible structure, open to new expertise and input from all MS. Several options for such a facility have been described by a Commission expert group (Aromaa et al., 2000). The idea has recently been endorsed by the European Parliament, although it is subject to continuing debate.

Furthermore, the commitment of the Member States with respect to the EU health information system should be enhanced and maintained. The most powerful way to achieve this is to realise the actual use of the data by the MS. In this respect the request from DG Sanco for a national data administrator from each MS for the regular updating of the HIEMS system from the MS is an important step. If this updating process by the MS is coming into practice, the establishment of a ‘clearing-house’ function might be appropriate. This coordination of the MS role in the process could be taken up by the above-mentioned facility as well. This would also include a regular evaluation of the use of the system and its contents, as well as the possibility of defining new indicators or data needs in the future. For all of these issues, the close involvement of WHO-Europe, OECD as well as the Commission’s Services at Eurostat is essential.

Finally, a system of data and indicator exchange will only work if the Member States feel committed to providing data because they also use these data and feel that this helps them in developing their health policy priority areas and directions. The co-ordinating facilities of the EU and other international organisations should serve to support this process, meeting the interests of MS governments.

II-7 References

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PART III

ANNEXES

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- Annex 5: Selection of causes of death and of diseases/disorders
- Annex 6: List of current projects under the Health Monitoring Programme
- Annex 7: Elaborated examples of Health Indicator Subsets (User-windows)

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| | |
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Annex 2

Glossary: list of abbreviations

| | |
|----------|--|
| ADL | Activities of Daily Living |
| AIDS | Acquired Immuno-Deficiency Syndrome |
| ALOS | Average Length of Stay |
| COD | Causes of Death |
| DALY | Disability-Adjusted Life years |
| DG Sanco | The Commission's Directorate-General of Health and Consumer affairs |
| DMH | Danish Ministry of Health |
| ECEH | WHO's European Centre of Environment and Health |
| ECHI | European Community Health Indicators |
| ECHP | European Community Household Panel |
| EFILWC | European Foundation for the Improvement of Living and Working Conditions |
| EMCDDA | European Monitoring Centre for Drugs and Drug Addiction |
| EU | European Union |
| EUPHIN | European Union Public Health Information Network |
| EUROHIS | Project carried out by WHO-Europe and partners and co-sponsored by EU to present recommended instruments on HIS items. |
| FAO | WHO's Food and Agricultural Organisation |
| GBE | GesundheitsBerichtErstattung (German for 'Public Health Report') |
| GDP | Gross Domestic product |
| GHQ | General Health Questionnaire |
| GP | General Practitioner |
| HES | Health Examination Survey |
| HFA | WHO's Health For All |
| HIEMS | Health Information and Exchange between Member States |
| HIS | Health Interview Survey |
| HMP | Health Monitoring Programme |
| IARC | WHO's International Agency for Research on Cancer |
| ICD | International Classification of Diseases |
| ICHI | International Compendium of health Indicators |
| ICIDH | International Classification of Impairments, Disabilities and Handicaps |
| ISCED | International Standard Classification of Education |
| ISCO | International Standard Classification of Occupations |
| LFS | Labour Force Survey |
| MS | Member State(s) |
| NUTS | Nomenclature of Territorial Units for Statistics |
| OECD | Organisation of Economic Cooperation and Development |
| PPP | Purchasing Power Parity |
| PYLL | Potential Years of Life Lost |
| SDR | Standardised Death Rate |

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| | |
|--------|---|
| SES | Socio-Economic Status |
| SF-36 | Short-Form 36 |
| SHA | System of Health Accounts |
| TNO | Dutch Organisation of Applied Scientific Research |
| UK | United Kingdom |
| WHO | World Health Organisation |
| WHO/HQ | WHO HeadQuarters |
| YLD | Years Lived with Disabilities |
| YLL | Year of Life Lost |

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Annex 3

Comparison of international health indicator taxonomies

This table compares the classifications as used by international organisations, and as devised by WHO-ICHI on the basis of these.

| WHO-Europe/HFA21 | OECD 1999 | Eurostat | WHO-ICHI |
|-----------------------------------|---|--|--|
| Mortality | Health status Mortality Morbidity | Mortality | Health status: mortality, morbidity, disability, others |
| Morbidity | | Health status Incl morbidity | |
| Disability | | | |
| Maternal/child health | | | |
| Other health status | | | |
| Lifestyle | Non-medical Determinants | Lifestyles | Lifestyle and environment |
| Environment | | Living/working cond. | |
| Health care resources | Health care resources | Health care Resources Facilities/consumption Procedures Cost/financing | Health care: manpower, facilities, equipment, in-patient and out-patient consumption, pharmaceuticals, exp./financing, quality |
| Health care consumption | Health care utilisation | | |
| Quality of care | | | |
| Health financing/ Expenditures | Expenditures on health | | |
| | Financing/remuneration | | |
| | Social protection | | |
| | Pharmaceutical market | | |
| Demogr./socio-econ. | Demographic references | Population | Demographic and socio- economic indicators: population, education, public finance, economics, labour force |
| | Economic references | | |

Annex 4

Summary of MS health policy priorities;

derived from policy documents and public health reports.

This material was brought together by the participants of the ECHI project from authorised sources. However, the collected information may, at the time of appearance of this report, deviate in details from official positions of Member States. Moreover, in some countries health policy is rather the matter of subnational authorities. In fact, it was hoped in ECHI to include a comprehensive overview of Member States' health policy priorities, but this proved not to be possible. The information presently collected can serve as a first step towards this goal. Most of the participating Member States are represented below, in alphabetical order.

last update: 23 January, 2002

Denmark:

Denmark launched a 'Government public health programme 1999-2008'. This programme has 17 targets, which can be divided into five subgroups.

Two main targets:

1. Longer life length and higher quality: increase life expectancy; improve Danish life expectancy in EU; increase health expectancy; reduce health-related activity restriction.
2. Inequality in health: reduce social inequality in mortality, health expectancy, activity limitations, health behaviour.

Five risk-factor targets:

1. Smoking: reduce daily smokers, heavy smokers, young smokers, smoking pregnant women
2. Alcohol: reduce excessive drinkers, reduce drinking among youngsters.
3. Diet and physical activity: reduce fat intake, increase consumption of fruit, vegetables, grain products and fish; increase exercise; increase bicycle use.
4. Obesity: turn down obesity trend; reduce obesity in children.
5. Traffic accidents: reduce numbers killed/injured; reduce alcohol-related accidents.

Three targets for age-groups

1. Children: reduce drug use by pregnant women; increase breastfeeding; reduce infectious disease, allergy/asthma, and accidents among children; increase vaccination coverage.
2. Youngsters: reduce lack of education, long-term unemployment, drug abuse, criminal problems, suicide (attempt), traffic accident victims.
3. Elderly: reduce physical inactivity, social isolation, and traffic accident victims.

Four targets for preventive environment

1. Health promoting elementary school environment.
2. Health initiatives in the work place.
3. Increased health promotion and disease prevention in local community health and social services.
4. Strengthening the effort in public health care in disease prevention and health promotion.

Three structural targets

1. Improving clarity in the division of tasks between central and local authorities concerning prevention.

2. Improving evidence-based prevention by improving research on prevention and health promotion
3. Strengthening prevention in training of health care personnel.

All targets are defined in qualitative terms and for each target a number of both quantitative and qualitative sub-targets have been defined.

France:

Health priorities are set up in 1994 by the *Haut Comité de la Santé Publique*

Targets were defined according to four different goals:

- Reduce avoidable deaths
- Reduce avoidable incapacities
- Improve quality of life of ill and handicapped people
- Reduce health inequalities

Priority health problems were selected on the bases of five criteria: gravity, frequency, socio-economic impact, feasibility and social perception. Specific targets were proposed for each selected health problem:

- Road accidents
- Daily life accidents
- Accidents at work
- Cancers
- Aids and STD's
- Cardiovascular diseases
- Mental health
- Disabilities and dependence
- Drug addiction
- Perinatal health
- Iatrogenic illness and nosocomial infections
- Child abuse
- Pain
- Back pain

Important determinants were selected on the basis of three criteria: impact on health, frequency and feasibility. Specific targets were proposed for each selected determinant:

- Alcohol consumption
- Smoking
- Vulnerability, integration and health
- Access to care and prevention

Most targets specified goals for indicators by the year 2000 or 2010. An interim report on the evolution of those indicators during the period 1994-1998 was recently published by the Haut Comité de la Santé

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Publique: *Health in France 1994-1998. John Libbey Eurotext Paris 1999*

Germany

Germany joins many international programmes. Internally, each federal state has its own public health policy and priorities, six of which have more or less explicitly included health goals. Two examples are given:

Nordrhein-Westfalen

Ten priority goals were formulated, all referring to WHO/HFA goals:

- To reduce cardiovascular diseases
- To fight cancer
- Framework conditions of health promotion
- To reduce health damage by tobacco, alcohol and psychoactive drugs
- Management of environmental hygiene
- Primary health care
- Hospital care
- Grassroots services for special health-related needs
- Research and development in public health
- Support by health information.

Sachsen-Anhalt

Five goals were set:

- To reduce infant mortality to the national level
- To reach a vaccination coverage of over 90% according to age
- To reduce premature mortality of cardiovascular disease to the national level
- To reduce premature mortality of cancer to the national level
- To reduce smoking, alcoholism, traffic accidents due to alcohol

Ireland:

Health policy in Ireland is guided by published statements of strategy indicating key policy objectives and initiatives. These are supplemented by interim reports on progress. The current strategy report is titled, 'Health and Well-being: 1998-2001,' and supercedes the 1994 report, 'Shaping a Healthier Future.' Public health priorities are also highlighted in the 'Annual Report of the Chief Medical Officer.' The report for 1999 identified four main areas:

1. Inequalities in health.
2. Cardiovascular disease.
3. Cancer.
4. Injuries.

Initiatives and targets in these areas are guided by specific strategies. These include the 'National Cancer Strategy Report,' 'Building Healthier Hearts'

(the national strategy document on heart disease), and 'The National Health Promotion Strategy: 2000-2005.' The need for better health information and health information delivery systems to inform and guide public health policy receives emphasis in many of these reports. A national health information strategy will be prepared during the course of the next year to address these issues and make appropriate recommendations.

Italy:

The Italian project for health (1998-2000 and beyond) is organised according to five priority areas. Each health target has its own objectives and priority actions. Some objectives are defined in more general terms, with regard to trends to be promoted or to be strengthened; other objectives are defined more precisely, with clear reference to specific quantitative indicators to be met at the national level. The targets and the objective areas are given below.

- I Promoting healthy lifestyle and behaviours
 - 1.1 Nutrition
 - 1.2 Smoking
 - 1.3 Alcohol
 - 1.4 Physical exercise
- II Fighting against main diseases
 - 2.1 Cardiovascular and cerebrovascular disease
 - 2.2 Cancers
 - 2.3 Infectious diseases
 - 2.4 Accidents and occupational diseases
- III Improving the environment
 - 3.1 Air
 - 3.2 Water
 - 3.3 Food
 - 3.4 Radiation
 - 3.5 Waste
- IV Strengthening the protection of the most vulnerable groups
 - 4.1 Migrants
 - 4.2 Drug abuse
 - 4.3 Mental health
 - 4.4 Life Cycle and Health
- V Making the Italian health system matching the European standards
 - 5.1 Transplants
 - 5.2 Rehabilitation
 - 5.3 Technological Innovation
 - 5.4 Control of rare diseases
 - 5.5 Blood and related Components
 - 5.6 Veterinary Public Health
 - 5.7 Health Information System

Luxemburg

The present Government programme entails the following activity areas on health policies:

- Preventive health programmes: the existing policies will be evaluated and adapted. New

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preventive health programmes will be defined if necessary;

- Drugs: the Government will put the priority on the prevention at school. The number of therapeutic cure places will be augmented;
- A new hospital plan will be worked out which emphasise the efficiency and quality of medical treatments at hospitals;
- Palliative medicine will be made available at a larger scale inside and outside hospitals;
- Some alternative medical treatments will be officially recognised.

Priority areas for further action are the following ones:

- cardio- and cerebrovascular diseases, diseases related with nutrition, illnesses restraining mobility, prevention of accidents;
- chronic diseases (e.g. diabetes, osteoporosis, breast cancer, colorectal cancer, prostate cancer);
- communicable diseases, aids, prevention of dependency on drugs, alcohol, tobacco.

The Netherlands:

In the policy document 'Healthy and Sound' (VWS, 1995), the following priorities were identified:

- Increasing health expectancy;
- Preventing avoidable deaths, by improving prevention and care;
- Increasing quality of life in the chronically ill;
- Reduction of socio-economic health inequalities; focus on deprived groups;
- Increasing effective prevention, regarding healthy behaviour and environmental factors; focus on lung cancer, accidents, CSNLD, CHD, stroke, communicable diseases;
- Promoting the efficacy and effectiveness of medical treatment and care;
- Assessing the problem of competing disease risks;
- Improving the estimates of future health care needs.

In the recent 'Memorandum of understanding' (1998), marking the start of a new government period, five priority areas have been formulated:

- Strengthening prevention;
- Strengthening intersectoral policies with impacts on health;
- Improving the balance between health care needs and resources;
- Improving quality and efficiency of health services;
- A vision on the health care system of the 21st century.

In 1998, an informal document on 'Strengthening Public Health Policy' stated as a general goal to promote a 'longer and healthier life'. Inspired by the WHO HFA21 strategy, it mentions as basic conditions (abridged):

- Promoting healthy behaviours (physical activity, smoking, alcohol, nutrition, safety at home, sexual behaviour, stress avoidance);
- Combating poverty;
- Increasing the quality and efficiency of prevention and health care, including improved communication between health care sectors (hospitals, home care, nursing homes, etc.);
- Guaranteeing the accessibility for all of primary health and social services;
- Maintaining and improving physical infrastructures;
- Promoting safety and quality of living and working conditions;
- Directive and prioritising and committed action of public authorities, both nationally and locally;
- Improving scientific information.

Following up on these, The 'Policy agenda for health' of 2000, formulated targets on:

- Physical activity
- Smoking
- Problem alcohol use
- Safe sex
- Accidents
- Fat intake

Otherwise, focus was laid on (1) the regional organisation of public health services, especially the integrated childrens health care, and (2) on improved registration of waiting times and measures to resolve these problems in delivering health services.

Portugal:

At present, a National Health Strategy is being developed, written and approved by the Cabinet. It has short-, mid- and long-term targets referring to expected health gains and health care system developments. The targets were an incentive for the development of a set of National Health Indicators and of writing regular Public Health Reports. At the same time, infrastructures are being built for electronic exchange of (primarily clinical) data. All this is to be supervised and co-ordinated by a sustainable and authoritative structure.

Sweden:

The National Swedish Public Health Committee is commissioned by the Swedish government to suggest, by the end of 2000, public health targets on national and local levels. The commission's report (620 pp) includes the ethical and other prerequisites for policy prioritisation and a description of Sweden's public health development. It suggests strategies, objectives and indicators/measurements for attaining better and more equitable public health.

Strategic intents for a health-friendly society are:

- Strengthen social cohesion and solidarity in society

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- Increase opportunities for labour-market integration and reduce social exclusion
- Increase influence and security for people in the workplace
- Give priorities to families with children, economically and with respect to time for being together
- Give children and youth equal life chances by reducing segregation and implementing compensatory measures
- Give senior citizens and people with long-term illness or disabilities opportunities to shape their lives according to their needs
- Create opportunities for sustainable enhancement of health
- Increase solidarity with those who are vulnerable to life-style risks.

Within the framework of these eight strategies nineteen objectives have been proposed with indicators and measurements in order to determine whether the objectives have been fulfilled by 2010. Some of the objectives serve more than one strategy.

United Kingdom (separately for England, Scotland, Wales and Northern Ireland) :

England

The government document 'Saving Lives: Our Healthier Nation' (The OHN White Paper, published July 1999) identified two goals and four priority areas. This public health strategy forms a component of the broader NHS Plan published in July 2000. For each of the four areas, a target was formulated for 2010 and an interim milestone for 2005.

The two goals are:

- To improve the health of the population as a whole by increasing the length of people's lives and the number of years people spend free from illness; and
- To improve the health of the worst-off in society and to narrow the health gap

The four priority areas are:

- Circulatory Disease;
- Cancer;
- Accidents (not included in NHS Plan);
- Mental health;

For these areas, the *targets* for 2010 are:

- Circulatory disease - a 40% reduction in the mortality rate
- Cancer - a 20% reduction in the mortality rate
- Accidents - a 20% reduction in the mortality rate
- Suicide - a 20% reduction in the mortality rate

For each of these four areas, a list of *associated indicators* will be defined, which will allow the assessment of progress, in terms of:

- The targets themselves;
- Improvements in associated risk factors;

- Movement in underlying factors which reflect social, environmental and economic change which the evidence shows to have an influence on health and inequality;
- The implementation of effective programmes/activities (including the development of capacity and capability in public health).

The definitions of indicators will be an ongoing task. This approach maintains *the focus and clarity* of selecting only a very limited number of targets. Aside from general monitoring and reporting of progress, there is a commitment in the White Paper every three years to review and publish changes at national level to:

- Expectation of life
- Healthy life expectancy
- Health inequality

In addition there are a number of other topic-specific 'supporting strategies' that are identified in the White paper and these are also being taken forward:

- Sexual health strategy
- Alcohol strategy
- Communicable disease strategy
- Smoking White Paper
- Fluoridation/dental health
- Drugs strategy

Scotland

In the health strategy of 1999, 'Towards a Healthier Scotland', targets were formulated on:

- Coronary heart disease
- CVA
- Cancer
- Smoking
- Alcohol misuse
- Physical activity
- Teenage pregnancy
- Dental health

Additional areas of focus are: health inequalities, health of children and young people.

Wales

'Better Health Better Wales' of 1998 focuses on: improving health and well-being, and reducing health inequalities. Targets are formulated on:

- Cancer of respiratory organs, breast, cervix
- Coronary heart disease, stroke
- Accidents, suicides
- Low birth weight
- Back pain, arthritis
- Mental health

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- Smoking, alcohol
- Consumption of fruit and vegetables
- Dental caries

Northern Ireland

The document 'Well into 2000' of 1997 set broad goals:

- Tackling social exclusion
- Incorporating principles of social justice in health and related policies
- Tackling health inequalities

- Redirecting public policies towards promotion of good health and well-being
- Creating environments to help people maintain good health and well-being
- Providing and maintaining a structure within the HPSS for optimal health promotion and health services delivery.

The focus is, among other things, on the main causes of ill-health, adequate resource allocation, food safety, ban of tobacco advertisement, childrens health, and the position of the disabled.

Annex 5
Selection of causes of death and of diseases/disorders
Causes of death

European shortlist of causes of death, with notes of inclusion in WHO or OECD. The overlap with all listings provides 18 causes (given in boxes); **in bold: ICD chapters**.

| Shortlist number | | in WHO | in OECD |
|------------------|--|----------|----------|
| 1 | Infectious and parasitic diseases | x | x |
| 2 | Tuberculosis | x | |
| 3 | Meningococcal infection | | |
| 4 | AIDS | | x |
| 5 | Viral hepatitis | | |
| 6 | Neoplasms | | |
| 7 | Malignant neoplasms | x | x |
| 8 | lip, oral cavity, pharynx | | |
| 9 | oesophagus | | |
| 10 | stomach | | |
| 11 | colon | | x |
| 12 | rectum, anus | | |
| 13 | liver, bile ducts | | |
| 14 | pancreas | | |
| 15 | larynx, trachea, bronchus, lung | x | x |
| 16 | skin (melanoma) | | |
| 17 | breast | x | x |
| 18 | cervix uteri | x | x |
| 19 | uterus other | | |
| 20 | ovary | | |
| 21 | prostate | | x |
| 22 | kidney | | |
| 23 | bladder | | |
| 24 | lymphatic/hematop. tissue | | |
| 25 | Diseases of blood-forming organs, immunol. | | x |
| 26 | Endocrine ... diseases | | x |
| 27 | Diabetes | x | x |
| 28 | Mental/behavioral disorders | | x |
| 29 | Alcohol abuse | | |
| 30 | Drug dependence | | |
| 31 | Diseases of nervous system and sense organs | | x |
| 32 | Meningitis (not 3) | | |
| 33 | Disease of circulatory system | x | x |
| 34 | Ischaemic heart diseases | x | x |
| 35 | Other heart diseases | | |
| 36 | Cerebrovascular diseases | x | x |
| 37 | Diseases of the respiratory system | x | x |
| 38 | Influenza | (x) | x |

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| | | | |
|-----------|--|----------|----------|
| 39 | Pneumonia | (x) | x |
| 40 | Chronic lower resp. disease | x | x |
| 41 | Of which asthma | | x |
| 42 | Diseases of the digestive system | | x |
| 43 | Ulcer of stomach, duodenum, jejunum | | |
| 44 | Chronic liver disease | x | x |
| 45 | Diseases of the skin etc. | | x |
| 46 | Diseases of the musculoskeletal system | | x |
| 47 | Rheumatoid arthritis, osteoarthritis | | |
| 48 | Diseases of the genitourinary system | | x |
| 49 | Diseases of kidney and ureter | | |
| 50 | Complications of pregnancy, childbirth, etc. | | x |
| 51 | Conditions in the perinatal period | | x |
| 52 | Congenital malformations and chromos. abnorm. | | x |
| 53 | Of the nervous system | | |
| 54 | Of the circulatory system | | |
| 55 | Symptoms ... ill-defined causes | | x |
| 56 | Sudden infant death syndrome | | |
| 57 | Unknown causes | | |
| 58 | External causes of injury and poisoning | x | x |
| 59 | Accidents | | |
| 60 | Of which transport accidents | (x) | (x) |
| 61 | Of which accidental falls | | x |
| 62 | Of which accidental poisoning | | |
| 63 | Suicide, self-harm | x | x |
| 64 | Homicide assault | x | x |
| 65 | Events of undetermined intent | | |

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Diseases/disorders

Proposal of a list of diseases/disorders, to be used for the monitoring of disease-specific morbidity

The attached List of Diseases was developed in the *European Disability Weights Project* (BIOMED II project number BMH4-98-3253). The main objectives of this project are: cross-cultural investigation of differences in disability weights for diseases, the construction of a common European list of disability weights, and cross-national evaluation of burden of disease estimates for a number of important diseases. Project coordinator is Prof. Dr. Paul van der Maas, Department of Public Health, Erasmus University Rotterdam, the Netherlands. Participants come from Denmark (National Institute of Public Health, formerly called Danish Institute of Clinical Epidemiology; Finn Kamper-Jørgensen); England (Health Services Management Centre Birmingham; James Raftery); France (Centre Hospitalo-universitaire Henri Mondor, Paris; Isabelle Durand-Zaleski); Spain (National School of Public Health; Joaquin Pereira); Sweden (Karolinska Institute; Finn Diderichsen); the Netherlands (Academic Medical Centre Amsterdam; Louise Gunning-Schepers). The project started Spring, 1998.

A task group within the European Disability Weights Project was assigned the task to develop a core list of diseases covering major proportions of mortality and morbidity (aiming at covering 80% of each) in the participating countries. Subsequently, disability weights will be derived for the diseases on this list. Attached is the list of diseases as agreed by the participants in the European Disability Weights project in June, 1999. The list was meant to be practical and pragmatic in the first place, because selection of diseases was regarded not as a matter of right or wrong, but had to reflect a consensus of what was most relevant and still feasible. The list was derived as follows:

1. The results from the Global Burden of Disease (GBD) 1990 study for the Established Market Economies were used as the point of departure for the selection of disease categories, because the GBD-1990 currently provided the most comprehensive and consistent estimates of mortality and morbidity at the international level. Estimates of burden without discounting and without age-weights (DALYs[0,0]) in the EME were used because these constitute the simplest and hence the easiest interpretable estimates.
2. The top-30 of disease categories causing DALYs[0,0] in the EME contained 6 categories of 'other diseases' (e.g., 'Other cardiovascular diseases' ranking 3rd), that cover 19% of DALYs[0,0]. Simply excluding the categories of 'other diseases' would have implied the impossibility of covering 80% of mortality and morbidity in the participating countries, even if all categories further down the list were included instead. Furthermore, due to grouping of diseases in the GBD categories it was considered very possible that the categories of 'other diseases' harboured separate entities that were large enough to deserve separate empirical disability weighting, and hence inclusion in the core list. However, we could dispose of DALY- estimates at an aggregation level beyond the categories mentioned in the GBD series. The process of disease selection was therefore continued by making an intelligent choice from the diseases in the categories of 'other diseases' based on national data on mortality and morbidity, as well as by choosing disease categories from the DALY[0,0] list below the 30th ranking.
3. Below we describe the steps we took in order to select additional disease categories.
 - Point of departure: GBD disease classification system (Table 3.1 in Volume 1 of the GBD series). This classification was largely based on ICD chapters.
 - For each large group in this classification (capital A, B, C etc), we listed the disease categories from the DALY[0,0] EME list that caused 0.25% of DALYs[0,0] or more (the 0.25% criterion is arbitrary). This leads to the categories in the top-59 of the causes of DALYs[0,0], or 49 disease categories after exclusion of the categories of 'other diseases'.

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These 49 disease categories were included in the core list (the 49 disease categories cover 78.5% of DALYs[0,0])

- We then listed *for each ICD-9 chapter* the percentage of DALYs[0,0] covered by the ‘other diseases’ for this ICD-chapter. We decided to examine in depth a category of ‘other diseases’ if it covered a relatively large proportion of the ICD-chapter (i.e., that for such a chapter a relatively low coverage of DALYs[0,0] was reached by separate categories). If the category of ‘other diseases’ for an ICD-chapter was on the other hand relatively small, we (arbitrarily) decided not to examine it further, but to look further down the list of DALYs[0,0] or to do nothing at all.

Or, more specifically:

- If the percentage of DALYs[0,0] covered by the category of ‘other diseases’ in a particular ICD-chapter was high (arbitrary: >25% of DALYs[0,0] in that category), we tried to identify separate entities in this category of ‘other diseases’ using a mortality criterion (annual number of deaths per cause in the participating countries) and a morbidity criterion (annual number of hospital days in the participating countries). We were aware that mortality data and hospital days were not very informative about e.g., psychiatric disorders and sense organ diseases.
- If this percentage was lower than 25% (i.e., that more than 75% of DALYs [0,0] in a ICD chapter were caused by distinct categories), we went further down the listing of DALYs[0,0] in the EME, i.e., below ranking 59. For some ICD-chapters we proposed the addition of some of these diseases.

For more information, please contact Dr. Marie-Louise Essink-Bot, coordinator of the Disease Group of the European Disability Weights Project, at The Dept. of Public Health, Erasmus University Rotterdam, e-mail ESSINK@MGZ.FGG.EUR.NL

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European Disability Weights Project: final disease list (as agreed 4June, 1999) EuroDW 99.09

| Disease category | Final list |
|--|---|
| Infectious and parasitic diseases | -HIV/AIDS -Bacterial meningitis -Tuberculosis -STD excl. HIV - Hepatitis B and C |
| Respiratory infectious diseases and respiratory diseases | -COPD -Asthma -Lower respiratory infections incl. influenza - Otitis media / Upper resp. inf. |
| Maternal diseases | -None |
| Perinatal conditions | -Conditions arising during perinatal period |
| Nutritional deficiencies | -None |
| Malignant neoplasms | -Mouth and oropharynx cancer -Larynx cancer -Oesophagus cancer -Stomach cancer -Colorectal cancer -Liver cancer -Pancreas cancer -Trachea, bronchus and lung cancer -Melanoma and other skin cancers -Breast cancer -Ovary cancer -Cervix cancer -Prostate cancer -Bladder cancer -Lymphoma and multiple myeloma -Leukaemia- |
| Diabetes mellitus | -Diabetes mellitus |
| Endocrine disorders | -None |
| Neuropsychiatric conditions | -Dementia -Schizophrenia -Unipolar major depression -Bipolar disorder -Alcohol use -Drug use -Anxiety disorders -Epilepsy -Parkinson -Multiple sclerosis |
| Sense organ diseases | -Vision disorders -Hearing disorders |
| Cardiovascular diseases | -Ischaemic heart disease (incl. heart failure) -Cerebrovascular disease -Aortic aneurysm - Pulmonary embolism -Peripheral atherosclerotic arterial disease -Venous disease (incl. varicose veins) |
| Digestive diseases | -Peptic ulcer -Liver cirrhosis - Inflammatory bowel disease -Appendicitis -Inguinal hernias -Gallbladder disease (esp. cholelithiasis) -Diseases of the pancreas |
| Genitourinary | -Nephritis/nephrosis (incl. chronic renal |

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| | |
|--------------------------|---|
| diseases | failure) -BPH -Urinary tract infections |
| Skin diseases | -Eczema -Chronic ulcer of the skin -Skin infections |
| Musculoskeletal diseases | -Rheumatoid arthritis -Osteoarthritis -Low back pain |
| Congenital anomalies | -Down's syndrome -Congenital heart anomalies |
| Dental diseases | -Edentulism |
| Accidents and injuries | -Road traffic accidents -Falls (incl. hip fracture) -Drownings -Self-inflicted injuries -Poisoning -Violence |

In the framework of ECHI, we favour the use and further elaboration of this list in such a way that the categories are as close as possible comparable with the list of causes of death (*Table II-4.1, section II-2.1*) and the list of diseases for which data on hospital discharges are presented (*Table II-4.1, section II-4.3*).

Annex 6

List of projects currently approved under the Health Monitoring Programme (some non-English titles translated)

Approved in 1998: nos. 1-10

Approved in 1999: nos. 11-20

Approved in 2000: nos. 21-31

1. A comparative analysis of *alcohol* consumption and its public health effects in the EU states (Sweden).
2. *Health surveys*: contents and data (Netherlands, Finland).
3. Proposal for a coherent set of health indicators covering most of the dimensions of health (France, *Euro-REVES 2*).
4. Comparability and quality improvement in European *causes of death* statistics (France).
5. Health Monitoring in *sentinel practice* networks (UK).
6. Monitoring *socio-economic differences* in health indicators in the European Union (Netherlands, Germany).
7. Eucomp - Towards *comparable health care data* in the European Union (Ireland).
8. Integrated approach to establishing *community health indicators* (ECHI) (Netherlands).
9. Establishment of indicators for *mental health* monitoring in Europe (Finland).
10. The state of health in the European Community in the year 2000 (Portugal).
11. European food availability databank based on *household budget surveys* (Dafne III) (Greece).
12. Health indicators in *European regions* (France).
13. Methodologies for producing EU-wide comparable *disease-specific morbidity* data (UK).
14. Highlights of health in the *applicant countries* of the European Union (WHO-Europe).
15. *Rasch conversion* of disability data to community indicators: a pilot study (Netherlands).
16. European *health risk* monitoring (Finland).
17. European situation of the collection of *routine medical data* and their utilisation for health monitoring (Belgium).
18. European *physical activity* surveillance system (EUPASS)(Germany).
19. European collaboration for *assessment of health interventions* (Sweden).
20. European *food consumption* survey method (Netherlands).
21. *Health surveys* in the EU: HIS and HIS/HES evaluations and models (Phase 2) (Finland).
22. Evaluation of national and regional *public health reports* (Germany).
23. Indicators for monitoring and evaluation of *perinatal health* in Europe (France).
24. *Human resources* of European health systems (Germany).
25. *Hospital data* (Ireland).
26. *Cardiovascular indicators* surveillance set in Europe (EUROCISS)(Italy).
27. Indicators for monitoring *musculoskeletal conditions* (Norway).
28. Establishment of indicators for *Diabetes mellitus* (Luxemburg).
29. Monitoring *public health nutrition* in Europe (Sweden).
30. Setting up a coherent set of health indicators for the EU (*Euro-REVES 2, phase 2*)(France).
31. *Child health indicators* of life and development (CHILD)(United Kingdom).
32. Mid-term *evaluation of the Health monitoring Programme* (Germany).

Annex 7

Elaborated examples of Community Health Indicator User-windows (U-win's)

In *Chapter II-5*, several examples of user-windows were given, together with the specific user purpose. Below, we give examples of how some of these user windows could actually be implemented by selecting a limited number of indicators from the overall list given in *Table II-4.1*. **Note that these examples are only illustrations of how it could be done. They do not reflect extensive discussions in the project group.**

Example 1: 'Cockpit information'

The major purpose of this user-window would be the ability to get *a quick glance* of the overall situation in the Community and the MS, with reference to medium- and long-term policy strategies. It could include alerts for issues likely to influence these strategies. This user-window requires a limited though comprehensive set of general indicators, covering all aspects of public health. It might also present a basic set for comparison with countries outside the EU (accession countries, other OECD countries, etc.). A proposal is presented below:

- Population distribution
- Education attainment
- Unemployment
- Income variation
- Life expectancy at birth and age 65
- Infant mortality
- Cardiovascular mortality
- Mortality by external causes
- Perceived health, by SES
- General quality of life measure, by SES
- Selected health expectancy
- Body Mass Index, by SES
- Smoking prevalence
- Consumption of fruit/vegetables
- Housing
- Vaccination coverage
- Physicians per inhabitant
- Health expenditures as % of GDP
- Use of pharmaceuticals

Example 2: 'Progress in health promotion'

This user-window focuses on priority issues which many MS public health policies share in the field in terms of health promotion and disease prevention, i.e. the areas where national and regional health authorities can be quite effective, outside the health care field. This user-window would be particularly suited for benchmarking MS public health activities.

- Education attainment
- Injuries from home/leisure accidents
- Injuries from road traffic accidents
- Body Mass Index
- Smoking prevalence
- Alcohol use
- Drug use
- Alcohol-related accidents
- Nutrition: energy from SAFA
- Nutrition: consumption of fruit/vegetables/fish
- Physical activity
- Sexual behaviour
- Outdoor air quality
- Noise
- Workplace exposures
- Social networks
- Violence
- Vaccination coverage
- Screening programmes
- General preventive services (adults, children)
- Health insurance coverage

Example 3: 'View on regional gradients'

This user-window wants to focus on issues for which regional differences are relevant. These may be issues related to fields where regional authorities have explicit public health responsibilities, or issues in which marked regional differences appear. In part, it might show overlap with the 'cockpit' example (no. 1). Input for this user-window should come from the HMP project on regional indicators. We propose (all indicators to be presented by region, the relevant region to be defined by the project on regional indicators):

- Population by age
- Teenage pregnancies
- Education attainment
- Total unemployment
- Mortality as standardised death rate overall
- Infant mortality
- Incidence of specific cancers and cardiovascular diseases
- Road traffic injuries
- Incidence of AIDS, tuberculosis
- Perceived health
- Functional limitations (disabilities)
- General mental health
- Smoking prevalence
- Consumption of vegetables/fruit
- Drinking water supply and quality
- Outdoor air quality
- Vaccination coverage
- Coverage of cancer screening
- Advertising restrictions on tobacco/alcohol
- Physicians employed per 1000 population
- Hospital beds total per 100.000 population
- Average length of stay in acute care hospitals
- Expenditures, if relevant
- Avoidable deaths

Example 4: 'Health in other policies'

This window focuses on health impact assessment of intersectoral and other policies. This may include policies related to socio-economic inequalities, as well as to policies related to toxic substance exposures, agricultural, planning or infrastructure policies. We propose:

- Fertility rate
- Population by urbanisation
- Education: attainment, enrolment
- Employment by ISCO class
- Income disparity
- GDP PPP
- Road traffic injuries/deaths
- Occupational injuries/deaths
- Home/leisure injuries/deaths
- Absenteeism from work
- Nutrition: energy from fat/protein
- Nutrition: consumption of bread/cereals/vegetables/fruit
- Physical exercise
- Violence
- Housing
- Drinking water supply
- Sewage system
- Outdoor air quality
- Noise
- Social networks
- Violence
- Price of cigarettes
- Regulations on air/water quality

Example 7: 'EU priority list'

This user-window is intended to follow developments for specific EU policy areas or targets. As it arises from the new EU policy, priority areas include: better information; reaction to threats; relevant determinants; health impact assessment (agriculture, transport, SES). Based on this, the present subset could be a mix of examples 2, and 4, with a few additions on communicable diseases. We propose:

- Fertility rate
- Population by urbanisation
- Education: attainment
- Unemployment
- Employment by ISCO class
- Income disparity
- GDP PPP
- Life expectancy
- Inequality in deaths, by a few main causes
- Injuries/deaths from road traffic accidents
- Occupational injuries/deaths
- Home/leisure injuries/deaths
- Perceived health by SES
- Absenteeism from work
- Body Mass Index
- Smoking prevalence
- Alcohol use
- Drug use
- Nutrition: energy from fat/protein
- Nutrition: consumption of bread/cereals; vegetables/fruit
- Physical exercise
- Housing
- Drinking water supply
- Sewage system
- Outdoor air quality
- Noise
- Emotional support
- Violence
- Occupational diseases
- Vaccination coverage
- Screening programmes
- Medicine use
- Health insurance coverage

Example 8: 'Health inequalities'

This user-window is intended to monitor the situation with respect to health inequalities. The focus is on inequalities along socio-economic gradients, as measured by occupational class, education or income, but gender (and occasionally age) inequalities are taken on board as well. The data may refer to health status, general socio-economic issues, health determinants or accessibility to health services. A problem here is that for many types of data, relevant stratifications among socio-economic groups are not available. Input for this user-window should come from the HMP project on health inequalities. From what we think might be practically feasible, we propose the following indicators:

- Education: attainment by gender and age
- Unemployment by gender, age
- Income disparity
- Life expectancy by gender, at birth and age 65
- Inequality in deaths, by education, occupational class
- Perceived health by gender, age, education and income
- Functional limitations by gender, age, education and income
- General mental health by gender, age, education and income
- Body Mass Index by gender, age, education and income
- Smoking prevalence by gender, age, education, income
- Alcohol use by gender, age, education, income
- Consumption of vegetables/fruit, by gender, education, income
- Occupational diseases, by type of workplace
- Emotional support, by gender, age, education, income
- Medicine use, by gender, age education, income

Example 9: 'Health and Services for Mother and child'

This subset, presented below, would serve the purpose of focusing on reproductive health, health of children, on the family situation, and on activities that relate to prevention and health services for children. Again we have not looked at the availability or operationalisation for these indicators.

- Median age of population
- % Population under 5, 18
- Aged mothers/teenage pregnancies
- Mean age at delivery (from live births by age of mother)
- Crude birth rate
- Total fertility rate
- Education enrolment
- Female employment (from total)
- Population by household situation
- Infant/neonatal/postneonatal mortality
- Perinatal mortality
- Chance of death in ages 0-5-14
- Selected commun. Diseases (incidence, mortality)
- Congenital disorders, incl. mental handicap (incidence, mortality)
- Incidence of asthma in children (other?)
- Low birth weight
- Smoking in pregnant women
- Breastfeeding
- Sexual behaviour
- Induced abortions
- Social support/networks
- Life events
- Housing
- Vaccination coverage
- Perinatal/neonatal screening
- Integral children's health monitoring
- No. of midwives/specialised nurses
- Caesarean sections
- 30-days in-hospital mortality below 1 year of age

Example 12: 'Performance of the health care system'

This window focuses on the performance of the health care system. This issues has been explicitly addressed by OECD (OECD, 2000b). It may include a limited selection of *section 4* (Prevention, health and social services) and could be taken as part of the core set defined by OECD (marked). We propose:

- Teenage pregnancies
- Life expectancy
- Infant mortality
- Perinatal mortality
- Inequality in deaths
- DMFT-12 index
- Low birth weight
- Occupational diseases
- Vaccination coverage
- Coverage of cancer screening
- Coverage of integrated children's health services
- Practising physicians (oecd core)
- Practising GPs (oecd core)
- Practising specialists (oecd core)
- In-patient care beds (oecd core)
- Acute care beds (oecd core)
- In-patient beddays (oecd core)
- Acute care beddays (oecd core)
- Admissions in-patient care (oecd core)
- Admissions acute care (oecd core)
- ALOS in-patient care (oecd core)
- ALOS acute care (oecd core)
- Cataract surgery (oecd core)
- Coronary angioplasty (oecd core)
- Coronary bypass (oecd core)
- Caesarean section (oecd core)
- Hip replacement (oecd core)

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- Medicine use
- Insurance coverage (oecd core)
- Total expenditure on health (oecd core)
- Perception of the health system
- Waiting lists/times
- Avoidable deaths
- 30-days in-hospital mortality
- 28-day re-admission rate
- Nosocomial infections
- Cancer survival rates

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