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Isare I: health regions definition and description of data availability

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Background

With the growing importance of regions in the European Union, the need for sub-national health information in order to assess health needs is expected. As part of a EU programme, the French regional health observatories and their national federation have conducted a project regarding health indicators in the regions of EU.

Aim

To identify the appropriate sub-national level to make comparisons between 'regions of Europe' and describe the characteristics of data and health indicators available at those levels.

Method

Following a literature review, a questionnaire was sent to partners in each of the EU country in order to identify an appropriate infra-national level and to investigate data availability at these levels.

Results

Between one and three infra-national levels were investigated in the 15 countries of the EU. It was possible to identify an appropriate level in 13 of them. Overall this corresponds to nearly 300 'health regions' with average population size of 1 165 000 inhabitants. Most of these have responsibilities in the field of health promotion and produce a public health report. In 11 of the 13 countries, the 'health regions' coincide with a local democracy level. Data availability is high for demography and mortality, medium for health care supply and utilisation, but low for morbidity and health determinants.

Conclusions

Despite varying level of competencies, results of the survey suggest that health indicators exchange between 'health regions' is feasible, and would increase the scope of possible comparisons.

Isare II: feasibility of gathering regional data

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Issue/problem

The Isare I project has defined appropriate sub-national levels for E.U. to compare health indicators and has explored the data availability at those levels.

Description of project

The objective of this second phase of the project is to test the feasibility of collecting data at the sub national levels defined in each countries of the European Union through the first phase of the Isare project.

Two distinct data collection processes have been performed: the collection of a limited number of data (17 data) for all the regions of the participating countries and the collection of a broader range of data (35) for only one region of each participating countries.

Regarding the data collection for all the regions, the limited data set has been set up on the basis of the information provided by the Isare I and ECHI projects. Regarding the data collection for one region, the broad list of data has been set up on the basis of the availability data provided by the Isare I project.

The questionnaires and the input mask files have been sent to each correspondent and the data have been centralised into a database.

Lesson learned

A first approach to comparability matters has been performed, based on both the work conducted in the other HMP projects and on the appreciation of the countries correspondents. An Internet Web site will be created to provide accessibility to this database.

Conclusion

A synthesis presenting the selected data, their sources and persons or institutes in charge, as well as the corresponding database will be provided as the final step of the Isare II project. This synthesis will be validated by the steering group and the countries group and be forwarded to the European database managers. This step will constitute the completion of the project. This will allow the integration of sub national level information into the European database and will allow comparisons between European regions.

ECHI and ISARE: Health indicators at national and subnational levels

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Issue/problem

The first phase of the ECHI project (European Community Health Indicators) has produced a proposal for a broad set of indicators in the field of public health, covering health status, a range of determinants of health, activities in prevention, health promotion and health care, and demographic and socio-economic background factors. The proposal has relied much on earlier work by WHO-HFA, OECD and Eurostat, and on results of many projects in the EU Health Monitoring Programme.

Description of project

The present 2nd phase of ECHI aims at improving the indicator list by implementing recent results of HMP projects, making more explicit links with data sources and data development, and the development of concrete examples of 'user windows'. These 'user windows' are meant to be subsets of indicators selected from the perspective of specific user groups.

Lesson learned

In ISARE, the ECHI scheme and indicator list has been adopted from the beginning. The philosophy was that the needs for data and information by policy makers would not be systematically different between the national and sub-national levels in all EU countries. They might be different between different sub-national settings depending on their size and/or types of responsibility in the public health or health services area. Also in this case, the user window concept could help. A few examples will be given of this. In ISARE-2, like in ECHI, a core set was developed to investigate the possibilities of harmonised data collection at sub-national level. The similarities and differences will be discussed.

Conclusion

An example is the selection of a generalised set of 'core indicators' for prioritised implementation of data collection at EU level.

Workshop 11: Monitoring of Cardiovascular Diseases: results of the EUROCISS project

Chair persons: M. Madsen, D. Greco

EUROCISS Research Group

The aims of the European Cardiovascular Indicators Surveillance Set Project – EUROCISS – were to identify, using existing data-sets, the essential information required to objectively define the burden of cardiovascular diseases (CVD) and to recommend indicators and standardised methods for future data collection in the European Union (EU). Such standardisation will permit cross-country comparisons to improve the prevention and control of CVDs.

The objectives of EUROCISS included:

- the identification of which CVDs are of importance for public health;

- the identification of specific indicators for assessing morbidity;
- the development of recommendations for collection and harmonisation of data that could be easily applied within the EU different countries and would provide reliable and significant data for monitoring cardiovascular diseases.

Although CVDs have been identified as one of the leading contributors to the global disease burden in Europe, few reliable and comparable indicators are currently available. An inventory of the available indicators and data sources from the participating countries was defined, as well as a list of specific CVDs of public health interest requiring surveillance. Further potential indicators and alternative

methods of data collection were added to the inventory. Based on the results of the inventory, a set of recommended indicators was selected, using the criteria of relevance, validity, sensitivity and reproducibility.

The EUROCISS Project has been implemented by a Working Group under the co-ordination of the Istituto Superiore di Sanità, Centre of Epidemiology, Surveillance and Health Promotion, Rome, Italy, with the financial support of the European Commission within the Health Monitoring Programme.

EUROCISS Research Group

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The burden of cardiovascular diseases in Europe

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Background

Cardiovascular disease (CVD) represents a major cause of mortality, morbidity and disability, and preventable risk factors have been well-documented. For these reasons, CVD is of major interest for public health programmes. The most important CVDs are ischaemic heart disease (acute myocardial infarction, acute coronary syndromes, angina pectoris and other forms of coronary heart disease), heart failure, and cerebrovascular disease (ischaemic and haemorrhagic stroke).

Methods

Within the EUROCISS project, an inventory of sources of information on CVDs available at European and country levels has been developed. At the European level, the WHO-HFA and WHO-MONICA databases are easily and freely accessible in the Internet. To ascertain data availability at country level, a questionnaire was sent to project partners, with the request to describe the available data sources on each disease, the scope of existing studies or surveillance systems (geographical area, temporal duration, age range, population), the adopted methodologies (case definition, ICD coding for mortality and hospital discharge records, linkage and validation methods), and the morbidity indicators (attack rate, incidence, prevalence, case fatality rate).

Results

The WHO-HFA database provides information for routine statistics: the available data demonstrates that CVDs contribute approximately to 40% of overall mortality in persons 35 years and older. Ischaemic heart disease and cerebrovascular disease contribute to approximately 40% and 25% of total CVD mortality, respectively; mortality data on HF are not available.

Morbidity data are rarely available in the different countries. Although the absolute values may have changed over time, attack rates collected by the WHO-MONICA Project during 1985–1994 provide accurate coronary and cerebrovascular data for cross-country comparisons of men and women in the age range 35–64 years. The MONICA study showed that 1.0 to 1.5 events of hospitalised non-fatal AMI were registered for every death due to ischaemic heart disease.

Ongoing population-based registers are a source of data on myocardial infarction in several European Countries (Belgium, Denmark, Finland, France, Germany, Italy, Norway and Sweden). However, selection procedures for events, differences in age range, different validation procedures and methods limit the comparison of results.

Conclusion

The demographic changes in Europe and the improvement on diagnostic and therapeutic procedures have likely resulted in an increasing prevalence of chronic forms of ischaemic heart disease, although at present it is difficult to assess the magnitude of temporal changes. For this reason, it will be important to monitor the occurrence of both acute and chronic forms of the disease due to their frequency, cost and impact on the quality of life among affected patients.

Recommended indicators for monitoring acute myocardial infarction and ischemic heart disease

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Background

Ischaemic heart diseases (IHD) and acute myocardial infarction (AMI), are major public health problems and leading causes of death in Europe. In recent decades, IHD mortality and incidence of AMI have declined in Western European countries, while in other countries these diseases have increased.

Methods

Indicators for assessing the disease burden from AMI and IHD in Europe have been identified by the EUROCISS project. An inventory of available data in 14 European countries has been developed.

Results

A population based surveillance of AMI requires reliable and comparable information on disease incidence/attack rate, mortality and case fatality. Today such information is available at a regional level in some European countries. Only routinely collected mortality and hospital discharge data are available for all EUROCISS countries. In some Nordic Countries, information on incidence and case fatality of AMI is available at a national level through a simplified record linkage method based on national registers of hospital discharges and deaths. This method has been validated using MONICA data or in other ways. Prevalence of angina pectoris or heart failure is assessed in some countries by surveys, but information on important clinical measures is often lacking.

Conclusion

A monitoring system collecting comparable and valid population based data is essential to evaluate time trends and population differences in IHD and implement prevention activities in Europe. Such systems presently cover only a small part of the European population. The recent introduction of new, more sensitive diagnostic criteria for AMI highlights the need of valid and comparable data on disease incidence.

Recommended indicators for monitoring stroke and other cerebrovascular diseases

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Background

Stroke represents approximately 10% of total mortality and 25% of cardiovascular mortality in the European population. Even more important than mortality is morbidity, since a stroke often requires protracted hospitalisation and often results in permanent disability. The purpose of this presentation is to suggest indicators and data sources for monitoring stroke in Europe.

Methods

Indicators for assessing the disease burden from stroke in Europe have been identified by the EUROCISS project. An inventory of data available to monitor these indicators in European countries has been developed.

Results

The most reliable way to monitor the occurrence of stroke events is to use a population-based stroke registry, although few countries currently have them. Some of the existing registries were initiated as part of the WHO MONICA Project. A limitation of stroke registries is that they are labour-intensive; for this reason, most cover only limited geographical areas. Based on record linkage of hospital discharge diagnoses with mortality data, validated by standardised diagnostic criteria, they usually cover a single region and the age range 35–74 years. Only the Nordic Countries have stroke registers at national level, although they are not based on standardised data collection procedures. Moreover, re-hospitalisations for elective investigations or rehabilitation purposes often receive the same ICD code as an acute stroke, making the identification of recurrent stroke events somewhat unreliable. Currently, nearly all patients with an acute stroke have either MRI or CT investigation, improving the ability to distinguish between hemorrhagic and ischaemic strokes. Recommended indicators of stroke include mortality, hospital discharge rate, incidence/attack rate, case fatality, and prevalence. Of these indicators, mortality and hospital discharge diagnoses are available for all countries. Information about incidence/attack rate and case fatality of stroke is available in some countries through registries; prevalence is assessed by cardiovascular surveys, health interview surveys and health examination surveys. Special surveys

at 1 year follow-up of stroke patients are recommended to evaluate the functional disability and the quality of life.

Conclusions

Population-based registries are the best and most feasible source of stroke data at population level. The high cost limits their implementation at a national level; therefore they should be established in representative areas of a country. Record linkage of the hospital discharge registries with the mortality can be used but need to be validated.

Recommended indicators for monitoring heart failure and other forms of heart disease

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Background

The aging of the population and the advance in treatments have resulted in an increasing prevalence of chronic forms of ischaemic heart disease. Because of their frequency and impact, it is highly important to monitor the occurrence of both acute and chronic forms of heart disease. Heart failure (HF) is the leading diagnosis in hospital admissions among patients of 65 years and over; in addition, recent interest has been focused on HF for the poor quality of life among affected patients and the high cost associated with the disease. The purpose of this presentation is to suggest indicators and data sources for monitoring incidence and prevalence of HF and other forms of heart diseases.

Methods

An inventory of HF data in European countries has been developed within the EUROCISS project. No specific indicators for HF are currently available from routine health statistics. However data for mortality and hospital discharge records exist at county level.

Results

In hospital discharge records, HF can also be found under the following diagnoses: hypertensive heart disease, primary and secondary cardiomyopathies, and chronic cor pulmonale. Therefore, if validation studies on HF mortality and hospital discharge are carried out, these causes should be taken into account. To obtain an exhaustive overview regarding HF, not necessarily requiring routine hospitalisation, review of medical records of primary care physicians and cardiovascular surveys will be necessary. Other indicators can be used as a proxy to measure the burden of the disease if integrated with other sources of information, e.g. national consumption of medications used to treat heart failure and its complications. Among the recommended indicators, functional disability and quality of life are suggested in patients with HF.

Conclusions

HF is a frequent complication of myocardial infarction and hypertensive disease. Hospital discharge diagnoses are not sufficient to evaluate the frequency of HF. For this reason, review of medical records of primary care physicians and health examination surveys are suggested. Validation studies are recommended.

The Italian Register of Cardiovascular Diseases

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Background

It has been demonstrated that the MONICA registries, although highly accurate, require sophisticated system of validation for the events. However, implementing such procedures on nationally

representative data is expensive. The Italian Group of the MONICA project has developed a method to estimate the occurrence and fatality rate for coronary and cerebrovascular events, linking hospital discharge and death records. ICD codes, which are weighted according to positive predictive values assessed in a sample of 1000 coronary and cerebrovascular suspected events classified through the MONICA categories in each centre.

Methods

Eight areas representative of the North, Centre and South of Italy have been enrolled. Two of them are urban areas (Rome and Naples), two are regions (Friuli Venezia Giulia and Veneto), three are small cities (Caltanissetta, Modena and Firenze) and one is a mixed urban-rural area (Brianza). Following the simplified methodology fatal and non fatal events were identified and checked for re-hospitalisation of the same events. Attack rates were assessed weighting the ICD codes corresponding to the predictive values estimated applying the MONICA diagnostic criteria (algorithm based on duration and localisation of symptoms, ECG findings, cardiac enzymes and for fatal cases, autopsy diagnoses). The MONICA categories of definite non-fatal cases and definite, possible and insufficient data with ICD codes included within ICD-9 410-414 for fatal coronary events were included in the definition of attack rate.

Results Attack rates per 10 000 for fatal and non-fatal events are reported in the table.

Conclusions

To evaluate the health status of a population, surveillance of cardiovascular events data on prevalence of risk factors are needed. Population-based registers represent the best and most feasible source of morbidity data at a population level; they can be used to calculate key indicators such as attack rate and case fatality. Incidence can be assessed if information on first event is available. If survival rates are available, prevalence can also be assessed. The high cost of the registers limits their implementation at national level; therefore they should be established in representative areas of the country. The use of the simplified MONICA procedures proposed above provides the possibility of establishing expanded networks of representative areas for surveillance purposes.

The Italian CABG Project – Short-term outcomes in patients with Coronary Artery Bypass Graft Surgery: a preliminary analysis

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Objectives

Recently, the Italian Ministry of Health has become increasingly interested in the evaluation of outcomes of medical procedures, including coronary artery bypass graft (CABG). In late 2001, the Istituto Superiore di Sanità (ISS) therefore began a national prospective study on the short term outcomes (mortality within 30 days) of CABG procedures with the aims of 1) describing the observed and expected mortality at 30 days of the intervention for each cardiac surgery unit, adjusting by the individual risk of the patients; 2) comparing different models of risk adjustment.

Materials and methods

A list of all Italian cardiac surgery centers was prepared, and each site was contacted to elicit their participation in the study. For each patient undergoing a CABG, the centers were requested to provide data on details of the procedure, haemodynamic condition before surgery, certain comorbidities, history of recent myocardial infarction and unstable angina, ventricular function and whether the CABG procedure was performed on an emergency basis; they were also subsequently asked to provide information on vital status at 30 days. Centers have the option of electronic data entry on a password-protected website or sending data directly to the ISS. To determine the best risk adjustment model, a model was developed using a multiple logistic analysis with backward procedure. This model was then used both to compute 1) indirect standardization, that permit comparison of the adjusted mortality rate of each center with that of the entire population undergoing CABG at the participating centers and 2) direct standardization, which permits the development of a reference standard against which the performance of each center can be compared.

Results

Of the 88 Centers assessed, 78 agreed to participate, although only 60 had sent their data at the time of this analysis. Of the 17,071 CABG interventions available for this preliminary analysis, 7,124

Table Ferrario M. The Italian Register of Cardiovascular Diseases

	Men		Women	
	Fatal	Non-fatal	Fatal	Non-fatal
Brianza	13.8	28.2	4.1	8.5
Friuli	12.8	22.8	5.1	7.2
Modena	15.9	25.3	4.0	5.3
Firenze	11.8	25.4	3.3	7.1
Roma	16.4	30.4	4.9	7.3
Napoli	17.4	35.6	7.1	7.6
Caltanissetta	12.7	12.4	3.6	2.5