ANNUS MEDICUS 2009

ICELAND

EXTRACT FROM
THE ANNUAL REPORT OF
THE DIRECTORATE OF HEALTH 2009

August 2010

FROM THE MEDICAL DIRECTOR OF HEALTH

The year 2009 was the first whole year of recession after the economic collapse in Iceland in October 2008. Unemployment rates increased from 1–2% to 9–10%. The negative impact of unemployment on health is known from other countries. To counteract this there were certain positive effects, however, e.g. a reduction in the number of road accidents and reduced consumption of alcohol and tobacco.

A group of specialists met regularly at the Directorate of Health during the year to examine statistics and discuss the possible consequences of the economic recession on health and, not the least, on the health services, which suffered severe cuts in allocations. Since the beginning of the crisis, the Directorate of Health put great emphasis on preserving the primary health-care services and sensitive health-care domains such as geriatric and mental health services to ensure that they suffer as little as possible.

At the same time, certain statistics were closely monitored, e.g the number of patients waiting for surgical procedures and the consumption of medicines in the country. In short, the positive development towards shorter waiting lists continued in 2009 in spite of the economic difficulties. Furthermore, the total consumption of psychopharmaca was not affected in any way. At the very beginning of the crisis, a slight increase in the attendance to the emergency wards and psychiatric ward of the Landspitali University Hospital was observed while other developments were unexpected, such as a reduction in the number of admissions to the psychiatric ward in spite the difficult circumstances.

Cuts in allocations

The Directorate of Health had to endure a substantial cut in allocations as was the case for all Ministry of Health institutions that do not provide clinical service. This was particularly unfortunate because of the additional tasks which fell upon the Directorate due to the circumstances already described. By far the largest portion of the Directorate's expenditure is wages. Owing to an extensive trimming of expenses in the past several years, such as e.g. overtime, car benefits etc., there were very limited options for further spending cuts. The only remaining options, therefore, were to either lay off employees or negotiate with them on reducing their employment percentage. In consultation with the personnel, the second option was chosen and each division subsequently had to prioritise its tasks in accordance with the reduced working hours.

Pandemic influenza

As a result of the severe pandemic influenza in the summer and autumn of 2009 the Chief Epidemiologist and his staff were under a heavy work load. There was great uncertainty about developments and efforts were made to impose the strongest possible preparedness measures. On

the whole, these measures were successful, but the pandemic was in fact more severe and caused more severe illness than people in general believe, as can be seen in the great number of influenza patients admitted to emergency units at the time.

At the close of 2009, the undersigned left the position of Medical Director of Health and was replaced by Geir Gunnlaugsson, formerly the head of the Centre for Child Health Services and professor at the School of Health and Education of Reykjavik University. There are exciting times ahead for the Directorate of Health which, according to present plans, is to merge with the Public Health Institute of Iceland by the beginning of 2011. The undersigned wishes the new Medical Director of Health and the personnel of the Directorate of Health all the best in the future.

Matthías Halldórsson

Medical Director of Health in 2009

(temporarily appointed)

I would like to thank Matthías Halldórsson for over twenty years of outstanding service at the Directorate of Health. It is an honour and a challenge for me to follow in his footsteps and those of his predecessors in addressing the numerous tasks that the Directorate is responsible for according to law. The planned merger of the Directorate and the Public Health Institute of Iceland is a positive step forward offering a number of possibilities for improvement of the health services and public health in Iceland. The merger will take place at a significant point in the history of the Directorate of Health which celebrates its 250 years anniversary this year. Next year will therefore provide a historical opportunity for looking to the past and the present while at the same time building up a new institution for the future.

Geir Gunnlaugsson

Medical Director of Health

I. THE DIRECTORATE OF HEALTH

The organisation chart for the Directorate of Health has been in force since the beginning of 2006. According to the chart, the activities of the Directorate are divided into four professional and administrative divisions. The divisions are headed by general managers who form the Executive Board of the institution together with the Medical Director of Health and the Deputy Medical Director of Health.

The offices have been at the same address since 2003, in Seltjarnarnes, a community in the Reykjavik Capital Area. In the course of 2009, the Directorate of Health had 35 employees, in just over 30 full-time equivalent positions, in addition to a few temporary employees.

Activities in 2009

Formal reports on bills and regulations

The Directorate of Health gives opinions on parliamentary bills and proposals for parliamentary resolutions which concern health issues and other issues within its scope. The Directorate is also asked to comment on government regulations.

Meetings and events hosted by the Directorate of Health

The Directorate of Health sponsored 14 conferences, meetings, courses and other events during 2009, either independently or in partnership with other institutions and organisations. Staff from the Directorate of Health also participated in a number of conferences and meetings sponsored by other bodies, often as key-note speakers or panel members.

Visits

The Directorate of Health received visits from a number of foreign guests in 2009. Visitors included the head of the Health Consumer Powerhouse in Stockholm and the President of the European Federation of Nurses Associations (EFN).

The employees of the Directorate of Health pay visits to various institutions in the country as part of the Directorate's regulatory monitoring of health-care facilities or for the purpose of conducting audits and ad-hoc assessments of their activities. In 2009 such visits were paid to 11 institutions.

As part of preparedness measures for the pandemic influenza the staff of the Chief Epidemiologist, together with employees of the Civil Protection Department, visited some 15 towns across Iceland in June to hold meetings with primary health-care personnel and the police.

Collaboration on research and education

Studies based on data from the Directorate of Health's registries

The majority of applications for access to data in the Directorate's registries involved the use of data from the *Pharmaceuticals Database* (PDB).

Data from the *Icelandic Cancer Registry* are widely used for research and the Registry itself sponsors epidemiological research in cooperation with foreign and Icelandic scientists.

Several research projects based data from the National Birth Registry were initiated in 2009. Among these was an investigation into the seasonal distribution of birth dates among anorexic patients, research into pregnancy and birth anomalies and their relationship with autism, and research into indications for fetal cardiac ultrasounds and their results.

Collaboration with the University of Iceland

Since the autumn of October 2006, collaboration has existed between the Directorate of Health and the Faculty of Public Health Sciences at the University of Iceland concerning teaching and research.

The collaboration contract was entered into for the purpose of strengthening the two instistutions by employing their expertise and facilities to the benefit of both institutions. Research projects which make use of data from the Directorate of Health´s registries are already under way and it is hoped that postgraduate students will, to a larger extent, make use of this data for research.

Survey on the health of the people of Iceland in 2007 and 2009

In late 2007, a comprehensive survey was conducted on the health and wellbeing of Icelanders, aged 18–79, with a random sample of 10.000 people. Performed by the Public Health Institute of Iceland in cooperation with the Directorate of Health and other institutions, the survey is intended as a basis for regular measurements of the health, wellbeing and quality of life of the people of Iceland. In view of the changed circumstances in the Icelandic society following the economic collapse in the autumn of 2008 it was decided to carry out a second wave of the survey already in late 2009, i.e. earlier than originally planned

The sample for the second wave included all those who participated in the first one and had agreed to take part in a continuing survey. The main purpose of this second wave was to assess the changes in life styles, social standing, health and wellbeing of people one year before and one year after the onset of the economic hardship following October 2008. Part of the concept was to provide scientists with a sound basis for further research. Several such research projects are already under way.

Civil Protection

An amended Civil Protection Act entered into force in 2008 involving certain changes in the functions of the Directorate of Health and the Chief Epidemiologist. According to the new Act both the Medical Director of Health and the Chief Epidemiologist are members of the Security and Civil Protection Board. The Medical Director of Health is also a member of the board of the Civil Protection Coordination and Control Centre, which is responsible for the oganisation and operation of official response in emergency situations.

The Directorate of Health and the Civil Protection Division of the National Commissioner of the Icelandic Police completed a template for response plans for all health-care institutions in 2008. In spring the same year, a national preparedness plan for pandemic influenza was formally signed by the Chief Epidemiologist and the National Commissioner of the Police and already in 2009, the plan was put to the test in the influenza pandemic. The plan proved very helpful when the need arose for coordinated measures as the pandemic developed.

New guidelines on trauma assistance were published by the Civil Protection Department in 2009 in cooperation with other organisations, among them the Directorate of Health. They are intended for professionals and others who provide psychological support to people who are traumatised after major disasters or catastrophies.

II. CLINICAL QUALITY AND SAFETY

The Directorate of Health considers the enhancement of quality and safety in the health services a priority and cooperates with various bodies on different measures towards that end. Indeed, clinical quality and safety is one of the principal functions of the Directorate of Health according to the Medical Director of Health Act.

To fulfill this role the Directorate issues, among other things, recommendations and guidelines, monitors the fulfilment of professional requirements within the health services and supervises health-care institutions and health-care workers. For this purpose the Directorate has also selected certain quality indicators that reflect clinical quality and safety in measurable terms.

Clinical quality

Health services in Iceland rank highly on a number of indicators in international comparison. For instance, in 2009 Iceland ranked third in a comparison of health-service quality indicators in 33 European countries on items such as the rights of patients and provision of patient information, waiting time for cancer treatment, infant mortality, mortality within 30 days after a heart attack and five-year survival rate after cancer diagnosis. The performance of the Icelandic health service regarding childhood vaccination and waiting time for MRI scans is also positive.

The main drawback to the services, as identified in this particular survey, was the lack of direct electronic communication between health-care workers and patients, e.g. for making appointments and obtaining medical test results, which is common in many European countries and is seen as an indicator of good access to health-care.

Iceland also submits annual data to the OECD data base on performance and facilities in the health service. By that standard, Iceland has excelled in certain areas, e.g. life expectancy, infant mortality and the outcome of breast-cancer treatment and cardiovascular-disease treatment. Iceland has, e.g. had the lowest in-hospital case fatality rate following acute myocardial infarction.

All these factors are generally considered key indicators for assessing the quality and performance of health-care services. On the negative side, however, obesity among teenagers is more common in Iceland than in other Nordic countries. Obesity among adults is also a health problem in Iceland as only five nations have a higher rate of obesity than the Icelandic people. Smoking among teenagers, on the other hand, is less common and the same applies to smoking by adults.

Quality indicators

The Directorate continued its work on the selection and development of quality indicators in co-operation with various bodies in Iceland and abroad, such as the Ministry of Health and the Nordic Council of Ministers, OECD and the Nordic Nurses' Federation (SSN). The selection and publication of quality indicators is in accordance with the Regulation on the production of quality indicators for monitoring and assessing the quality of health-care services (No. 1148/2008).

The Directorate of Health has for some time collected key health-care quality indicators in order to fulfill its function of overseeing the health services, monitoring the health status and health of the population and give counsel to the health authorities on health service issues.

In 2009, the Directorate of Health issued a new web page on its web site with data on some health-care quality indicators, such as health status in general, access to health care, scope, output, quality and safety, and performance.

Safety measures in the health services

Registration of incidents

According to the Medical Director of Health Act all health-care institutions, independent health-care professionals and other health care providers are obliged to keep a record of unforeseen adverse events which affect patients or staff. The Directorate sent a circular in 2009 to remind the bodies

concerned of this obligation. Forms designed for this notification are accessible on the Directorate of Health web site with instructions on how to respond to incidents.

The frequency of unforeseen adverse events in the Icelandic health services has not been established so far. Once again in 2009, The Directorate of Health applied for a grant to carry out research into these issues.

Patient safety in surgery

Work on the translation and standardisation of the WHO surgical safety checklist continued in 2009. The WHO has reccommended that this checklist be adopted.

Clinical quality monitoring

The Directorate of Health issued a web report on its methods of monitoring health-care facilities and health-care professions, in particular after the economic collapse of 2008. Several hundred health-care units operating in Iceland fall within the scope of this monitoring system, which forms one of the principal funtions of the Directorate. The Directorate has developed a coordinated methodology for performing this function, in particular clinical-quality monitoring and audits as described in the report

In view of the present spending cuts the Directorate of Health has taken special measures to monitor the effects of the economic situation on the health and wellbeing of the population. The above-mentioned report describes how this work has been performed. The Directorate of Health also prepared a special report on the issue which was submitted to the Minister of Health.

Clinical-quality monitoring and audits were performed in eleven health-care institutions or wards of the Landspitali University Hospital (LUH) in 2009.

Monitoring of facilities for the elderly

Resident Assessment Instrument (RAI)

A recent regulation on the Resident Assessment Instrument (RAI) provides for a regular assessment of the accommodation and health of residents in facilities for the elderly based on the international instrument RAI. The purpose of the RAI assessment is to promote better care and nursing in all facilities for the elderly. The Directorate of Health is responsible for monitoring RAI assessment in Iceland and for training health-care workers in its use.

Preadmission nursing-home assessment (PNHA)

The professional monitoring and supervision of applications for PNHA in Iceland has been carried out by the Directorate of Health since January 2008 when this operation was transferred from the Ministry of Health. There are seven PNHA committees in the country, one in each Health District. The supervision of these committees also involves consultation on data collection and the production of the assessments themselves.

In 2009, the cases processed were close to 1200, resulting in almost 800 admissions to nursing homes. At the end of the year, 194 people were on waiting lists for nursing-home admission as compared with 392 at the end of 2008, which means a reduction of around 50% between the two years.

Health-care professionals

Licences to practice

The Directorate of Health is responsible for licensing of all health-care professionals, a task which up until April 2008 had been in the hands of the Ministry of Health. There are 32 licenced health-care professions in Iceland, all of which enjoy legally protected rights to their professional title.

In 2009, the Directorate of Health issued 655 professional licences, including 67 specialist licences. The largest professions receiving licences were physicians and registered nurses. Almost one tenth of

the licences issued in 2009 were in the form of confirmations of licences issued in the European Economic Area (EEA).

In addition to issuing professional licences, the Directorate of Health is responsible for issuing certificates on the legitimacy of older licences in connection with the movement of health professionals to other countries, in particular within the EEA. In 2009, 413 health-care professionals applied for such certificates, including 147 physicians and 135 registered nurses.

Great changes in the number of employed nurses

A survey conducted by the Icelandic Association of Registered Nurses in 2009 revealed that 99.98% of all nursing positions were filled. This is an indication of great changes as the shortage of nurses is estimated at only 3.84% according to this survey, a drop from 21.5% in 2007. Thus the shortage of nurses has gone down considerably in recent months due to the present social circumstances.

Working group on nursing assistants

The Directorate of Health set up a working group in April 2007 to examine the education and possible changes in the application of the skills of nursing assistans. The group submitted its proposals in 2009 and these were subsequently presented to managers of health-care institutions in the hope that they might be of help in making the best possible use of the skills of nursing assistants for the benefit of patients.

Shortage of health-care professionals

Organisations of health-care professionals and the Directorate of Health have reported that in the coming decade there may be a shortage of professional and expert knowledge among health-care workers such as nurses, nurse assistants, laboratory technicians and general practioners. It is of vital importance that these organisations, the authorities and educational institutions find a solution to this problem. There are also signs that health-care workers are seeking work abroad because of better wages.

Pharmaceuticals and pharmaceutical monitoring

Pharmaceuticals Database

The Directorate of Health has operated a Pharmaceuticals Database (PDB) since 2005, in accordance with Act 89/2003, for the purpose of monitoring prescriptions issued by physicians, in particular for addictive drugs, as well as monitoring trends in the consumption of pharmaceuticals.

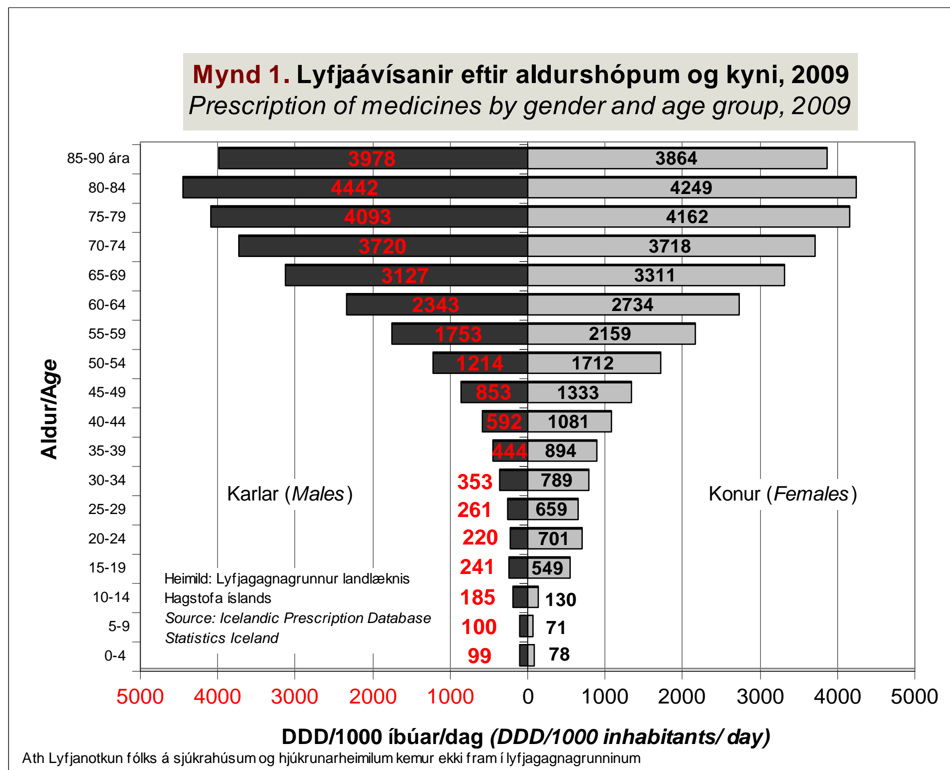
Choice and consumption of pharmaceuticals

Monitoring of addictive-drug prescriptions was tightened in 2009, both in the form of the Directorate's regular monitoring, the issue of pharmaceutical certificates and ad hoc monitoring. The number of enquiries concerning prescriptions to individuals almost doubled in the second part of 2009 compared with the previous year.

At the request of primary-care physicians employed at 15 primary-care centres the Directorate of Health conducted audits of the prescription of medicines at these centres. The findings of these audits were subsequently presented to physicians at meetings held for the purpose of improving prescription practices.

Three reports on the consumption of medicines in Iceland were published in 2009, two on prescription drugs, for 2007 and 2008 respectively, and the third on the sales and consumption of antibiotics in Iceland in 2007 and 2008.

The figure below shows the prescription of medicines in Iceland in 2009, by age and gender.



Medical devices

According to law, the Directorate of Health is the competent authority in matters concerning medical devices and is responsible for policy making, inspection and market surveillance of medical devices in Iceland. In 2009, the Directorate received a total of 2560 notifications and other documents concerning medical devices.

Health service providers

Health-service operation and minimum professional standards

According to law, parties intending to launch the operation of a health service are required to notify this to the Medical Director of Health. They must also fulfill certain minimum professional standards and obtain confirmation from the Directorate to that effect before they are permitted to start operating. In 2009, the Directorate of Health received 203 notifications from health-service operators as compared with 150 the year before.

Clinical guidelines

The Directorate of Health has issued clinical guidelines since January 2000. Five new guidelines were published in 2009, thereby making the total number of published guidelines approximately 50. In addition, one guideline was published in cooperation with other bodies in 2009.

Since 2004, emphasis has been increased on presenting clinical guidelines from foreign institutions and bodies. By the close of 2008, approximately 135 such guidelines had been recommended on the Directorate of Health web site.

National and international cooperation

Working on the preparation of clinical guidelines requires extensive collaboration with other bodies with similar functions. In Iceland the principal partners are the Landspitali University Hospital in Reykjavík, the Regional Hospital in Akureyri, the primary health-care services, the Maternity Care Centre in Reykjavík and the Public Health Institute of Iceland.

Internationally, partner institutions include SIGN in Scotland, NICE in Great Britain, NZGG in New Zealand, NHMRC in Australia and SBU in Sweden. In addition, co-operation with EUnetHTA (www.eunethta.net) has been on a formal basis since the beginning of 2007.

Promotion and education

The clinical guidelines were promoted at various meetings in Iceland and through mailing lists to Icelandic physicians. Work on clinical guidelines is now acknowledged as the equivalent of a review article in an Icelandic peer-reviewed magazine.

Medical treatment and health-care services

Health care in prisons

The Directorate of Health participates in a consultation group on prisoners' affairs to promote improved services to prisoners and provide information to professionals and the general public on prisoner's health. The group organised a meeting on these issues in May under the title "Out of prison – into the economic crisis".

Survey of services to women with breast cancer

Collaboration continued on a study of the future vision and expectations of women diagnosed with breast cancer and their relatives as regards the need for specialised services. Two of the Directorate of Health's employees acted as consultants to the survey.

Immigrants

The Directorate of Health has for a number of years participated in the Government's work on devising a policy on immigrant affairs. Among projects in this area was the prepartion of formal education for professionals working in immigrant services.

III. COMMUNICABLE DISEASE CONTROL

The year 2009 was characterised first and foremost by the pandemic influensa or so-called swine influenza. In recent years, the Chief Epidemiologist and the Civil Protection Division of the National Commissioner of the Icelandic Police, in cooperation with a number of other institutions, had been preparing a response plan for a pandemic influenza. In the spring of 2008 a comprehensive pandemic influenza response plan was finalised and published, assuming a severe influenza epidemic with possibilties for adaptations as needed in a given situation. This work proved very helpful when the need arose for coordinated measures as the pandemic developed.

The communicable diseases registry and epidemic intelligence

In the past few years, a new registry on communicable diseases has been under development as well as information systems to comply with changes in the legal framework. In 2009, the communicable diseases registry was adapted to the pandemic influenza which made it possible to monitor any influenza-like symptoms detected in the primary health-care service, practically in real time. At the same time, a monitoring system for school attendance was developed as part of epidemic intelligence. Attendance rates at all emergency units of the LUH were also monitored regularly and death rates recorded by the National Population Registry were followed closely.

Seasonal influenza

The seasonal influenza of the winter 2008–2009 began towards the end of 2008 and peaked in the middle of February the following year. It was caused by two subtypes of the virus, A(H3N2) and B . Even though this influenza subsided relatively quickly it was still being diagnosed until the month of June, a fact that may have been the result of closer surveillance because of the imminent pandemic influenza.

Pandemic influenza

In Iceland, the first case of pandemic influenza caused by A(H1N1)v was confirmed in May 2009. Influenza-like illness (ILI) was rare until the middle of July when the number of ILI cases slowly began to increase. At the same time, laboratory confirmed cases of A(H1N1)v 2009 became more and more prominent.

In late September, the number of cases decreased slightly, which led to expectations of a declinine of the pandemic but, instead, the number of cases increased rapidly again at the end of the month. In October the influenza became widely spread throughout the country, and the increase was most marked in mid October. At the close of October and the beginning of November the number of cases began to decline considerably and at the end of the year the pandemic was practically over.

Altogether 9532 people were diagnosed with ILI during the whole year, 4343 males and 5189 females. The spread of influenza in the country appeared earlier in the capital area compared with rural areas.

Hospitalisations and casualties

Approximately 200 patients were hospitalised due to swine influenza, most of them in the last two weeks of October. Of these, 10% needed intensive care. The mean age of those hospitalised was 45 years. Two deaths from swine influenza were confirmed.

Vaccination against swine influenza

At the end of 2009, approximately 125.000 people had been vaccinated against the swine influenza, or more than one third of the population. It can be assumed that the extensive vaccination in Iceland played a part in preventing a still greater spread of the swine influenza in the country.

Drug treatment

At the beginning of the pandemic influenza the stock of drugs for treating influenza was 124.000 doses, of which 86.000 doses were oseltamivir and 38.000 doses were zanamivir. During the pandemic 11.000 doses were used.

Information for the public and health-care workers

The web site of the Directorate of Health was used to publish information and instructions from the Chief Epidemiologist to the public, to schools, companies and to health-care workers in addition to frequent news of the latest developments relating to the pandemic influenza. Information and news was also published in English.

Conclusion

It can safely be assumed that factors such as general information and advice on hand cleaning and at-home rest during ILI, as well as medication and vaccination contributed to containing the spread of the pandemic and ending it quickly.

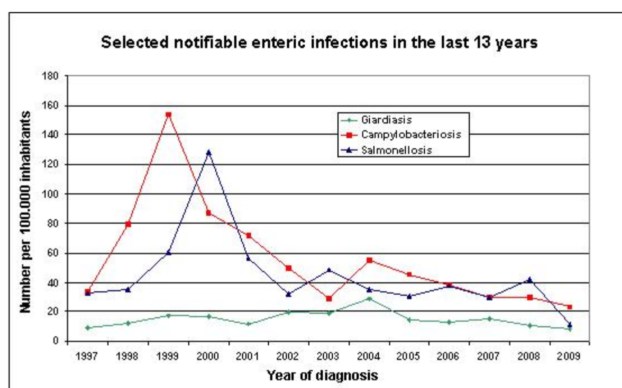
Reportable and notifiable diseases

Physicians in Iceland are obliged to report certain communicable diseases to the health authorities. Statutory notifiable diseases are of two different types, those that are subject to summary notifications without personal identification and those that are reported with full patient identity.

The first category puts physicians under obligation to keep records of the incidence of certain communicable diseases in their practice (*reportable diseases*) and give monthly reports on these to the Chief Epidemiologist. These notifications provide total numbers only, without any identifiable personal data.

The second category of notifications (*notifiable diseases*) must include the name or other personal identification of the infected person. The objective of such notification is primarily to give information to the Chief Epidemiologist on dangerous cases of specific infectious diseases, their source of infection and on emergency events that threaten public health so that the origin of the infection concerned can be traced to individuals.

The figures below show the development of several notifiable infections in the past 13 years.



Enteric infections

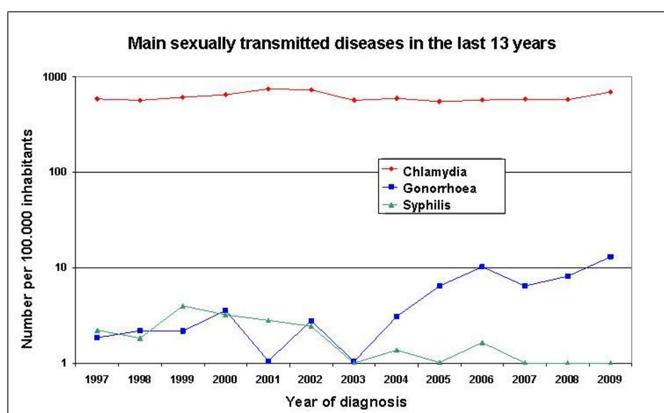
The incidence of campylobacteriosis and salmonellosis has steadily been going down. The explanation, in all likelihood, is the wide cooperation of the bodies concerned in surveillance and response to such infections as well as a first rate inspection of livestock and livestock products (see figure).

Respiratory infections

The incidence of tuberculosis in Iceland continues to go down and at present it is one of the lowest in the world. The same applies to meningococcal infection, in particular after the introduction in 2002 of childhood vaccination against meningococcal C disease.

Sexually transmitted diseases

The incidence of chlamydia has remained high. Although the incidence of gonorrhoea has been relatively low in Iceland there has been an upward tendency in recent years. Syphilis has not become totally extinct as a few cases are diagnosed most years (see figure).



Bloodborne viral infections

Hepatitis B and C infections have fluctuated considerably although their incidence was relatively low in 2009. The incidence of HIV infection has been very constant from one year to another and 2009 was no exception. That year, 13 people were diagnosed with the disease, three men and ten women, seven of foreign origin. One of the women was diagnosed with AIDS and one man died from the disease.

It is of special concern that most of the Icelanders diagnosed in 2009 were IV drug abusers. Relatively few IV drug abusers were diagnosed with HIV infection in Iceland up until 2007, when six patients in this risk category were disgnosed with the disease.

Meninogococcal infection

In 2009, five individuals were diagnosed with severe infections caused by meningococci B, but no one was diagnosed with meningococcal C disease.

Vaccinations

The present arrangement of the national Childhood Vaccination Programme can be seen in the table below. It has remained unchanged since the beginning of 2007.

Age	Contents	Name	Producer
3, 5, 12 months	DTaP, Hib, IPV	Infanrix Polio Hib	GSK
6, 8 months	MCC	NeisVac C	Baxter
18 months, 12 years	MMR	Priorix	GSK
5 years	dTaP	Boostrix	GSK
14 years	dTaP, IPV	Boostrix Polio	GSK

Vaccination coverage

The coverage of vaccinations is estimated on the basis of sales figures of the relevant vaccines since a centralised registration of vaccinations has not been available. The estimated coverage of the primary vaccination against diphtheria, tetanus, pertussis, HIB and polio is over 95% while the coverage of the vaccination against mumps, measles and rubella is estimated at 90–95%.

Centralised Vaccination Registry

The centralised vaccination database of the Chief Epidemiologist has been under development since early 2007. In 2009, the connection of all primary health-care centres and all the major hospitals in the country to the centralised vaccination database was completed. The connection of the primary school health-care registration system to the database was also inititatied. The central registry will

make it possible to obtain reliable data on the participation of Icelandic children in the Childhood Vaccination Programme in addition to data on almost all vaccinations performed in Iceland.

The consumption of antibacterial agents and antibacterial resistance

By international comparison, the consumption of antibacterial agents in Iceland is considerable, especially compared with the other Nordic countries. This extensive consumption of antibiotics can to a large extent be explained by a high consumption of tetracycline (doxycycline).

At the end of 2009, a report on the sale and prescription of antibacterial agents in Iceland in 2007 and 2008 was published by the Chief Epidemiologist. Corresponding figures for 2009 have also been published and they reveal a reduction in that year in the sales of these drugs as well as the number of prescriptions for antibacterial agents compared with the year before.

The total reduction in the sales of antibacterial agents during the year was 5.6%, a much greater reduction than for drugs in general, which was 1.6%. Considering the number of prescriptions for

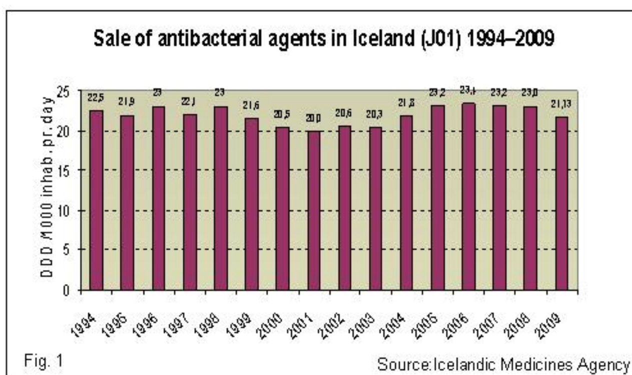


Fig. 1 Source: Icelandic Medicines Agency

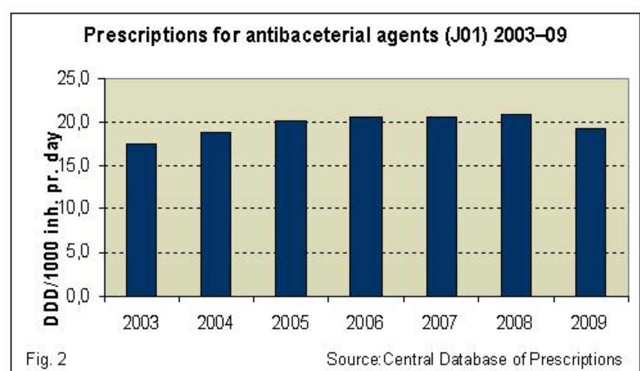


Fig. 2 Source: Central Database of Prescriptions

antibacterial agents according to the number of individuals in each age group, there has been a steady reduction in the number of prescriptions in the age group 0–4 years over the last three years.

A special Committee on Antimicrobial Consumption and Resistance, appointed by the Minister of Health, gave the following recommendations in 2009 in order to contain the overconsumption of antibacterial agents and reduce resistance to those drugs.

1. Physicians should be informed of the main conclusions of the Committee by means of meetings and discussions on how to reduce the consumption of antibacterial agents.
2. Results of the collaboration on the prudent use of antibacterial agents should be checked by monitoring data on antimicrobial consumption and resistance.
3. The Committee recommends that the health authorities initiate vaccination against pneumococcal disease.

Communicable disease measures by the authorities

The National Committee on Communicable Diseases Control in Iceland is responsible for preparing the implementation of communicable diseases control in ships entering the country and has appointed a working group to be in charge of this function. The group consists of members from the institutions concerned, sanitary control committees, local authorities and the Icelandic Maritime Administration.

Monitoring applicants for residence permits in Iceland

The Chief Epidemiologist has processed health certificates with regard to temporary work or residence permits since 2005. The number of such certificates has gone down considerably, from 1751 certificates in 2005 to 80 in 2009. This substantial decrease in numbers is due to a marked decline in the construction industry in Iceland.

Education on AIDS and other sexually transmitted diseases

Education on sexually transmitted diseases (STDs) was provided through lectures, newspaper and magazine articles and television programmes as well as discussions on sexual health, HIV and AIDS in schools.

A pamphlet on STDs targeting young people was published in February 2009. Its cover is seen in the figure to the left.

Newsletter in Icelandic and English

In 2009, nine issues of *Farsóttafréttir*, a web newsletter in Icelandic on communicable diseases and disease control, were published. An English version, *EPI–ICE* is also published. This was the fifth year of publication.

International communicable disease measures

The Chief Epidemiologist and his staff work closely with the European Centre for Disease Prevention and Control (ECDC) and the Chief Epidemiologist represents Iceland on the Advisory Forum of ECDC. The Chief Epidemiologist also takes part in the communicable-disease work of the European Commission (EC) and in the EC Health Security Committee.

The staff of the Chief Epidemiologist is responsible for supplying Icelandic data on notifiable diseases to the The European Surveillance System (TESSy), which belongs under ECDC, and Iceland contributes to the EU Early Warning and Response System (EWRS) and takes part in networks on specific reportable diseases.

At the Nordic level, Iceland has participated in Nordic cooperation on health preparedness for disasters and crises since the autumn of 2001.

Internationally, the Chief Epidemiologist is designated as the National Focal Point for Iceland as provided for in the International Health Regulations (IHR).

IV. Health statistics

One of the main functions of the Medical Director of Health is to collect and process data on health and health services. The new Medical Director of Health Act (No. 41/2007) provides for the Medical Director's function to organise and maintain national registers on health, diseases, accidents, prescriptions, births, and the performance of the health care services. The aim of these registers is, among other things, to provide an overall picture of the health of the Icelandic people and the utilisation of the health-care services, as well as the monitoring and assessment of the quality and efficiency of the service.

Health registers and their processing

The National Patient Registry

In 2009, data on hospital admissions in 2007 were processed and statistics for the years 1999–2007 were published on the web site of the Directorate of Health. At the same time data for the year 2008 were collected to be published in early 2010.

Hospital waiting lists

In February, June and October each year, data on waiting lists for selected surgical procedures in hospitals are collected. This information is published on the Directorate's web site and in *Talnabrunnur*, the web newsletter of the health statistics division. Information is presented on the number of individuals waiting at each time and the proportion of these same individuals waiting for more than 3 months. Statistics on the number of surgical procedures performed are also published.

Registry of Contacts with Health-Care Centres

All recorded contacts with primary health care centres, i.e. consultations, house calls and telephone contacts, are registered in the Registry of Contacts with Health-Care Centres. This data is collected yearly. Among the data registered for each patient are: Coded ID number, date and type of contact, age of patient, reasons for contact, diagnosis and resolution.

Data on contacts in 2008 were collected and processed in 2009. The total number of contacts with primary health-care centres in 2008 was 2.283.996. Recorded contacts with primary health-care centres in 2008, i.e. medical consultations, house calls and other contacts numbered 1.648.901, or 5.2 per inhabitant. Contacts with general practioners were 660.706, or 2.1 per inhabitant, and contacts with registered nurses/midwives were altogether 327.146, or 1.0 per inhabitant.

Registry of Contacts with Medical Specialists in Private Practice

Physicians in private practice are required by law to supply the Directorate of Health with specific data from their patient medical records. In 2009, the Directorate of Health cooperated with self-employed phycians on determining the proper arrangement of supplying this data to the Directorate. The physicians concerned have been reluctant to turn in these data, possibly because the electronic recording of the data at their clinics is incomplete. The number of physicians fulfilling the requirement of electronic registration of patient data and their transmission to the Directorate is steadily on the increase, however.

The Icelandic Accident Register

The Icelandic Accident Register is a data bank administered by the Directorate of Health. The registration began in October 2001 with the objective of collecting and coordinating the registration of accidents taking place across the country in order to get an overall view of their number and the nature of the accidents.

The data is gathered from many different sources and the number of parties supplying data has increased rapidly following the enactment of the Medical Director of Health Act in 2007. There are now close to 40 health-service facilities submitting data to the Icelandic Accident Registry besides three institutions outside the health services.

Statistics from the Icelandic Accident Register are published regularly on the web site of the Directorate of Health, in addition to a weekly web publication of the number of accidents. The total number of accidents in 2009 was just over 41 thousand as compared with almost 42 thousand in 2008. However, a direct comparison between years should be avoided as the number of parties registering accidents has been on a steady increase.

Induced Abortions and Sterilisation Registry

Statistics on induced abortions and sterilisations for the year 2008 were processed in 2009 and published on the Directorate of Health web site. A total of 995 induced abortions were performed in Iceland in 2008 as compared with 877 the year before, or 13.8 per every 1000 women aged 15-44. The Directorate of Health also collects data on sterilisations. A total of 520 sterilisations were performed in 2008, 339 on men and 181 on women.

Registers of Opt-outs

Pursuant to legislation dating from 1998 the Directorate of Health is responsible for the registration of opt-outs from the Health Sector Database. The registaration began in 2000 and a sizable number of people opted out that year. Even though the Health Sector Database has not yet started operating there have been several additions to the opt-out register every year. As of end of 2009, a total of 20.510 had opted out of the database.

Opt-outs from biobanks are also registered at the Directorate of Health. At the close of 2009, altogether 249 opt-outs had been registered.

Applications for access to data from health registers

In mid 2008, the Directorate of Health issued instructions on its web site laying out the process of applications for access to data from the health regitsters of the Directorate of Health. At the same time an application form was issued for researchers to fill in if they wanted to apply for access to such data. In 2009, the number of applications for data access increased greatly, especially applications for data from the Pharmaceuticals Database.

Registries of health-care professionals

The Directorate of Health maintains electronic registries on physicians, dentists, nurses and midwives with licence to practise in Iceland. The registry on physicians contains additional information on medical students and graduates who have obtained a physician's identification number and information on temporarily licenced physicians.

With specific limitations certain data from these registries are accessible on the web site of the Directorate of Health, where they are regularly updated. In addition, more detailed data are distributed on a regular basis to health-service institutions and pharmacies. The registries are useful, for example, for registration at health-care facilities, for monitoring, planning and statistical analysis.

By the end of 2009, a total of 2.092 physicians and 373 dentists had been issued a licence to practise in Iceland. At the same time 4.281 registered nurses and 448 midwives had been granted a licence to practise. However, these numbers do not show how many of the licenced professionals were actively employed during the year.

Registry of health service operators

The Medical Director of Health is required by law to maintain a registry of health service operators. Anyone wishing to launch an operation as a health-care provider must notify this to the Medical Director of Health and report any changes in the operation or its cancellation.

A registry of health service operators was created in 2008 and a new procedure for the method of registration and maintainance was adopted. In certain cases the same health-care provider may operate at more than one establishment. In such a case each establishment is registered as a separate health service unit.

Registry on preadmission nursing home assessment (PNHA)

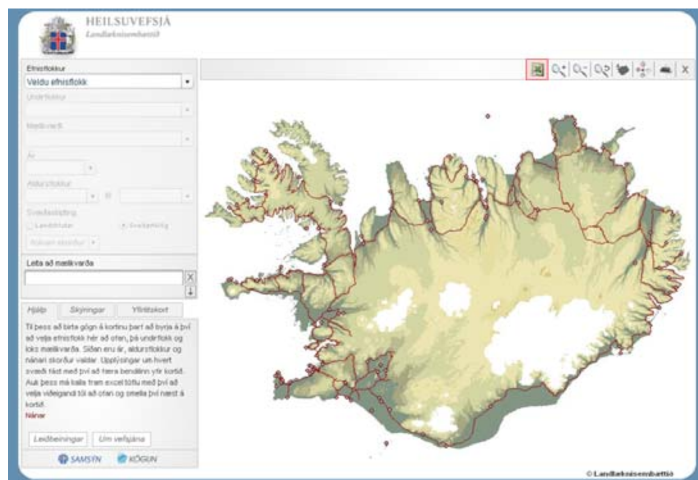
The PNHA register includes data on the social and health circumstances of those elderly who wish to enter a residence or nursing home. Various statistics can be retrieved from the register, e.g. the number of individuals on the waiting list for residence in nursing homes at each time, classified by region, age, gender etc. See also Ch. II, p. 6.

Issuing health statistics

Health Statistics Web Browser – Health data warehouse

In March 2009, the Directorate of Health launched a new web browser, entitled *Heilsuvefsjá* in Icelandic, www.heilsuvefsja.is, providing access to a data warehouse containing health statistics. The warehouse uses mainly data from the Directorate of Health databases but data from Statistics Iceland and the Ministries of Health and Social Affairs and Social Security is also included.

To begin with the browser provides data concerning health services for the elderly but other categories of health services will be included at a later stage. The web browser is intended for the authorities, health-care workers and the public.



The home page of the new health statistics web browser.

Heilsuvefsjá presents data in the form of maps and tables that facilitate geographical comparison. It also allows some flexibility in data presentation as users can choose to view information by years, age groups, gender and even institutions.

Talnabrunnur, a newsletter in Icelandic on health statistics

The third volume of *Talnabrunnur*, a monthly web newsletter on health statistics was published in 11 issues in 2009. The newsletter, which started in October 2007, is intended as a supplement to other statistics published by the Directorate, which in recent years have mainly appeared on the Directorate's web site.

Classification systems

The Medical Director of Health is responsible for the supervision of health classification systems in Iceland.

In 2009 the electronic version of ICD-10 included, for the first time, all texts both in Icelandic and English. Updates of NCSP, as well as those of NCSP-IS, a more detailed version of NSCP, were also published in 2009. Maintaining classification systems involves considerable translation work. The International Classification of Functioning, Disability and Health, ICF, whose translation was completed in 2008, was published in 2009 on the classifications browser, www.skafl.is. A printed version was planned for late 2009 but was postponed.

Classifications browser

The biggest addition to the electronic publication of classifications was an independent web browser (www.skafl.is), launched in 2008, that offers centralised access to all health classifications. In 2009, the web browser was promoted at many places, and visits to the browser increased rapidly during the year. Measurements in the second part of 2009 showed that more than 2000 visitors had examined the web, many of whom became regular visitors.

V. COMPLAINTS

According to law, the Medical Director of Health is required to address complaints concerning the dealings of the public with health-care providers. The role of the Medical Director of Health is exclusively to render a professional opinion in cases that arise. The public has several other channels for complaints concerning health services. Decisions of the Medical Director of Health may be referred to the Minister of Health.

A complaint is registered as such if it leads to an investigation by the Directorate of Health. A total of 237 complaints were received by the Directorate of Health in 2009, as compared with 282 in 2008. The cases in question vary in scope and seriousness, ranging from minor communication problems to serious medical errors. The greatest number of complaints involved wrong or insufficient treatment, in all 72 complaints.

Complaints 2009. Action taken

	Number
Reminder	36
Reproof	18
Legal reprimand	2
Suspension of licence	1
No action taken	104
Other	7
Not completed, Feb. 2010	69
Total	237

Solutions and actions

In the beginning of February 2010, solutions had been reached in 168 cases from the year 2009, while 69 of the 2009 cases were still being examined. Of the completed cases, 59 had been partly or fully substantiated.

In 2009, one health-care professional was subjected to licence suspension, the most severe action, while two received a formal reprimand. Reprimands from the Medical Director of Health were 18. The most lenient action by the Medical Director of Health is a reminder that improvements are called for, an action that was applied in 36 cases. In 104 cases no action was deemed necessary.

VI. PUBLIC HEALTH AND PREVENTION

The Directorate of Health is responsible for policy making and advising the health authorities with regard to public health. Among other things, the Directorate has developed guidelines in this respect in cooperation with primary health-care professionals and the Icelandic universities. In addition, the Directorate cooperates with the Public Health Institute of Iceland in matters concerning first-stage prevention and health promotion. The Medical Director of Health sits on the National Public Health Committee.

Collaboration on prevention and public health

Among projects of the Directorate of Health on prevention and public health in 2009:

1. *Primary health services for infants and toddlers.* New guidelines on primary health services for infants and toddlers in the form of a manual were published in 2009 after a draft publication had been issued in October 2008 and examined by experts. It recommends certain changes in the organisation of infant and toddlers' care, mainly concerning key age examinations. The guidelines were published in cooperation between the Directorate of Health and the Primary Health Care of the Capital Area.

   The most important changes in the new guidelines involve a change in the age infants and toddlers are offered their main health-care examinations, changing from the age of 3½ years to 2½ years, and from the age of 5 to 4 years. New tools for development screening and assessment are also adopted, the so-called PEDS and BRIGANCE screening tools that are applied at the above ages and at the age of 18 months. The reason for these changes is the importance of children's normal development in their very first years of life and the need to intervene at an early stage, in case something is wrong.
2. *Tanning beds*. For the sixth year in a row the Directorate of Health sponsored an awareness campaign, in cooperation with other organisations, to warn youngsters and their parents of the dangers of using tanning beds, with particular aim at children aged 13–14 years, just before most of them have their confirmation.

   Surveys have shown that there has been a reduction in tanning-bed usage among young people in the past few years and several local councils have stopped offering tanning beds in their public sports facilities. It is hoped that the continued campaign will further reduce tanning-bed usage.
3. *Health education for children and parents*. A new web site was launched in 2009 to promote health education and encourage a healthy life style among children. The new web contains material produced by professionals to meet the needs of children and parents for reliable information on children's health and factors influencing their health, e.g. rest, physical activity, cleanliness, happiness, courage, and sexual health .

   The web, www.6H.is, is a joint project of the the Primary Health Care of the Capital Area, the Public Health Institute of Iceland, the Landspitali University Hospital and the Directorate of Health.

Suicide prevention - the Icelandic Alliance against Depression

The prevention programme *Icelandic Alliance against Depression* has been operated since 2002 with the aim of reducing the rate of suicide in Iceland, increasing the skills and knowledge of professionals concerning depression and suicide, and raising the awareness of the public on depression and suicidal behaviour with the objective of reducing prejudice.

Since 2007, the focus has been mainly on the mental health of children and adolescents. In co-operation with several organisations in this field a new web site (www.umhuga.is) with education and information on the psychological welfare of children and their families was prepared and launched in October 2008. Work continued in 2009 to maintain the web and develop it further.

Education

The basic courses designed and developed by the project manager and advisory board of the *Icelandic Alliance against Depression* continued to be provided to physicians, nurses, psychologists, social workers, ministers of the church, and the police, in addition to educational and vocational counsellors and teachers. *Train the Trainers* is another type of training programme intended for professionals to prepare them for disseminating specialised knowledge within their local communities. Courses continued in co-operation with the Red Cross, the Bishop's Office and other interested parties.

In collaboration with the psychiatric division of the Landspitali University Hospital (LUH), another one-year course was held for training its employees in using systematic support measures for children living with parents (one or both) suffering from mental disorders. The course was based on the teachings of child psychiatrists W. Beardslee and Tytti Solantus.

For educating the public, articles from members of the advisory board appeared in newspapers and magazines and members also appeared on radio and television programmes to discuss mental health issues. Finally, lectures were held at conferences and symposiums, both on the prevention of suicide, and on depression and other mental disorders.

International cooperation

The Icelandic Alliance against Depression was a founding member of the European Alliance against Depression (EAAD), an organisation of 22 European nations. The Alliance has received a grant from the European Union for the prevention of depression. Unfortunately, Iceland had to cancel its participation in the EEAD in 2009 as a result of cuts in allocations to the project.

During the year, the Icelandic Alliance against Depression participated in a Nordic collaboration project designed to enhance the services available to parents with mental disorders and their children.

VII. Publication in 2009

In 2009, as in recent years, the Directorate of Health published several reports and pamphlets as well as circulars, and clinical guidelines. In recent years publications of the Directorate of Health have been mostly in electronic form. In 2009, three web newsletters were published on a monthly basis; in addition updates of web versions of registers of health-care professions, classifications and statistical tables on the various aspects of the health services were regularly published. Occasional works are also published in printed format, especially pamphlets.

Besides an aforementioned information pamphlet on sexually transmitted diseases, two pamphlets and a poster were published in 2009 containing information and instructions for the public regarding response to the pandemic influenza. The two pamphlets were published in cooperation with the Civil Protection Department of the National Commissioner of the Icelandic Police and were entitled *Keep the influenza in mind – Some advice to tourists*, and *Keep the influenza in mind – Some advice on infection control*.

The poster was published in the beginning of September, also in cooperation with the Civil Protection Department. It is an Icelandic version of a poster published earlier by the WHO Regional Office for Europe. The Icelandic version is seen in the figure.