Assessment of the Health Information System in the Czech Republic

By:
Pavla Lexová
Jana Brožová

The Institute of Health Information and Statistics of the Czech Republic
ABSTRACT

This assessment of the National Health Information System (NHIS) in the Czech Republic was conducted as part of a project of the WHO Regional Office for Europe. Its goal is to enable a better use of information in decision-making, while holding into account the other factors influencing decisions. The methodology was developed in Romania in June 2003, and then tested in the Czech Republic, Denmark, Hungary and Poland. This report is the result of the Czech experience. Semi-structured interviews of key-informants at the highest possible level, both decision-makers and professionals working in the field of health information, were performed by a Czech team, with the support of WHO. The project aims at identifying gaps and problems in health information system and serving as a basis for reviewing and strengthening NHIS; as a result, this system could be a better instrument for good governance, responsive to the needs of modern Public Health Care system.

Keywords

HEALTH STATISTICS
INFORMATION SYSTEMS
EVALUATION STUDIES
HEALTH CARE STRATEGY
HEALTH PLANNING
NEEDS ASSESSMENT
CZECH REPUBLIC

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List of abbreviations

CCDMIS    Coordination Centre for Departmental Medical Information Systems
ChU – FSS  Charles University – Faculty of Social Sciences
CINDI    Countrywide Integrated Noncommunicable Diseases Intervention Programme
CR        Czech Republic
CSSA    Czech Social Security Administration
CW        Categories of Work
CZSO    Czech Statistical Office
EMEA    European Medicines Agency
EU        European Union
EUROSTAT European Community Statistical Office
GHIC    General Health Insurance Company
HE        Health Establishment
HFA      Health for All
HIC      Health Insurance Corporation
HIS      Health Information System
ICD      International Classification of Diseases
IHIS CR  Institute of Health Information and Statistics
IIE      Institute for Information on Education
IPH      Institute of Public Health
IS       Information System
MD       Medical devices
ME        Ministry of Environment
MEYS Ministry of Education, Youth and Sports
MLSA Ministry of Labour and Social Affairs
MoH       Ministry of Health
MONICA MONItoring CArdiovascular diseases
NHIS National Health Information System
NIPH National Institute of Public Health
NML National Medical Library
OECD Organisation for Economic Co-operation and Development
PIS-MH Public Information Service in the resort of the Ministry of Health
RHS Regional Hygienic Station
RIPH Regional Institute of Public Health
SCU Subjects of Common Use
SIDC   State Institute for Drug Control
TB       Tuberculosis
UNAIDS Joint United Nations Programme on HIV/AIDS
UNICEF United Nations Children’s Fund
WHO/EURO World Health Organization, Regional Office for Europe
Executive summary

An assessment of the Czech health information system was undertaken in 2004, as a part of the pilot phase of a project of the WHO Regional Office for Europe.

Main statistical needs in the Czech Republic are covered by the State statistical service. (It includes production and provision of information on social, economic, demographic and environmental development in the CR.)

The state-statistical service is carried out by the Czech Statistical Office (CZSO) and Ministries. Czech Statistical Office coordinates the State Statistical Service performed by the Ministries and unifies the methodology of statistical surveys carried out by the Ministries. Tasks of the State statistical service are determined by the law on the State statistical service.

Health statistics in the Czech Republic are partly a component of the State statistical service, defined by the law on the State statistical service, and partly are performed on the basis of the sector legislation of the Ministry of Health.

The main actors of the Health Information System in the Czech Republic

- National Health Information System (NHIS) maintained by the Institute of Health Information and Statistics of the Czech Republic (IHIS).
- Information systems in the area of Public Health Protection (focused on prevention and health protection).
- Information system of the State Institute for Drug Control (SIDC).
- System of scientific medical information conducted by National Medical Library.
- Surveys focused on particular serious health problems of the population.
- Information systems of organizations outside the sector of Ministry of Health providing data related to health and health service. (Some data are provided to NHIS from other above mentioned sources. The main source outside the Sector of Ministry contributing to NHIS is the Czech Statistical Office (CZSO) which is responsible for State statistical service. A specific position in the field of health information belongs to health insurance companies.)

A marked progress in health statistics began in the 1950s and 1960s in the Czech Republic. In 1960 the Institute for Health Statistics (now the Institute of Health Information and Statistics) was established, with the mission of collecting and processing statistical data on the population health status and on health services activities. The Institute followed the already existing tradition of health statistics, improved the established statistical methods, created its own system of health data collection and developed publication activity.

The social changes at the turn of the 1990s required changing attitudes to health care and organization of health services. In 1990 the Government approved a new system of health care, inducing profound changes in its organization structure. Health care institutions were decentralized and, to a large degree, privatized.
The new concept of NHIS, adopted in 1992, ensured that dissolution of some elements of the former organization of health care did not cause losses of departments belonging to NHIS. The content of the information system was also revised. In 2002 the structure of administration of the Czech Republic was reorganized, and the structures of NHIS and of the IHIS were modified accordingly.

Provision of required data to the NHIS is a duty imposed by law as well as the obligation to ensure personal data protection and to provide information to the public.

**NHIS provides information on following areas:**

- the health status of the population
- the network of health institutions
- activities of health service establishments and manpower in health services
- health services financing
- socio-demographic characteristic of the population
- living and working conditions.

The strengths of NHIS and of its system of health statistics are its long tradition, stability, recognized position of IHIS, its publication activities, availability of long-time series of data on many indicators, its ability to react by sample surveys to new demands, the accessibility of data from NHIS to institutions as well as individuals, and the high level of international cooperation. The position of IHIS guarantees that the rules for data management and publication are fully respected.

In the area of legislation pertaining to Health Information System (HIS), strengths are that the functioning of the State statistical service and of the health information system is specified by law. Supplementary regulations specify detailed information and methodical instructions for the reporting units. Weaknesses include delays in the preparation and passing of new laws, as well as conflicts between the needs of the National Health Registries and the Act on personal data protection. Protection of individual data became the subject of political dispute, which resulted in abandoning some of the monitored personal data.

In terms of coverage, almost 100% of the target population is covered by routine reporting and in established national health registries. Data are obtained from both public and private sectors.

Concerning the flow of data and information, paper transmission is less and less frequent, and the electronic format is becoming the norm. There is easy and free access to information. The problem is a fluctuating quality of the primary data from health institutions. Thorough checking of input data is required including phone calls or physical check-ups. There is no active feedback to the health institutions; it is left to their particular interest. The possibilities of feedback are also limited by legislative measures. There is no interconnection among different registries, and it is not possible to compare results of the activities of individual health institutions because it is not in compliance with laws. Transfer of data to the HIS and provision of data is based on law or on bilateral contracts. Therefore, the cooperation of institutions processing national data has a good level. However, problems occur in receiving data from health insurance companies (except for data provided by law): they are not sufficiently available for the needs of the reporting units or for comparison with other information systems.

Content wise, the HIS is very extensive. Many indicators are available in very long-time series, and only very detailed information is missing (e.g. data on activities of some individual branches
of internal medicine are not reported separately but as an item of internal medicine). Although quality checks (optical and logical control) are performed at the data entry stage and during the processing of the data, no system for objective and systematic data quality control is in place. Criteria of data quality are not clearly defined beyond guidelines and definitions.

In terms of human resources for health, the quality and motivation of the personnel involved in the health information system is high. Most of these employees have university or at least secondary education. Financial resources allocated to the health information system are in line with the present financial situation of health services. However, to find the effective system of financing of health services is a topical problem, control over investments is not sufficient, and an integral concept of health care is missing.

**Recommendations**

1. To improve the quality of primary data by establishing a systematic process of objective quality control and defining quality criteria.
2. To optimize the use of existing data and information and systematize active feedback mechanisms to reporting units. Stimulating the interest of the reporting units (e.g. by sending of processed data back to the reporting units along with aggregated information concerning comparable health establishments) and encouraging health professionals to use the existing NHIS data for their work and for evaluation of their results is an important avenue. It would also participate in increasing the accuracy of the data they submit to NHIS.
3. To increase the availability of the data from health insurance companies (solutions are expected in the new concept of the health care system in preparation).
4. To shorten the preparation time of laws and implementing decrees.
5. To improve the quality of the laws and resulting speed of their passage.
6. To implement topical technological innovations in order to accelerate of data transfer and processing.
7. To stabilize the contents of the basic information systems and simplify of data processing.
8. To improve the dissemination of health information directed to the public, to health professionals and also to persons responsible for decisions on the structure and exploitation of the health information system.
9. Communication with the Ministry of Health should be enhanced in terms of response delays on the part of the Ministry, a better estimating of the problems presented to the Ministry and a more effective support of the needs of the HIS (e.g. during creation and approval procedure of new laws).
1. Introduction

The health information system\(^1\) is an indispensable source of information for the management of health services to define the strategy of health policy, to support decision-making in health policy, and to monitor the provision of health care and for medical research. It also serves the media or the general public directly as a source of information about the health of the population and health services. It facilitates the exchange of health information in the framework of international cooperation. Health data are an important part of the state statistics. For these reasons, the health information system should be an integral part of the health care system in every country.

The Division of Health Information, Evidence and Communication at the WHO Regional Office for Europe started a project in 2003 aimed at assessing and strengthening the health information system in Member States by using an agreed methodology. Understanding the system better will enable WHO and other intergovernmental agencies to identify countries’ needs for support in health information and to advise them on the best solutions to improve the quality and relevance of the data they produce.

The ultimate goal of this project is to help the countries to transform their NHIS into a concrete instrument for decision-making, gradually capable of answering various types of information requests issued from different audiences and initiatives.

It should also help health professionals and decision-makers at various levels of state and local administrations to make more effective use of NHIS data, and help improve the general public’s awareness of health information and its usefulness.

The tools have been developed in Romania in June 2003. Following a preparatory meeting in Prague on 17 December 2003, the Czech Republic, Denmark, Hungary and Poland accepted to further test and refine the methodology. They will then be offered to all 52 Member States in the European Region. This report is the result of the Czech experience.

The objectives of the project are:

1. to describe the NHIS, including the flow of data, the links between the different institutions dealing with health data and information and the legislation in this area;
2. to define the current and potential users of health information and the means to disseminate health information to them in a meaningful manner;
3. to identify gaps and problems (duplication, delays, etc.) in the production, validation, analysis, interpretation and/or dissemination phases, at national and district levels;
4. to recommend solutions to help strengthen the NHIS, as well as the network of public health institutions and health decision-makers interested in health information.

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\(^1\) The health information system can be defined as a dynamic and flexible infrastructure for the monitoring of health activities and population health outcomes that is active at the national or subnational level. It encompasses the persons, values, legislation, inter-institutional relationships, technology and standards which contribute to the different stages of the data processing. These stages include the collection, analysis, storage, transmission, display, dissemination, and accessibility of data and information from complementary sources. The goal of the HIS is to allow all professional and lay users within and outside the health sector to use, interpret and share information in order to transform it into knowledge.
This approach is based on building capacities in the country itself, by having a local team responsible for conducting the project in the country with WHO/EURO’s help and support. This should empower the local health professionals to implement appropriate changes. The exchange of experiences across countries is also a strong focus of the project.

2. Methods

Individual semi-structured interviews were conducted by a Czech team (the authors) with 26 key informants from 16 institutions. In some of them (Ministry of Health, CZSO, Regional Hygienic Station (RHS), General Health Insurance Company (GHIC), IHIS) interviews were performed in several departments or with several participants (Annex 2). They lasted one to two hours, and all but one took place at the interviewees’ workplace. They had the character of free conversation. The questionnaire prepared by WHO/EURO was used as an aid in conducting the interviews; it was adapted to the type of interviewee and the role of the represented institution in the NHIS.

Following a brief information about the institution of the interviewee, the questionnaire covered data production, procedures ensuring data quality, analysis and interpretation of data, data transfer and dissemination, type of users, costs of data production or transfer, relations between participating institutions, utilization of data, particularly in decision-making processes concerning health care, and an overall assessment of the strengths and weaknesses of the NHIS (including legislative framework).

The confidentiality of individual responses was ensured to the interviewees at all stages of the process (no taping, no individual quotations in the reports). The key informants represented the main organizations, which are producers or users of health information, at national and district levels, as well as inside and outside the health system. Special efforts were made to include decision-makers at the highest possible level.

Interviews were requested with people who participate in the NHIS as individuals or as representatives of institutions. They were selected so as to cover the whole spectrum of functions in the system – data providers, analysts and users of data, within and outside the Sector of Ministry of Health. The following institutions were included:

(a) In the health sector: Ministry of Health, IHIS, Coordination Centre for Health information Systems, National Institute of Public Health (NIPH), RHS, SIDC, the chief physician of a Regional Hospital, physicians representing Councils of National Health Registries, general practitioner.

(b) Outside the health sector: CZSO, Ministry of Labour and Social Affairs (MLSA), Ministry of Education, Youth and Sports (MEYS) – Institute for Information on Education (IIE), two health insurance companies and Committee for Social Policy and Health of the Parliament.

The interviewed persons received short information about the project and the subject of the interview, including the questionnaire form, well ahead of the date of the interview.

Information from the interviews was complemented by a review of official documents and legislative texts pertaining to the NHIS. A review of these references had been prepared before the start of the interviews, along with graphs summarizing the flow of data in the NHIS. This facilitated the selection of institutions to be contacted for the interviews.
3. The Health Care System in the Czech Republic

All citizens of the Czech Republic are entitled to health protection and free health care, guaranteed by the Constitution.

Before 1990 health services were centralized and administratively regulated. At the turn of the 1990s fast privatization of health care took place which affected particularly the outpatient services. Privatization of hospitals is not extensive and concerns particularly small institutions. Pharmacies and spas have also been privatized.

Health institutions in the Czech Republic may be divided into state institutions founded by Ministry of Health and several other Ministries (Defence, Interior, Transport and Justice) and non-state institutions that include regional, municipal and private institutions, as well as those founded by cities, churches and nongovernmental organizations. In 2002 there were 26 270 health institutions, of that about 25 290 private institutions, mainly the physicians’ practices.

The coverage of health care costs is distributed in the following manner:
1. Compulsory public health insurance mediated by health insurance companies. This source covers the major part of health care services under contractual agreement [79.3% in the year 2003].
2. Out-of-pocket payment: patient’s contributions in covering some medical services, medicines and health aids have been gradually implemented [8.6% in 2003].
3. By the State Budget, used particularly for selected investments and for large health projects [12.1% in 2003].

Work on a new strategy of health care is presently in progress that should focus, besides other aspects, on more effective use of financial resources, optimizing the network of health institutions and introducing a system of monitoring and evaluating the quality of care.

4. State Statistical Service

Production and provision of information on social, economic, demographic and environmental development in the Czech Republic and its provinces is the task of the State statistical service. Responsibility for this service is borne by CZSO. The State statistical service is also carried out by the Ministries and other central government institutions. CZSO coordinates the State statistical service performed by the Ministries, cooperates with the Ministries in preparing the Programme of Statistical Surveys and unifies the methodology of statistical surveys carried out by the Ministries.

Data are provided to the NHIS in the framework of the State statistical service, on the basis of the Programme of Statistical Surveys, as well as on the basis of health legislation.

2 Plan of mandatory statistical surveys for oncoming year (see page 11).
5. The Health Information System in the Czech Republic

5.1 Introduction

The basic source of health information used in management of health services and for statistics is the NHIS. The Ministry of Health is the guarantor of this system; its realization is provided by the IHIS founded by the Ministry of Health.

Besides the NHIS there are other sources of health information. In the Sector of the Ministry of Health there are information systems of the Public Health Protection (before Hygienic Service), processed by the NIPH and by RHS and Regional Institutes of Public Health (RIPH), the information system of the SIDCI and the system of scientific medical information conducted by the National Medical Library (NML) as the Public Information System of the Ministry of Health (PIS-MH). Additional sources of information are projects focused on research and solution of particular serious problems in the population health status (e.g. Countrywide Integrated Noncommunicable Diseases Intervention Programme (CINDI), Monitoring Cardiovascular Diseases (MONICA).

To assess the population health status and the level of health care, data are also required from information systems belonging to organizations outside the health sector, such as the CZSO, the MLSA, the Czech Social Security Administration (CSSA), the MEYS, the Ministry of Environment and the health insurance companies.

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Regular provision of data to the NHIS is a duty by-law or is based on bilateral contracts between IHIS and other institutions. Provision of data specified by law is mandatory for all state as well as private health institutions. Data are obtained from reports issued in specified intervals (annual, half-yearly, quarterly) and from current compulsory notifications. This is mostly a nationwide routine data collection, and exceptionally collection from selected institutions.

5.2 History of the Health Information System

Before 1950, statistical data systematically collected in former Czechoslovakia concerned demography, major infectious diseases, incapacity for work caused by disease or injury, invalidity, external causes of occupational injuries and hospitalization.

A marked progress in health statistics began in the 1950s and 1960s. In 1952 the Centre for Health Statistics was established in the Ministry of Health. At the end of the 1950s the annual reports of national health institutions were introduced, the processing of which was an important mean for monitoring the activities of health institutions and health service personnel.
In 1960 the Institute for Health Statistics (predecessor of the present IHIS) was established and commissioned with collecting and processing statistical data on the population health status and on the activities of health services. The institute followed the existing tradition of health statistics, improved the established statistical methods, created its own system of health data collection and developed publication activity.

The social changes at the turn of the 1990s required changing attitudes to health care and organization of health services. In 1990 the Government approved a new system of health care. The organization structure of health care changed profoundly. Health care institutions were decentralized and, to a large degree, privatized.

The new concept of NHIS, adopted in 1992, ensured that dissolution of some elements of the former organization of health care did not cause loss of units (departments) belonging to NHIS. The content of the information system was also re-evaluated. All subsystems based on individual notifications were revised and adjusted to new needs. Monitoring of selected economic data was introduced. (A dramatic change was the growth of the number of reporting units from the original 6500 to 25 000, as a result of decentralization.) In 2002 the structure of administration of the Czech Republic was reorganized, and the structure of IHIS was accordingly adjusted.

5.3 The National Health Information System

The position and structure of the NHIS was established in 1992 by the new concept of NHIS guaranteed by the Ministry of Health. Since then the NHIS has been developed so as to correspond to the needs of management of health services and to exploit new possibilities of information technology.

A. Mission of the NHIS

The NHIS is defined by law as a state-wide information system responsible for collecting and processing information on the health status of the population, on health care institutions and their activities and economy, for the purpose of directing the provision of health care, for developing health policies, for utilizing the information in the framework of health research, for management of health services and for the state statistics. The framework of the NHIS includes maintenance of National Health Registries.

B. Tasks of the NHIS

- Methodology and organization ensuring data sets for the needs of health care.
- Determination of obligations of health institutions to the NHIS.
- Collection, processing, analysis, publication and provision of information to users.
- Provision of reliable data on the population health status and on health services according to the needs of the users, including general public information.
- Production of reference data for determining and implementing health policies at various management levels and for the functions of state and local administration in the area of health care.
- Creation of an independent open information system, flexibly responding to central as well as local needs concerning health care.
• Data confidentiality – protection against abuse of information or provision of data to unauthorized persons.

• Cooperation with other information systems inside and outside the Sector of Ministry of Health, including international collaboration.

C. Legislative framework for the NHIS

The basic legislative supports of the National Health Information System are:

• Act No. 20/1966 Coll., on national health care (in relation to NHIS updated by Act No. 260/2001, No. 285/2002 and No. 156/2004). Paragraph Nos. 67c to 67e define the NHIS, the tasks and authority of IHIS, the duties of health institutions, the conditions for establishing and maintaining National Health Registries and the rules for dealing with personal data in the NHIS.

• Act No. 89/1995 Coll., on State statistical service. Paragraph Nos. 10, 11 and 15 determine the reporting duties and authorize determination of the Programme of Statistical Surveys. The Programme of Statistical Surveys is published annually in the Collection of Laws in the form of a Decree and its Annexes. Annex No. 1 contains statistical programme of the CZSO, Annex No. 2 contains the statistical programme carried out by Ministries and other central administration offices. A part of that is the Programme of Statistical Surveys of the Ministry of Health.

Statistical surveys listed in this Programme are obligatory for all health institutions and facilities listed among reporting units. If not stated otherwise for individual surveys, the obligation of reporting concerns all health institutions of any founder. The actual reporting duty of a health establishment is established/initiated by written request sent by the Regional Office of IHIS demanding to fill in and return the corresponding report forms. IHIS as a unit of the State statistical service provides the necessary forms as well as instruction for completing them and/or the medium and methodical support for electronic submission. The health establishment is obliged to provide the required data at its own cost; IHIS is obliged to protect the individual data provided by the respondents from abuse. The health establishment may agree to provide specific data to specified organizations or persons. Infringing the obligation of reporting and of data protection may be punished by fines.

Other laws influencing significantly the functioning of the NHIS are:

• Act No. 101/2000 Coll., on personal data protection
  Determines protection of personal data concerning physical persons and the rights and duties involved in processing these data.

• Act No. 106/1999 Coll., on free access to information
  Determines the conditions of the right of free access to information and the basic conditions for providing information.

A survey of the laws concerning the system of health care and of the laws and regulations related to the health information system is presented in Annex 4.

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3 IHIS CR may provide individual (not aggregated) data on particular health institution to another organization (e.g. MoH) only on the basis of agreement of the health institution.
D. Position of the Institute of Health Information and Statistics

The IHIS of the Czech Republic has been established in 1960 by the Ministry of Health.

The Institute is divided into the central office seated in Prague and 14 subordinated regional offices.

The main mission of the Institute is to manage and coordinate the tasks of the NHIS, its improvement and development. The Institute provides methodical instructions and carries out the data collection from health institutions, processes and analyses data, maintains National Health Registries, publishing and dissemination of health information to users.

The tasks of the IHIS in ensuring the function of the NHIS are determined by Act No. 20/1966 Coll. on health care for the people, and in the wording of later regulations, par. 67c.

The Institute also constitutes a component of the State Statistical Service, carrying out activity according to Act No. 89/1995 Coll., on the State Statistical Service, as amended. It collaborates with institutions of the State Statistical Service, in particular with the CZSO, ensures links between the NHIS and individual health institutions, and cooperates with institutions conducting information systems of other organizations inside as well as outside the Sector of the Ministry of Health. The Institute cooperates with hospital associations, associations of physicians, professional medical societies, health insurance companies and other organizations, especially in improvement of precision of the NHIS data and in their utilization. In the area of health statistics on international levels the Institute cooperates particularly with WHO, Organization for Economic Cooperation and Development, the United Nations, European Community Statistical Office (EUROSTAT) and other organizations. The Institute is the official provider of data from the NHIS representing the Czech Republic.

In dealing with personal data in the NHIS health registries, the Institute fulfils the tasks of data administration and processing in accordance with Act No. 101/2000, unless another processor of data is authorized by the Ministry of Health or by the Institute in accordance with this Law.

The IHIS authorizes the Coordination Centre for Departmental Medical Information Systems (CCDMIS) to process data of some National Health Registries. The Centre is an organization established by the Ministry of Health for the purpose of fulfilling tasks connected with implementation, development and functioning of information systems in the area of health care. The Centre also conducts some registries of the Public Health Protection and some specialized health information systems.

E. Structure of the National Health Information System

E.1 Contents of the NHIS

The NHIS covers the following areas:

- the network of health institutions, their activity, the employees and employers in health services
- the population health status
- economy of health services
- demographic and social characteristics of the population.

E.2 Structure of the NHIS

Sources in the Sector of Ministry of Health
E.2.1 **Data acquired on the basis of the Ministry of Health Programme of Statistical surveys**

- Data reported to the Registry of Health Institutions – notifications of founding, changes [e.g. in mission, organization, capacity] and disestablishing health institution
- Data from regular reports of health institutions
  - on the *activity of outpatient institutions*
    including numbers of employees and employers (in the case that employer is a physician), numbers of visits – treatments, numbers of patients followed up for selected diseases, supplementary data, e.g. on selected medical apparatus (technology);
  - on the *activity of hospitals*
    including numbers of employees and employers, numbers and occupancy rate of beds, numbers of patients, days of treatment, number of departments and operation theatres; separately reported are data on the activities of gynaecological departments of hospitals, balneal institutions and rehabilitation centres;
  - on the *economy of health institutions*
    including indicators of the economic situation of the health establishment and data on the development and structure of employment and wages;
  - on the personnel and activity of *institutions of public health protection*
  - on *medical apparatus equipment of health institutions*
  - on *sales of medicaments by manufacturers and distributors*
  - on *activities of libraries and information centres in health services*
  - on *exploitation of health services by foreigners*.

E.2.2 **Data acquired on the basis of Ministry of Health Sector legislation – National Health Registries**

- National oncolgal registry
- National Registry (NR) of hospitalized patients
- NR of parturient mothers
- NR of newborn
- NR of congenital anomalies
- NR of abortions
- NR of vascular surgery
- National cardio-surgical registry
- NR of joint prostheses
- NR of cardiovascular interventions (catheterizations)
- NR of users of medically indicated substitute substances
- Registry of physicians, stomatologists and pharmacists
- Information System of Death Certificates
- Registry of medical devices.

E.2.3 **Surveys**

- Statistical Sample Survey on Dentition Health and Treatment (three years periodicity since 1994)
- Health Interview Survey of the State of Health of the Czech Republic Population (three years periodicity since 1993).

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*Population surveys mentioned here are carried out regularly by IHIS CR. Other studies are carried out according to a topical need. [Recently the Institute took part in World Health Study 2002.]*
E.2.4 Special registries concerning transplants of tissues and organs

- Tranicon – registry of donors, waiting lists and performed operations – maintained by the CCDMIS and professionally conducted by the Institute of Clinical and Experimental Medicine
- Registry of persons objecting to post-mortem extraction of tissues and organs – processed by the CCHIS under administration of IHIS.

Sources outside the Sector of Ministry of Health

E.2.5 Data taken over from information systems of Czech Statistical Office

- Demographic information
  - births
  - deaths
  - population movements
- Incapacity for work caused by disease or injury
- Health accounts.

E.2.6 Data taken over from information systems of health insurance companies

- Costs of medicines and medical devices
- Frequency of primary services
- Health care paid by public health insurance.

E.2.7 Data taken over from other Ministries

- Data are collected on the basis of the Programme of Statistical Surveys, provided to the NHIS on the basis of legal obligation or bilateral contracts.

E.2.7.1 Ministry of Labour and Social Affairs

- Registry of Institutions of Social Care
- Information on physicians in the Sector of MLSA
- Yearbook.

E.2.7.1.1 Czech Administration of Social Security

- Incapacity for work
- Invalidity benefits, invalidity – from the Yearbook.

E.2.7.2 Ministry of Education, Youth and Sports

- Information on university students of medicine and social medicine, information on students in secondary and tertiary paramedical schools.

E.2.7.3 Ministry of Environment

- Yearbook.

E.2.8 Sources of information from abroad

F. Flow of data and information in the NHIS

Data are regularly provided into the NHIS by health institutions and some data are taken over from the Information system of the Public Health Protection, the SIDC and the National Medical Library. The NHIS is also supplied by data from the mentioned sources outside the Sector of Ministry of Health – i.e. from the Information system of CZSO, MLSA, Czech Administration of
Social Security, MEYS, and Ministry of Environment and of the health insurance companies. Additional sources of information for the NHIS are ad hoc and/or periodic sample survey studies of the population health status. Also employed are information sources of international institutions – WHO, EUROSTAT, OECD, UNICEF, etc.

Health institutions send primary data to Regional Offices of the IHIS (in some cases directly to the Central Office or to a specified processor). Regional Offices check up the quality of data, process data for the corresponding region and send the processed data in specified periods to the Central Office of the IHIS. The Regional Offices provide and publish data and information concerning their region. In the Central Office the data are verified and processed for the whole country. The Central Office provides and publishes national data.

Data from some registries and information systems related to public health are collected from health institutions by RHS. After check-up and processing the regional data are sent to the Central Office of the IHIS or to the NIPH. The two institutes transfer data to each other.

Data are transferred from health institutions to regional offices in written or electronic form. (The decree in preparation, implementing the update of the Law specifying the functioning of National Health Registries requires gradual transition to electronic data transfer from 2005.) Data transfer between the Regional and Central Offices is performed electronically.

G. Unification of procedures, methodology

The IHIS issues annually the Methodology of NHIS, from 2004 as Binding instructions, containing methodical guidelines for the Programme of Statistical Surveys of the Ministry of Health. The Binding instructions contain lists of statistical reports, their forms, instruction for filling out, survey of the reporting units obliged to return individual forms, and deadlines for returning the forms.

The character of data provided to the National Health Registries, the sets of reporting units, methods of provision of the data and the time schedules for their provision are specified by law and the supplementing decree. Data are collected and processed in ways ensuring that the registries comply with professional requirements of physicians in the corresponding branches. The functioning of the registries is supervised by Registry Councils whose members are representatives of the administrators, processors and of the professional public.

H. Publication and utilization of data

Data obtained through activities of the NHIS are accessible to all interested parties. Publication and provision of data must proceed in accordance with the law on personal data protection. Protection extends also to individual data of health institutions. Data are published and disseminated mostly in aggregated form, for the whole country or smaller territorial units.

The IHIS issues regularly the Health Statistics Yearbook and a series of specialized publications focused on particular areas of health care. The publications and topical information sheets are

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5 Including practices of primary physicians.
6 By the respondents there are no considerable or systemic obstacles to the flow of the data. Sometimes reports are delayed and it is necessary to remind the deadline to the respective health institutions, sometimes problem arises with an individual not cooperating person or institution but the collection of the data is nearly 100%. Cooperation with reporting units takes place particularly on regional level.
also published on the web pages of the IHIS /http://www.uzis.cz/. Access to the web pages is free. Requests by institutions or individuals for data other than published are met on the basis of actual requirements addressed to IHIS.

Data are utilized by the Government, Parliament, institutions of State Administration and local administration, health research and educational institutions, health institutions, media, public. Some special data in National Health Registries are prevalently utilized by specialists in the given medical branch.

Data are provided free of charge to all departments of the State Administration. Selected institutions (Ministry of Health, the Parliament, institutions of State Administration and territorial administration, research institutes and professional libraries) receive the publications automatically every year.

**I. Cooperation with international institutions**

On the international level, the IHIS actively cooperates with WHO, EUROSTAT, OECD and other international institutions. IHIS is the official provider of data from the NHIS to international databases, e.g. to the WHO/HFA database. The Institute participates in the programme “Partnership on Health Statistics” organized by EUROSTAT; every year it sends topical data on harmonization of health statistics with the requirements of EU to the “Statistical Management Information System” of EUROSTAT. IHIS takes part in health surveys organized by WHO. (EUROHIS since 1993 (at three-year intervals); “World Health Survey 2002”). Data are utilized from the yearbooks World Health Report. The Institute also cooperates in international projects carried out in the Czech Republic by other institutions – e.g. by CZSO, MLSA and Faculty of Social Science of Charles University (gender statistics, European Strategy of Social Integrity – indicators concerning health, fulfilment of the “United Nations Development Programme” – millennium development goals). Extended bilateral cooperation and exchange of information exists with many countries.

The construction of National Health Registries involves cooperation of professional medical societies with international organizations in the appropriate branches, which ensures compatibility of the Registries and facilitates international comparison.

The main partner of EUROSTAT in the Czech Republic is the CZSO. Other institutions participating in the health information system focus their international cooperation on the main area of activity, e.g. NIPH focuses on public health protection.

**J. Financing of the health information system**

The NHIS is financed by the State Budget, through the Ministry of Health. The annual budget of the IHIS is CZK 80 million (approximately US$ 3 050 292). The cost of production and dissemination of information cannot be separated from other costs.

**5.4 Information systems in the field of public health protection**

**A. Public health protection**

Public health means health status of the population and of its groups, which is determined by the complex of environmental conditions, life and work conditions and life style. Activity in the area
of public health is based on Act No. 258/2000 on public health protection and on changes in several connected laws.

Health institutions active in the field of public health protection are the Ministry of Health, RHS, the NIPH and RIPH.

State administration in the area of public health is exerted by the Ministry of Health (also the Ministries of Interior and of Defence in areas of their jurisdiction) and by the RHS.

The RHS fulfil the tasks of State administration, including State Surveillance of health in their region. They evaluate the health risks, control and direct local health protection and promotion programmes. They participate in the definition of health policy of their region.

The activities of the NIPH include preparation of background information for the national policy of health protection and promotion, methodical and reference activity, monitoring and research of relations between environmental conditions and health, international cooperation in the field of public health protection and promotion, postgraduate education of physicians in this field and public educational activities promoting health awareness.

The tasks of the RIPH are to investigate and measure the components of environmental and work conditions, to monitor indicators of the health status of the population, to monitor the impact of the life and work environment on health and to prepare background information for assessment of health risks and of public health policies. The RIPH and RHS cooperate in realization of regional health protection and promotion programmes.

**B. Registries and information systems in the area of public health protection**

- IS of infectious disease
  
  Information on infectious diseases, serving for assessment of the epidemiological situation and trends on the territory of the Czech Republic, for monitoring of the health status of the population and for directing health care; it employs the EPIDAT program – the nationwide system of notification, registration and analysis of morbidity caused by infectious diseases.

- TB Registry and the Information system of Bacillary TB

- Registry of venereal diseases

- National registry of occupational diseases and risks of occupational diseases

- ARI – the programme of monitoring the prevalence of Acute Respiratory Infection
  
  Provides up-to-date overview of morbidity based on weekly notifications.

- Registry of articles for daily use
  
  Facilitates surveillance over articles classified as toys, objects for children up to three years, articles intended for contact with foods, cosmetics products.

- Registry of categories of jobs and workplaces
  
  Occupations are classified in four categories by risks for the worker’s health arising in given work; in cases of enhanced risks the public health authority issues a decision on appropriate categorization and proposes measures for health protection.

- Registry of water supply quality and of recreational water

- Registry of the supply and distribution of immunization substances
• Registry of Decisions of the Chief Public Health Officer
• System of monitoring of the health status of the population.

The system provides information on the burden of diseases, on health risks from the environment, and serves for determination of priorities in health protection policy as well as for general public information. It was established in 1994, monitoring is carried out in 30 cities in the Czech Republic. The system has 8 subsystems:

– health consequences and risks caused by ambient air pollution
– health consequences and risks caused by drinking water pollution
– health consequences and disturbing effects of noise
– health consequences of human organism burdens caused by chemical substances from food chains, dietary exposure
– health consequences of exposure of human organism to toxic substances from the environment, biological monitoring
– health status and selected indicators of demographic and health statistics
– health risks related to work conditions and their consequences
– health risks of soil contamination in urban agglomerations.

• Monitoring of HIV/AIDS prevalence – carried out in a specialized workplace of the NIPH. Czech monitoring and notification programme is in accordance with requirements of WHO/EU/UNAIDS.

• Three other registries are at the stage of pilot:
  RNI – registry of nosocomial infections
  RIC – registry of intensive care
  Pandemics – monitoring of the epidemiological situation and model of gradual measures in pandemics of influenza.

C. Data obtained in programmes and projects of public health promotion

HEALTH21, National Programme of Health Promotion, EU programmes – Community Care in Public Health.

Fulfilment of the objectives of the programmes is supported by health promotion projects funded by the Ministry of Health and approved on the basis of public tenders. The NIPH is the professional guarantor of the projects.

The projects are focused on 14 subject areas divided into 4 groups:

(a) control of behavioural risk factors
(b) prevention of diseases
(c) WHO community projects (Healthy Cities, Healthy Workplace, Health Promoting Schools)
(d) complex projects – solving problems of the regions.

The methodology is created in the NIPH and transferred to the regional institutes, thus the regional results are comparable.

D. Flow of data and information

Data are provided to the registries of Public Health Protection from reporting units (health institutions, accredited laboratories, and others such as the producers and suppliers to the registry of articles for daily use, or the employers to the registry of work categories) to the RHS
(occupational diseases are reported to appropriate Centres for OD) and from there the data are transferred to appropriate units of the NIPH, which is the central processor of most of these Registries and Information systems. The Administrator is the Ministry of Health (Department of Public Health Protection) or the NIPH. Some of these registries are conducted by the CCDMIS as regards direction and maintenance of the databases. The IHIS performs the processing (utilization, publication and transfer of data) of the TB Registry, the Registry of Venereal Diseases, National Registry of Occupational Diseases and Risks of Occupational Diseases, and of the Information system of Infectious Diseases. Data in the last mentioned Registries are routine parts of the NHIS. Data from environmental monitoring are processed by RIPH and transferred to RHS and the NIPH.

E. **Publication and utilization of the data**

Data and information are primarily published by the NIPH and the RHS. Data from the TB Registry, the Registry of Venereal Diseases, National Registry of Occupational Diseases and Risks of Occupational Diseases and from the Information System of Infectious Diseases are transferred to the NHIS and included in the publications of the IHIS. The results of monitoring the health status of the population are published by the NIPH in their comprehensive annual report. The report is published both in printed and electronic form.

Data from the information systems of the public health service are utilized to design health policies at national and regional levels, to evaluate health promotion programmes, for establishing immunization programmes, for assessment of the exposition of the population to contaminants from environmental pollution, etc. Information from the area of public health is utilized, besides health services, also by the Ministry of Agriculture, the Ministries of Industry and of Transport, Ministry of Environment, regional administration authorities and nongovernmental organizations. The data are accessible to the public. Complex projects solving regional problems are used as bases of prevention programmes in the complex care for the health of the population and for the plans of regional development.

The Czech Republic takes part in a number of international projects in the field of public health protection, and contributes to international information systems (European Health for all database (HFA-DB), Health Behaviour in School-aged Children (HBSC), Europe Free of Tobacco, Preventing Road Traffic Injury, European Influenza Surveillance Scheme (EU), FluNet (WHO), UNAIDS, CINDI. Cooperation over national borders exists also on regional levels, e.g. in the European region of Neisse.

Information is obtained and utilized from the sources of WHO, EU, EUROSTAT, OECD, the web of European Legislation, the Public Health Observatory (the IS of the United Kingdom), MEDLINE, TOXLINE, WEEKNOW (web-based European Knowledge Network on Water) and others in specialized branches.

### 5.5 Information Systems of the State Institute for Drug Control

- Information system of registered medicines
- Information system of medical devices
- Information system of drug consumption
- System of notification of adverse reactions to medicines and medical devices
• Database of pharmacies, manufacturers and distributors of medicinal products, certified laboratories for drug control, list of testing devices included in the national programme of correct manufacturing praxis in the field of medicines, list of vendors of reserved medicines (approved for selling out of pharmacies).

The Information system of registered medicines is accessible to the public on the Internet and provides comprehensive technical information on all registered products.

Information from the Information system of the SIDC are sent to the Ministry of Health (used for determination of the drug policy and drug categorization), to the GHIC (input information for determination of prices), to the customs offices (data on imports and consumption) and to CZSO.

Data on sales of medicaments by manufacturers and distributors and data provided to the Registry of medical devices are components of the NHIS.

Special data are provided on request, free of charge, in accordance with protection of manufacturers and business confidentiality. Some information and analyses are available on web pages of the SIDC. The SIDC cooperates with the international organization for drug control, European Medicines Agency (EMEA), and participates in the Pan-European Forum (PEF).

6. **Strengths and weaknesses of the Czech Health Information System**

The assessment is a summary of opinions and remarks following from the answers of the respondents.

**Legislation**

*Strengths*

Functioning of the State statistical service and of the health information system is based on law, and provision of specified data is obligatory by law. Supplementary regulations and by-laws specify detailed information and methodical instructions for the reporting units.

*Weaknesses*

Delays in preparing and passing new laws are a problem. The basic Act on health care originates from 1966. In recent years it has been repeatedly amended because preparation and approving of the new law on health care is prolonged and delayed. Similarly, the law on health institutions, legislative definition of the network of health institutions is still missing. Furthermore, the issuing of executive regulations and implementation instructions of the laws suffer from delays.

Publication of data on activities of individual health institutions and provision of such data to the Ministry of Health and to institutions of the State Administration is dependent on the approval of the concerned health establishment. The new law on health care should change this situation towards improved surveying of the situation of individual health establishment.

Conflicts arise between the needs of health statistics, especially of the National Health Registries, and the Act on personal data protection. Among the recorded personal data, address, employment or nationality of the patient have to be omitted, which may diminish in some cases the information value of the data from the medical viewpoint.
Coverage of the target population

Strengths
Almost 100% of the target population is covered by routine reporting and in established national health registries. Data are obtained from the public as well as private sectors. Newly introduced national health registries are gradually linked to health institutions. Full coverage will be reached after a certain time of operation of the registries.

Protection of sensitive data

Strengths
The demands on personal data protection in the Czech Republic are high. Personal data protection is determined by law. Compliance with personal data protection is controlled by the Office for Personal Data Protection. In practice, there is a very good level of data protection in the institutions that collect and process them (IHIS CR, CCDMIS, health insurance companies). Access to personal data is limited to small groups of professionals with strictly defined access rights.

Weaknesses
Protection of individual data became the subject of political dispute in 2003, with National Health Registries as the main targets despite the fact that they are efficiently protected against breaks of confidentiality. That was proven in 2004 in the difficult passage of the amendment of the law regulating the functions of NHR, resulting in abandoning some of the monitored personal data. Breaks of confidentiality are more likely a risk on the level of the reporting units, e.g. from the internal Information systems of hospitals. Their quality and level of data protection may be influenced by the economic situation of the hospitals (by their investments to the information system).

Data and information flow, data provision, feedback

Strengths
Data are obtained for the NHIS from all health institutions, including private ones, from the whole territory of the Czech Republic. Data transfers on paper are less and less frequent, and the electronic format is becoming the norm. There are no problems with receiving data from the NHIS. Topical information is published continually on IHIS web sites.

Weaknesses
The primary data from health institutions are not of sufficient quality. Thorough checking of input data is required, including phone calls or physical check-ups, which is very time and cost demanding. Feedback to the health institutions is not active – it rather depends on their interest in data and information. The possibilities of feedback are also limited by legislative measures. Data from different registries or results of activities of individual health institutions may not be compared. The health institutions provide detailed information to health insurance companies, but to receive information from the latter is difficult.

Cooperation

Strengths
Transfer of data to the NHIS and provision of data from the NHIS is based on law or on contracts and proceeds in established ways. Cooperation of institutions processing all-state data has a good level.
**Weaknesses**
Problems occur in receiving data from health insurance companies (except for data provided by law).

In the area of demographic statistics there are not sufficient links to the Central Population Registry.

Communication with the Ministry of Health is sometimes complicated by time delays in the response of Ministry and by underestimating of the presented problems. The Ministry did not efficiently defend the needs and importance of the health registries in the process of passing the law on registries in the Parliament.

**Comprehensiveness of the data collection system**

**Strengths**
The system is very extensive. Many indicators are available in long-time series (some of them since the 1950s and 1960s).

Only very detailed information is missing, (e.g. data on activities of some individual branches of internal medicine are not reported separately but as an item of internal medicine).

**Implementing criteria for data quality**

**Strengths**
IHIS issues binding instructions (methodology of NHIS) for the reporting units with guidelines for filling in the forms and with definitions of the individual items.

Optical and logical checks are carried out at data entry as well as during their processing. Data entry into National Health Registries uses predetermined lists, which reduces the incidence of errors.

**Weaknesses**
No system of objective and systematic data quality control is in place. Criteria of data quality are not clearly defined.

**Financing and human resources**

**Strengths**
The quality and motivation of the personnel involved in the health information system is high. Most of these employees have university or at least secondary education. Financial resources allocated to the health information system are adequate to the present economic situation of health services.

**Weaknesses**
Financing of health services is a general problem, control over investment is not sufficient, and an integral concept of health care is missing.

**Differences in data quality and availability**
Variations in data quality are most often caused by human factors – wrong interpretation of methodology, casual approach to filling in the forms, and inaccurate statements of diagnoses. Overall, data are easily accessible; differences may be caused by different possibilities of access to the Internet.
The role of WHO and of its information sources

IHIS submits official data representing the Czech Republic to WHO. In utilization of the Health For All database problems arise in comparability with data of other countries. The definitions are not unified. Often recent data are not available, and some countries do not use ICD-10. CZSO provides to the Health For All database data on incapacity for work caused by disease and injury. WHO has no database like that, international comparison is only available in the area of occupational injuries. The approach to personal data protection is also not unified.

It would be helpful to achieve some unification in health policies of WHO and EU, and compatibility of WHO and EUROSTAT data.

7. Conclusions and recommendations

Many features may be considered as the strengths of the NHIS – the system of health statistics in the CR: its long-lasting tradition, stability of the system, the recognized position of the IHIS, publication activity, availability of long-time series of many indicators, the ability to react to new needs by setting up surveys, accessibility of NHIS data to institutions as well as individuals, and the level of international cooperation. The position of IHIS guarantees observance of regulations for dealing with data and information and for their publication.

The fluctuating quality of primary data is a problem. Variations in data quality are most often caused by human factors. Further, it is necessary to clearly define criteria of data quality and to implement a system of objective evaluation of data quality.

Closely connected with quality is the problem of feedback. The more the health professionals will use the NHIS data for their work and for evaluation of their results, the higher will be their interest in accuracy of the data submitted to NHIS. Data are available but the physicians and other persons active in health services often do not see the usefulness for their daily work. In addition to the existing system of data control, a means for improvement is to stimulate the interest of the reporting units. One such action may be to actively send analysed data back to the reporting units along with aggregated information concerning comparable health institutions, etc.

Health institutions supply detailed data to health insurance companies, but data from health insurance companies are not sufficiently available for the needs of the reporting units or for comparison with data in the NHIS or obtained from other information systems. Comparability is limited partly by the fact that IS of health insurers and NHIS serve different purposes. Other limitations result from the legislation. Direct interconnection of the two systems is not in accordance with some aspects of personal data protection. Solutions are expected to be incorporated in the prepared new strategy of the health care system.

There is room for improvement in shortening the laws and implementing decrees preparation time, their quality and the resulting speed of their passage, and further, in acceleration of data transfer, simplification of data processing, implementation of modern technology, stabilization of the contents of the basic information systems.
Fig. 1. Flow of data and information

STATE STATISTICAL SERVICE

Ministry of Health

Institute of Health Information and Statistics

Czech Statistical Office

Subordinated organizations/workplaces responsible for statistics

HEALTH INFORMATION SYSTEM

Ministry of Health

Health insurance companies

Institute of Health Information and Statistics CR

National Institute of Public Health

Czech Medical Library

State Institute for Drug Control

Regional offices of HIC

Regional offices of IHIS CR

Regional Hygienic stations and Institutes of Public Health

Medical libraries and inform.centres

Health establishments
Fig. 2. Collection of data to the National Health Information System (except of National Health Registries)

Institute of Health Information and Statistics Centre

Czech Statistical Office

demographic data

Czech Social Security Administration (district workplace)

data on births and deaths

data on activities of health care establishments

economy of health establishment

Ministries

data on sales of medicines

National Medical Library

reports on activities of libraries and information centres

State Institute for Drug Control

students and health professionals in the sector

Out-patient and in-patient health establishments

including spas, creches, homecare, laboratories, transfusion centres, emergency service

Producers and distributores of medicines

Pharmacies

Hygienic stations, Institutes of public health

IHIS CR (regional workplaces)

inability for work due to disease or injury

data on activities of health care establishments

Medical libraries

Centres of scientific information

Employers

Health establishment, where birth took place; physician, who confirmed death

Health establishment issuing or terminating certificate of incapability for work

Institute for Drug Control

issuing or terminating incapability for work due to disease or injury

Czech Social Security Administration (district workplace)

diseases

injuries
Annex 1

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2. Methodological information – Binding Instruction for 2004, IHIS, Prague, 2004.\(^8\)
3. Main tasks of IHIS CR in 2004, IHIS CR, Prague, 2004.\(^9\)

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\(^7\) Data and information available from National Health Information System and related sources. Publication gives overview on data and information available in the Institute of Health Information and Statistics in the framework of NHIS, including data taken over from other institutions and from abroad. Contains description of mandatory reports and notifications and National Health Registries [collected data, reporting units, data transfer periodicity, timelines of provision of information]. Issued by IHIS, 2002.

\(^8\) Methodological information – Binding Instructions. Contains list of mandatory reports with detailed information on particular mandatory report including obliged reporting units, report forms templates, instructions for reporting units, recommendations for control of filled forms – linkage among lines, deadlines for return of forms. Issued by IHIS CR, updated every year.

\(^9\) Main tasks of IHIS CR. The plan of activities and tasks of IHIS CR in maintaining NHIS for given year. Issued annually by IHIS CR. It contains information on the topical situation and the plan for development of information technology and programming, data processing, provision and publication of data and information, data protection and cooperation with other institutions, including international cooperation. Program of Statistical Surveys of Ministry of Health with the list of mandatory reports, the survey of registries and information systems and information of prepared health surveys are enclosed. Publication involve information on periodicity of data collection, characteristics of reports, registries and IS and its outputs, data flow and provision.
Annex 2

LIST OF KEY INFORMANTS

**RNDr. Marcela Ambrožová**, General Health Insurance Company of the Czech Republic, Director of Department of mathematical analyses.


**MUDr. Jan Hach**, UH Motol, Physician-orthopaedist, member of Board of National Registry of Joint Prostheses.

**Mgr. Jiří Holub**, Institute of Health Information and Statistics of the CR, Vice-Director.

**Ing. Petra Jančurová**, Co-ordination Centre for Departmental Medical Information Systems Public Health Protection, Director.


**RNDr. Michaela Kleňková**, Institute for Information on Education, Director of the Division of statistical information and analyses.

**Ing. Karel Křiž**, General Health Insurance Company of the Czech Republic, Department of conception of analyses and methodology.

**Ing. Jaromír Nebřenský**, Institute for Information on Education, Vice-Director of the Division of statistical information and analyses.


**Ing. Vlasta Pážlerová**, Institute of Health Information and Statistics of the CR, Head of section III.

**MUDr. Jarmila Rážová**, Ministry of Health of the Czech Republic, Section of Public Health Protection, Head of the Department for children, adolescents and health promotion.

**RNDr. Ing. Karel Rozsíval**, Health Insurance Corporation of the Ministry of Interior of the Czech Republic, Head of analytic group.

**MUDr. Miroslav Samek**, Paediatrician, Liberec.

**Ing. Jan Schweiner**, Ministry of Labour and Social Affairs, Head of Section of Informatics and Analyses.


**Karel Šimek**, Health Insurance Corporation of the Ministry of Interior of the CR, Head of group of health care.

**Ing. Miroslav Šimek**, Czech Statistical Office, Head of Section of Demographic Statistics.

**MUDr. Antonín Šípek CSc.**, Institute for mother and child, Physician-obstetrician, Chairman of the National Registry of Congenital Malformations.

**Ing. Stanislav Tomášek**, General Health Insurance Company of the CR, Department on information systems.

**Ing. Jaroslav Tor**, Ministry of Health, Section of informatics.

**MUDr. Ludmila Truhlářová**, Regional Hygienic Station Liberec, territorial workplace Česká Lípa, Head of Department of public health.

**MUDr. Věra Tučková**, Regional Hygienic Station Liberec, Head of section of public health.

**MUDr. Vladimír Valenta**, Regional public health station Liberec, Director.


**MUDr. Jiří Vytiska**, Regional hospital, Liberec, Head of the TB Department.
Annex 3

LIST OF ORGANIZATIONS
Organizations where interviews were carried out

Within health sector

Ministry of Health of the Czech Republic

The Ministry was established by Act of the Czech National Council No. 2/1969. It is the central institution of the State Administration for health care, public health protection, health research, directly controlled health institutions; responsible exploration, protection and exploitation of natural therapeutic resources, natural baths and mineral waters; medicaments and medical products for prevention, diagnostics and therapy; health insurance and health information systems. The office of the Chief Public Health Officer, established within the Ministry of Health, is in charge of public health protection.

The Ministry, prepares drafts of laws and other legal regulations, supervises legality in its competence, and organizes conclusions of international agreements.

Department of Informatics – technical support (methodical steering) of allocation of investment resources for information technologies, recommendation of standards, creation of classifications.

Department of Health Promotion – collects data for public health protection and promotion, according to Act No. 258/2000 on public health protection. Creates national programmes of public health protection.

Institute of Health Information and Statistics of the Czech Republic

The main mission of the IHIS is (methodical and functional) steering, technical support and coordination of the tasks of the NHIS, including activities leading to its improvement and further development. The mission of the NHIS is to collect and process information concerning health, conduct of National Health Registries, and disseminate information in the extent determined by legal regulations respecting the conditions of personal data protection (Act No. 101/2000 Coll., on personal data protection), including its utilization for health research. IHIS is a component of the State statistical service and performs its activity according to Act No. 89/1995 Coll., on State Statistical Service. The tasks of the IHIS CR and the NHIS are determined by Act No. 20/1966 Coll., on national health care, paragraph 67c.

National Institute of Public Health

Contributory organization is directly controlled by the Ministry of Health. The Institute prepares background information for national health policies, public health protection and promotion; provides methodical and reference support in this field; organizes monitoring and research of the relationship between environmental conditions and health; participates in international cooperation; supervises the quality of public health control in services; and provides postgraduate education in the medical branches of public health protection and promotion, as well as public health awareness programmes. (Position and commission of the institute are established by Act No. 258/2000 Coll., paragraph 86 on public health protection, as last amended by Act No. 320/2002 Coll. and the statement of the MoH No. 31334/2002 of 17.12.2002.)

Regional Hygienic Station (region Liberec)

One of the 14 RHS established by Act No. 258/2000 Coll., paragraph 82, on public health protection. The RHS are institutions of State administration. Their main mission is public health protection and promotion. For this purpose they collect and analyse information on public health and living and working conditions from multiple sources and propose corrective measures. They are authorized to impose
corrective measures in the interest of public health and to enforce their fulfilment by natural or juristic persons. They cooperate in creation of regional health policy.

**Coordination Centre for Departmental Medical Information Systems**

The Centre has been established as of 1.1.2004 by the Ministry of Health as a state organization component directly controlled by the Ministry.

The main task of the Coordination Centre is to perform managing, developing, coordination, and publishing activity in medical informatics in connection with set up and operation of selected information systems with departmental force (National health registries, Registries of the Public Health Protection, Specialized health information systems).

Tasks of the Centre include: organization of direct operation and delegated administration of appointed departmental medical information systems. Organization and unification of information and communication technologies for operation of appointed medical information systems, particularly departmental data networks, system and application software, data interface, standards of medical informatics, systems of electronic identification, etc.

**National Registry of Congenital Malformations**

This is an all-state population registry, which follows the information system of Congenital Anomalies conducted by IHIS since 1965. It is focused on collecting and processing information on congenital malformations and constitutes a component of the NHIS.

The NRCM contains records on all congenital malformations diagnosed in children up to 15 years and malformations of foetuses detected during gestation or in stillbirths. The Registry provides summarized data for statistical purposes on the national level and for international comparison, for epidemiological studies and health research.

**National Registry of Joint Prostheses**

This is an all-state population registry focused on collecting and processing data on patients undergoing surgery with artificial joint prostheses, including information on treatment details.

The Registry also provides information on the properties of materials used for the implants, particularly from the viewpoint of their lifetime and costs.

**State Institute for Drug Control**

The Institute is an administration office established by Act No. 79/1997 Coll. It is a budgetary organization directly controlled by Ministry of Health. It is commissioned to ensure that in the Czech Republic, only medicaments of high pharmaceutical quality, efficient and safe are available. It participates in measures ensuring that medical products used in the Czech Republic are safe, functional and accompanied by true adequate information. It contributes to measures ensuring that drugs and medical products are rationally utilized and responsibly and ethically clinically evaluated.

**Regional Hospital Liberec**

**Practice of paediatrician**

**Outside of health sector**

**Parliament of the Czech Republic – Chamber of Deputies – Committee for Social Policy and Health**

The Committee for Social Policy and Health is a permanent (obligatory) institution of the Chamber of Deputies determined by the Constitution of the Czech Republic (Constitutional Act No. 1/1993). The Committee has 17 members in 6 subcommittees. The Committee formulates resolutions particularly in the fields of health, labour and social affairs, marginally connected with problems in the realm of education, youth and sports.
Ministry of Labour and Social Affairs
The Ministry is a central institution of the State Administration for labour and employment relations, work safety, employment and qualification, collective contracting, civil service, wages and other rewards, retirement insurance, sickness insurance, social security, social care, working conditions of women and juveniles, legal protection of maternity, care for the family and children, care for citizens in need of special care and further problems of labour and social policy. (Established by Act of the Czech National Council No. 2/1969. Its competence is defined in paragraph 9 of the Act.)

Czech Statistical Office
CZSO is a government organization performing the State statistical service according to Act No. 89/1995 Coll. It determines the methods to be used by the Ministries performing the State Statistical Service, organizes collection and processing data for statistical purposes and provides statistical information to government institutions, territorial authorities and the public, and abroad. It secures comparability of statistical information on national and international scales. For this purpose it determines the methodology of statistical surveys, data processing and utilization, and defines the contents of statistical indicators. CZSO coordinates the State statistical service carried out by Ministries and other institutions of central administration and supervises compliance with the law on personal data protection.

General Health Insurance Company
This health insurance corporation was established by Act No. 551/1991 Coll., on the GHIC, along with its Statute and offices to perform general health insurance. Its activities are determined by Act No. 48/1997 Coll., on public health insurance and Act No. 592/1992 Coll., on insurance fees in the general health insurance system. Its main tasks include:
- collection of insurance premiums, and recovery of insurance debts;
- control of insurance payers;
- payment for health services provided to insured clients by contracted health institutions;
- control of health care provided by contracted health institutions, of its volume and quality, of correctness of accounting in relation to contractual agreements, and minimization of obligations after due date;
- negotiation with health care providers on contract relations, in particular, on annexes to contracts on health care delivery and payment, on changes in the payment systems and control mechanisms.

Health Insurance Company of the Ministry of Interior
It is an open public insurance facility established by Act No. 280/1992 Coll., on sectoral, professional, industrial and other health insurance companies.

Institute for Information on Education
This Institute is a contributory organization directly controlled by MEYS. Its tasks consist of collection, administration, updating and processing of statistical data in the field of education; provision of information services to the professional as well as lay public; specialized publications in the field of education; processing of analyses, surveys and prognoses concerning the situation and development of the educational system and policy; participation in international research and representation of the Czech Republic in international information systems in the field of education.
Annex 4

OVERVIEW OF LEGISLATION
Principal legislation related to the health care system

Organization of the health care system

Act No. 20/1966 Coll., on national health care as amended. Defines the main principles of the delivery of health care, participation of individuals and institutions in health care, system of health institutions, manpower in health services, tasks of science and research in health care, processing of personal data related to health care, governing and decision-making in the domain of health care.

Decree No. 242/1991 Coll., on the system of health institutions founded by district authorities and municipalities – implementation decree to Act No. 20/1966 Coll.

Decree No. 394/1991 Coll., on position, organization, and activities of faculty hospitals, other hospitals, selected specialized therapeutic institutions and regional hygiene stations under the governance of the Ministry of Health – implementation decree to Act No.20/1966 Coll.


(Bills of new laws on national health care and on health institutions are prepared and submitted to government. These laws will replace the Act No. 20/1966 Coll. and the Act No. 160/1992 Coll.)

Manpower in health services


Decree No. 77/1981 Coll., on health personnel and other specialists in the health service – implementation decree to Act No.20/1966 Coll.

Act No. 95/2004 Coll., on conditions of obtaining and recognition of professional and specialized qualification for performance of medical occupations of medical doctor, dentist and pharmacist.

Act No. 96/2004 Coll., on conditions of obtaining and recognition of qualification for performance of non-medical occupations in the health service and for performance of activities related to the provision of health care and amending certain related laws.

Medicaments and medical devices

Act No. 79/1997 Coll., on medicines and on amendments of certain related acts.
Lays down conditions of manipulation with medicaments – research, production, registration, distribution, documentation, using medicaments for health care. Commissions SIDC with compiling and managing the fund of special information on medicines including data on consumption of medicines.

Act No. 123/2000 Coll., on medical devices and on amendments of certain related laws.
Lays down conditions of using medical devices in delivery of health care.

Decree No. 501/2001 Coll. laying down forms and ways of notifying undesirable episodes of medical devices.

Protection of public health
Act No. 258/2000 Coll., on the protection of public health and amending some related laws. Defines principles of care for living and working conditions, prevention of occurrence and spread of contagious diseases, obligations of individual persons in protection of public health, competence of the state administration and municipalities in the protection of public health.

Determines mandatory notification of infectious diseases. Empowers public health service to collection of personal and sensitive data in relation with notification of infectious diseases, monitoring of the risks of occupational diseases and epidemiology of drug abuse. Data required by the NHIS are transferred to IHIS. Paragraph 62: notification of infectious diseases, paragraph 79: collection and processing of personal and sensitive data.

Decree No. 440/2000 Coll. (implementary regulation) – determines conditions for prevention of occurrence and spread of infectious diseases and hygienic demands on service and operation of health institutions and institutions of social care.

Government order No. 290/1995 Coll., which sets the list of occupational diseases.

Decree No. 342/1997 Coll., which determines the practice of recognition of occupational diseases and sets the list of health institutions, which are authorized to recognize occupational diseases.

Decree No. 432/2003 Coll., laying down conditions of categorization of work and limits of indicators of biological exposure tests.

Health insurance

Act No. 48/1997 Coll., on public health insurance and amending some related laws. Determines insurance premiums, rights and duties of insurance premium payers, rights and duties of policyholders, conditions for the provision of health care and its reimbursements, health insurance companies, penalties and surcharges, network of health care facilities.

Decree No. 457/2000 Coll., issuing general framework of contracts for health insurance companies and health institutions – implementation decree to Act No. 48/1997 Coll.

Decree No. 134/1998 Coll., which sets the list of (elementary) health services with their point value – implementation decree to Act No. 48/1997 Coll.

Decree No. 57/1997 Coll., which determines medicines fully reimbursed from public health insurance and the extent of reimbursement for particular medicinal substances – implementation decree to Act No. 48/1997 Coll.


Act No. 280/1992 Coll., on sectoral, professional, industrial and other health insurance companies.

Act No. 592/1992 Coll., on insurance premiums for general health insurance.

Laws defining the NHIS and activity of IHIS CR, related decrees and amending regulations specifying the conditions of reporting data to NHIS

Act No. 89/1995 Coll., on the State statistical service. Defines State statistical service, determines terms of reference of the CZSO, the Ministries and other central administrative institutions, duties of reporting units in providing statistical information, and guaranties of impartiality of State statistical service.
Decree No. 394/2001 Coll., which determines the process of creating the Programme of Statistical surveys.

The Programme of Statistical Surveys for oncoming year is annually issued in the Collection of Laws in the form of decree.

**Act No. 20/1966 Coll.,** on national health care.
Par. 67c: definition of the NHIS and position of IHIS.
Par. 67d: establishment and operation of health registries (last amended by Act No. 156/2004 Coll.)

Describes conditions of the activity of the National Health Registries and determines personal data that can be processed without the agreement of the subject of data. (Gives the purpose of health registries, determines what data is possible to collect and under what conditions, how to treat the data.)


**Act No. 66/1986 Coll.,** of the Czech National Council, on legally induced abortions.

Decree No. 75/1986 Coll., implementation decree to the law.


**Act No. 123/2000 Coll.,** on medical devices and on amendments of certain related laws.

Decree No. 501/2001 laying down forms and ways of notifying undesirable episodes of medical devices.

**Act No. 258/2000 Coll.,** on the protection of public health and amending some related laws.

**Other laws with considerable influence on the activity of NHIS**

**Act No. 101/2000 Coll.,** on protection of personal data and on amendments to some related laws. Defines protection of data concerning natural persons and the rights and duties in processing of personal data.

**Act No. 106/1999,** on free access to information.
Stipulates the right to free access to information and determines conditions of providing the information.
Annex 5

PUBLICATIONS OF IHIS CR

List of regularly issued publications

Czech Health Statistics Yearbook
Health Care in the Czech Republic in Statistical Data
Directory of Health Institutions in the CR

Activity of health institutions in selected branches of curative and preventive care

Economic information on health care
Economic results of hospitals
Hospitalization
Balneological care
Physicians and pharmacists
Inpatient care
Newborn and infant deaths until one year of age
Occupational diseases
Cancer incidence
Care of diabetics
Venereal diseases
Abortions
Infectious diseases
Psychiatric care
Mother and newborn
Suicides
Network of health institutions
Tuberculosis and respiratory diseases
Terminated cases of incapacity for work for disease or injury
Congenital anomalies
Trend of macroeconomic and health indicators
Deaths