



Health Policy

A policy for Iceland's health services until 2030

Government of Iceland
Ministry of Health



Health Policy

A policy for Iceland's health services until 2030

A policy for Iceland's health services until 2030

Published by the Icelandic Ministry of Health 2019

Translation by Jeffrey Cosser

Printed by Pixel

Designed by Hvíta húsið

ISBN 978-9935-477-70-5

Table of Contents

A message from the Minister of Health, Svandís Svavarsdóttir	4
Introduction	5
Why is a policy needed?.....	6
Health in a broader context	7
A healthy nation: opportunities and challenges	8
We face challenges	9
... but also many opportunities	11
The health system in a broader context	13
Trends in the Nordic healthcare systems	14
Future vision and policy up to the year 2030	15
1. Leadership for results	16
2. The right services in the right place	19
3. People in first place	24
4. Active users	27
5. Efficient service purchasing	29
6. Quality first.....	32
7. Thinking about the future.....	34
Implementing the policy	39
Principal sources	39

A message from the Minister of Health, **Svandís Svavarsdóttir**



The health system is one of the cornerstones of our society and part of our social contract. At some point in our lives we all need the health services, and access to quality health care is one of the basic preconditions for being able to live in our country.

Iceland's health services have long been ranked highly in comparison with other countries, and in many areas their outcomes rank among the best in the world.

Our health system is based on certain values on which a general consensus reigns throughout society. The underlying principle is that the state guarantees all people in Iceland the necessary health services, irrespective of their financial standing or other circumstances. The structure rests on a social foundation, with everyone enjoying equality of entitlement to the services in a system that is for the most part publicly funded.

By its nature, the health system is complex and many-sided, with a high degree of specialisation and a large number of service providers. It falls to the authorities, in collaboration and consultation with institutions within the system, to create a holistic system that will ensure seamless services to patients at the appropriate service level, combining quality, safety, efficiency and cost-effectiveness. All this can only be achieved by having a clear vision and long-term policy for the health services.

The present health policy until 2030 outlines ways of working towards these goals: by adopting greater flexibility in structure, division of labour and responsibilities so as to improve services to patients. By the introduction and application of criteria on qual-

ity and outcomes in the health services to reflect how well they meet the requirements of users and society at large. By having the funding and payment systems include important incentives designed to ensure that patients and their health problems will be treated as part of an overall vision instead of focusing on individual consultations with specialists or individual referrals for hospitalisation. By introducing new methods of treatment, new medications and equipment, together with demands regarding skill and experience when they are applied. By giving patients and the general public guidance and enabling them to play an active part in their own treatment and take informed decisions on issues regarding their own health. Finally, the policy addresses the staffing of the health system, leadership and administration, the working environment, science and education and many other things.

Allocations to health care in Iceland amount to just over a quarter of the state budget. The state must be in control when funds are spent, acting as a responsible, well-informed and critical purchaser of services on behalf of us all. The role of the Minister of Health is clearly defined: the law states that the minister is to lay down policy on health issues, decide on the priority ranking of tasks and ensure that funding is available for them.

The health policy published here belongs to us all. Its roots go back a long way: it draws on the accumulated experience and expertise of many individuals and much of what appears here has been discussed and presented in reports and analyses by various bodies and experts over the past few years.

Now all this work has been brought to fruition by the adoption of a parliamentary resolution on a health policy until the year 2030. At the same time, we face a new challenge, since now begins the work on putting the policy into practice – a policy that will guide us in building up a comprehensive, strong and even better health system for us all in the future.

Svandís Svavarsdóttir, Minister of Health
Reykjavík, June 2019

Introduction

Work on drawing up a health policy until 2030 began in the Ministry of Welfare in April 2018. It was based on many surveys and analyses of various aspects of Iceland's health services made in recent years, and reference was also made to data from the WHO and other materials, including Health 2020, the European policy for health and well-being up to 2020, and also the goals set out in the United Nations' Agenda for Sustainable Development.

In October 2018, the Ministry of Welfare held a two-day workshop for representatives of all the regional health authorities, calling for their future visions and priorities to be taken account of in compiling the

of these made substantive criticisms, as was to be expected when such a complex and important issue is under discussion; others resulted in revisions of wording to produce a clearer description and to embrace the dissimilar positions of the various players involved.

The Minister of Health submitted the policy to the 149th legislative session of the Althingi with a proposal on its adoption as the nation's health policy until the year 2030 (Parliamentary Document 835 – Matter No. 509). Following the first debate in parliament, the proposal was discussed in the Welfare Committee, which invited comments from large num-

The Health Policy until 2030 will be implemented by means of five-year action plans, which will be revised annually during the lifetime of the policy. The action plans will be submitted to the Althingi by the Minister of Health.

policy. Further meetings were held to involve health-care workers' professional associations and trade unions and other providers of healthcare services.

On 2 November, the Minister of Health held a health conference at which a draft text of the policy was unveiled, followed by discussion of the future vision and the main tasks facing the health system in the coming years.

The draft policy was published for comment via the government's consultative portal between 28 November and 19 December 2018. Comments were received from health authorities and educational institutions, professional associations, patients' associations, local authorities and individuals. Some

bers of people and held meetings with healthcare professionals. It received 38 submissions in all. The Welfare Committee completed its examination of the matter in May, and on 3 June 2019, Iceland's Health Policy until 2030 was approved unanimously by 45 members of the Althingi.

The policy will be implemented by means of five-year action plans, which will be revised annually during the lifetime of the policy. The action plans will be submitted to the Althingi by the Minister of Health.

Why is a **policy** needed?

Everybody needs to make use of the health services at some time in their lives. Individual needs vary from person to person, ranging from general health-promoting measures and support so as to enhance well-being and prevent disease to more complicated services to deal with the consequences of accidents and chronic or acute illnesses.

Iceland's health system is in many ways sound and comes out well, in terms of the results it achieves, in international comparison. It has well-educated and competent staff in all areas of the service. Nevertheless, there is room for improvement. Depending on whereabouts people live, there are sometimes problems with access to some parts of the service, waiting-lists for certain types of operation are too long and patients' need for seamless services are not met as they should be. Last but not least, there has been a lack of clear policy for the development of the health services. At times, the supply side of the service has weighed more heavily in steering the course than have the public's needs; decisions on policy have not been taken and prioritisation criteria have not been clear.

The main goal of Iceland's health legislation is that all people in the country should have access to the best possible services that can be provided at any given time to protect their mental, physical and social health. Discrimination of all types is prohibited, and if it proves necessary to prioritise patients in access to treatment, then this is to be done first and foremost on medical considerations and other grounds of a professional nature. The authorities must tackle the challenge of improving the performance of the health services within the financial framework applying at any given time.

Well-educated and competent staff are important in determining the quality of performance in the health services, but to maximize efficiency in all areas it is vital that staff share a common vision of the purpose and aims of the service, its future organisation and the best way of structuring their work.

By law, the Minister of Health is to set out a policy for the health services and ensure that it is applied. This means that the minister both may and must take account of the results achieved by the service, in both the short and long term, and take measures to improve them when necessary.

While the Minister of health, as the director of health affairs in Iceland, has great responsibilities, the country's healthcare institutions, and other bodies under the ministry of health, play an important role in implementing the necessary changes. It is also unavoidable that other ministries, such as those of finance and economic affairs, education, culture and science, and the Ministry for the environment and natural resources, play a part in implementing the health policy adopted, together with the local authorities, trade unions of the health service workers and consumers' NGOs.



Health 2020, the European policy for health and well-being up to 2020, which the WHO Regional Office for Europe published in 2012, is based on certain fundamental values: fairness, sustainability, quality, transparency, responsibility, gender equality, respect and the right to participate in decision making. These basic values encourage the development of people-centred health services on a social basis, the promotion of health at all stages of life and equality and health for all. The health policy set out here extends to the year 2030, and the WHO's aforementioned policy has been taken into account in its preparation. The present report covers matters

including health and the health services in a broader context, trends in the Nordic healthcare systems and the main challenges and opportunities faced by the health services in the future. In addition, a future vision is set out regarding the fundamental pillars of Iceland's health services. Seven key topics are examined to illustrate this future vision:

- **Leadership for results**
- **The right services in the right place**
- **People in first place**

- **Active users**
- **Efficient service purchasing**
- **Quality first**
- **Thinking about the future**

To implement the health policy up to 2030, an action plan will be drawn up for five years at a time; this will be updated every year during the policy period.

Health in a broader context

While good health services contribute to life expectancy and individual health and well-being, other factors are more important. Environmental factors, such as access to clean air and water and wholesome food, are of great importance. Economic factors, social factors and the existence of a good welfare system also make important contributions. Also, individual responsibility for one's own health and well-being is an important consideration. All of this is covered in the United Nations' Agenda for Sustainable Development, which Iceland, in collaboration with other nations, is involved in implementing.



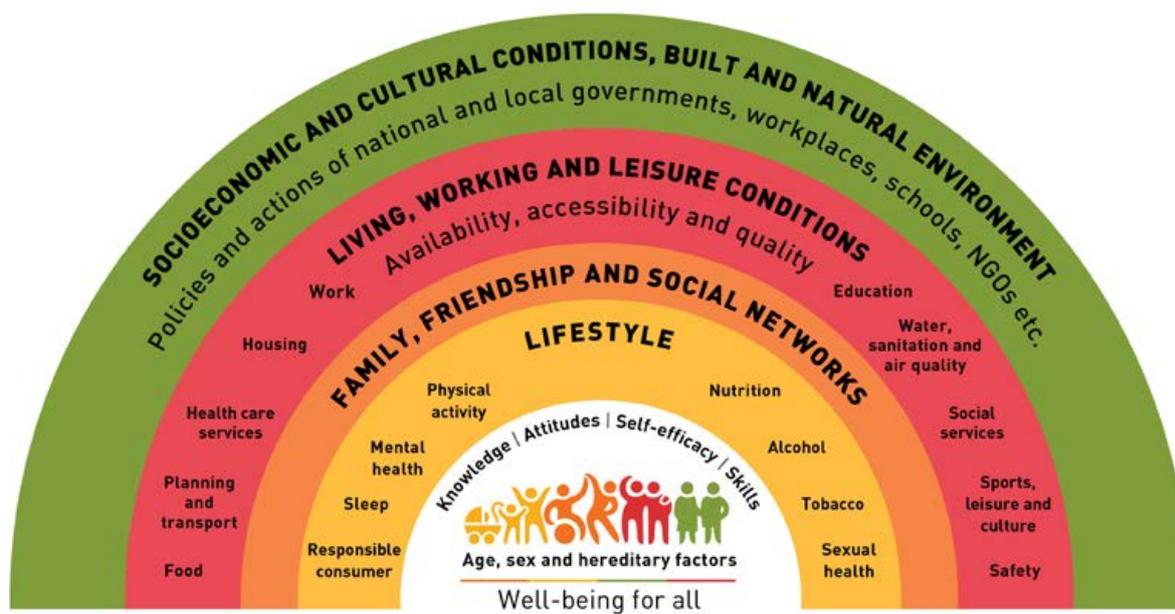
There are 17 goals in the UN Global Development programme which are intended to promote peace and freedom in the world. The eradication of poverty is one of the largest global goals and is an absolute condition for sustainable development. The third goal is to ensure healthy lives and promote well-being for all at all ages. Statistical indicators have been laid down for assessing progress towards its achievement.

The World Health Organisation defines health as a state of physical, mental and social well-being, and not merely the absence of disease or infirmity. At all stages of life, a great number of factors affect our ability to look after our health and enjoy a fulfilling life. As was mentioned above, external circum-

stances of various types play a large role, but individuals themselves can also make an impact through the lifestyles they adopt. These include choices regarding diet, exercise and contact with family and friends. It is not necessary to go into detail about the damaging effects of smoking, excessive alcohol consumption and drug abuse.

Promoting health is a process that enables people to have greater influence on their own health, and to improve it, with a comprehensive approach as the key to results. Iceland's public health policy was laid down in 2016. In it, a future vision was stated in which the school system, workplaces and institutions would become 'health-promoting' and work to increase the amount of exercise people took and the time they spent out of doors, improve their diet and encourage the cultivation of mental health, as all of this results in better health and well-being. Health considerations were to be a guiding principle in all policymaking (an approach summed up in the phrase *health in all policies*). Surveys of health and well-being in Iceland indicate that both children and adults do not get enough sleep; this is a problem shared with many other western nations. Insufficient sleep inevitably leads to numerous psychic and somatic illnesses among both children and adults, and is, unfortunately, frequently underestimated as an underlying cause.

Over the past ten years, the Directorate of Health has deliberately encouraged health-promoting work in schools and workplaces and entered into agreements with many local authorities in Iceland



Determinants of Health and Well-being, Dahlgren and Whitehead (1991).

on establishing a *'health-promoting society'*. This includes a focus on improving both people's man-made and social environments, reducing inequality and the incidence and consequences of chronic illnesses by means of preventive and health-promoting work of many types. The directorate also maintains core health indicators, publishing them for each healthcare administration region in Iceland. Core health indicators are designed to provide insight into public health in each region and to enable comparisons with figures for the whole country.

They intended as a way of enabling local authorities and health services to assess their standing within their regions, identify their strengths and weaknesses and understand the needs of their inhabitants and patients so as to make it possible to collaborate on improving health and well-being.

A healthy nation: opportunities and challenges

As mentioned above, the Icelandic health system is in many ways good and it scores well in international comparison: this is demonstrated in the OECD's regular 'Health at a Glance' surveys. Throughout, it is manned by well-educated and competent staff. There is a general consensus that the service should be publicly funded, and there is broad and firm support for the view that health care should be a priority in the allocation of shared resources. The way the system is structured, with one large healthcare institution in each regional division, makes for flexibility and opens the way to adapt the services to the needs of the local people. The Directorate of Health attends to important public health projects and supports health-promoting measures in local

government areas and schools across the country. Iceland's natural environment, with easy access to fresh air and clean water, provides a favourable framework for attaining good health.

All the factors listed above are clear strengths in the Icelandic health system. The same may be said of the country's demographic structure, as the population is still relatively young. Databases on illnesses and Icelanders' genetic characteristics and propensities provide a rich potential for scientific studies for the benefit of the Icelandic people, the training of healthcare workers and the development of the health services.

From the 2017 survey by the Directorate of Health

- 21% of Icelanders regarded their mental health as passable or poor
- 26% of Icelanders regarded their physical health as passable or poor
- 27% of Icelanders had a Body Mass Index of >30
- 240 hip-replacement operations were performed per 100,000 of the population
- On average, 67 people were waiting for places in nursing homes at any given time
- On average, people consulted medical specialists 1.4 times a year
- On average, people consulted primary health centres 2.6 times a year
- There were 42,139 hospitalisations
- There were 315,802 out-patient-department visits

According to Statistics Iceland, the average Icelandic woman lives 84 years and the average man 81 years; these figures are among the world's highest.

- According to projections by Statistics Iceland, the number of people aged 80 and above will rise by about 5,700 by the year 2030, an increase of 46%.
- According to the OECD in 2018, Icelanders aged 65 could expect to live another 20 years on average. Of these 20 years, men can expect four years with a reduced level of health; women could expect six such years.

Iceland's geographical isolation counts for little in the modern world, since the rapid development of transport and communications has opened the country to international influences in all areas of society. The health services are no exception to this, and it is clear that the process will continue with ever-increasing foreign contact and globalization.

We face challenges ...

Life expectancy has risen appreciably in the past few decades in Iceland, and the population is ageing even though it is still young in comparison with most other western countries. This trend poses various challenges, including as regards the welfare system, where the need for services grows as the number of elderly people becomes a larger proportion of the whole. Health problems connected with certain lifestyle-related diseases and chronic health conditions have also become more common and led to growing strain on the health system in recent decades. Examples of this are obesity and various serious problems associated with it, addictive illnesses and a range of psychiatric disorders. These and other challenges are examined in further detail below:

Dementia is an example of a chronic illness that affects older people. Reports from the OECD show that dementia is most common in the countries

with the highest life expectancy. It can therefore be expected that the incidence of the illness will rise considerably by 2030.

Chronic illnesses affect not only the older generation. The World Health Organisation ranks chronic illnesses, such as cardio-vascular diseases, cancer, pulmonary diseases, diabetes and psychiatric disorders as the principal threats to human health. They are estimated to cause about 70% of all deaths in the world each year. They can largely be attributed to the lifestyle that has become dominant in western countries in recent decades.

Obesity is a growing problem in Iceland as in other countries, and both children and adults are affected. It can have serious consequences, both in terms of health and social well-being. According to the Directorate of Health's core health indicators, about a quarter of the Icelandic population have a body

mass index (BMI) of over 30, which is the definition of obesity; the situation varies from region to region.

Changes in the composition of the population, with an increasing proportion of people of foreign origin, are impacting the expectations made of the health services. Immigrants take time to gain competence in Icelandic and become acclimatised to the local culture. When planning services in the future, it is important to take account of the demands made by a multi-cultural society. One example of this is the need for access to interpreters and the publication of information in various foreign languages.

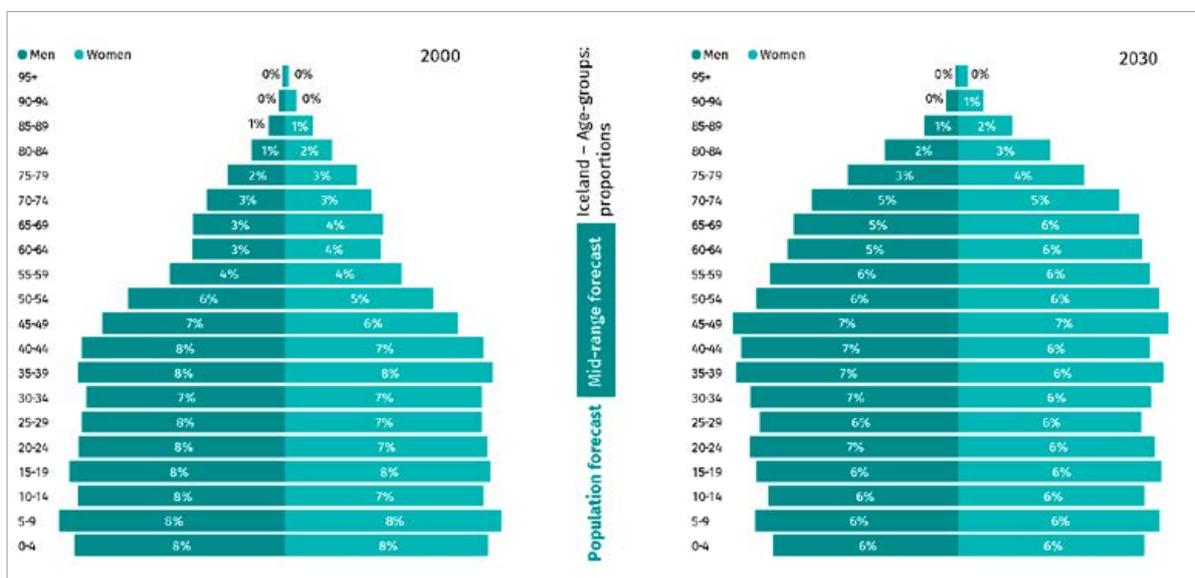
Access to the health services is uneven in some respects, though it is generally good. Specialists tend to be concentrated in the metropolitan area, with access more difficult in the rural areas in proportion to the distance from the capital. Measures must be taken to remedy this. The same may be said of the waiting lists for certain operations; in some cases they are far too long. Furthermore, it needs to be taken into account that people with mental and physical disabilities, serious psychiatric disorders, addiction problems and diminished capacity of other types may find it difficult to make use of the services that are available unless special measures are taken to meet their needs.

Staff recruitment in the health services is an international challenge, not least as regards nurses and physicians. Competition for staff in these professions is becoming tougher, and changing conditions regarding transport, for example, have enabled Icelandic healthcare workers to take employment, part-time or full-time, in the other Nordic countries, where they are in great demand. For the most part, Icelandic physicians have to take elective courses or further training in other countries, with the result that the Icelandic system is deprived of their labour

contribution during this training period, in addition to which some of them end up living and working abroad. Consequently, there is a need to invest constantly in the education and training of all health-care workers and to create a working environment in Iceland that will stand comparison with the best in our neighbouring countries. It is also important to strengthen interdisciplinary team work involving all occupations in the health system and to develop and improve jobs in the system on a continuous basis.

New medicines and medication use. One of the important challenges in the health system is to ensure Icelanders a sufficient supplies of necessary medications and also their quality and responsible use. Overuse of antibiotics results the emergence of bacteria that are immune to these drugs; this has been recognized as one of the greatest threats that humanity faces. In this respect, Iceland is still in a relatively good position, but there are evident signs that we have been using excessive quantities of broad-spectrum antibiotics. The growing supply of new, extremely expensive drugs results not only in huge costs but also leads to difficult ethical questions regarding prioritisation in the health system.

Purchase of health services: this is one of the challenges ahead. One intention behind the Health Insurance Act, No. 112/2008, was to structure the purchase of health services by the state in the same way as is generally the case in the other Nordic countries. Icelandic Health Insurance (Sjúkratryggingar Íslands) was entrusted with doing this. According to a report by the Icelandic National Audit Office from 2016 on the outcome of the application of the act, there are many indications that the aim of the act as regards the purchase of health services has not been achieved. The National Audit Office's report pointed out that contracts on the purchase of services were not based on in-depth cost analyses



and that purchasing was not subject to sufficiently rigorous priority ranking on the basis of patients' needs; this could result in poor cost-effectiveness. The report also pointed out that stricter demands needed to be made regarding service quality, and that the state should at all times take the initiative on the purchase of health services. In addition, the report says it is high time that service-based funding was introduced at the National University Hospital (Landspítali) so as to maximize efficiency and streamlining in its operations.

Spending on health care in Iceland comes to just over ISK 200 billion each year, representing c. 8.7% of GDP. This proportion has fallen since the beginning of this century, when it was c. 10%. Furthermore, GDP was significantly reduced following the financial crisis of 2008, and the health system did not escape unscathed. During this time, the health system has undergone changes of various types which it would be difficult to defend as being for the better in the long term. For example, the activities of the day-care and out-patients' departments of the hospitals have, to a large extent, been replaced by private

specialists operating in their own clinics where it is difficult to provide composite services to meet the needs of chronically ill patients and elderly people suffering from a number of health problems. One of the consequences of this trend is that Landspítali has had to engage specialists on a part-time basis to a greater extent than previously, which interferes with the normal circulation of patients and makes it more difficult for the management to organise the functioning of the hospital. In this connection, it is sufficient to refer to the McKinsey 2016 report *Lykill að fullnýtingu tækifæra Landspítalans* ('The key to utilising Landspítali's opportunities to the full'). Spending on health care is rising in most countries, and Iceland will be no exception to this in the future. In the same way, it is natural to make the demand that resources already spent on the health services be utilized in the best possible way, e.g. by making changes as regards workloads, the purchase of services and the general structuring of the health system.

... but also many opportunities

Many opportunities are concealed in the challenges that the health system is currently facing, and it is important to make use of them. Ways of doing this include improving public health and influencing people's lifestyles. Health-promoting measures for elderly people should be a particular priority here in the light of the advantages to be gained from them. Making use of technological innovations opens up opportunities of many types; this applies also to changes in the funding of the health services and participation by users of the services in their costs, the development of primary health care and the development of Landspítali. These and other opportunities are examined in further detail below.

Health-promoting measures and improved public health. By stressing the importance of preventing diseases and making it easier for people to choose a healthy lifestyle it is possible to reduce the likelihood that they will experience poor health later in life or defer the deterioration of their state of health. It is therefore important to give priority to measures aimed at achieving better public health for all sectors of the population. Icelanders are

becoming increasingly aware that one's lifestyle can promote good health. Good results have been achieved in reducing smoking and the damaging abuse of alcohol, and an understanding of the benefits of good diet and suitable exercise is becoming more widespread. Nevertheless, there is room for improvement here, particularly among children and the elderly. The Directorate of Public Health has put great effort into promoting health all over the country through active counselling and support to schools and local authorities. It is vital that this work receive support from the government and that the health services, in particular the primary health clinics, participate in this work.

Good psychiatric and mental health opens the way for individuals to play a full part in their community, make use of their abilities and make their contribution to society. This is discussed in the Policy and Plan of Action in Mental Health up to the Year 2020, which was approved by the Althingi in April 2016. The plan of action stated that the main emphasis was to be laid on integrating services for people with mental problems and for their families and preventive and

health-promoting measures in the field of mental health in which attention is to be directed in particular to children and young people. In addition, measures should be defined and taken to accommodate various peripheral groups and people at vulnerable stages of life in order to reduce the prevalence of prejudice and discrimination. The primary health clinics are assigned an important role in providing effective mental health services, including by maintaining special mental health teams throughout the country and making the services of psychologists available as part of the clinics' operations.

Easy access to medicines and their rational use are very important factors in securing good performance in the health services and can have great impact on people's health and well-being. In May 2017, the Althingi approved a draft resolution on medications up to the year 2022. The emphasis in this policy is on access to necessary medications, their quality and safety and their efficient use.

Technological innovations in the health services. The development and introduction of technological innovations with an application in the health services represents a rich field of opportunity. Iceland has already outstripped many other countries in this area by building up a coordinated medical records system throughout the country which enables health workers to access the necessary information on patients no matter where they have come for help. This system could be improved still further by facilitating the registration of data and simplifying its use. The development and application of solutions in the field of distance healthcare offers many opportunities too, e.g. as regards equalizing access to the services for people living in the rural areas. Information technology (IT) and digital solutions will play a key role in the development of the health services in the years ahead. Iceland's health system, with its small size, together with the high level of technical literacy in Iceland and the IT infrastructure already in place, offers countless opportunities for improving quality and efficiency.

Mention must also be made here of IT development that has not yet made an impact in Iceland but is just around the corner. Plans are already afoot to use artificial intelligence (AI) in diagnosing diseases, which will doubtless have a great impact on the jobs of health workers in the future. Robots are already being developed, as are monitoring systems using electronic cameras and transmitters that are integrated with the GPS positioning system. These technologies could be employed, in particular, in services to elderly people who, as has been mentioned above, are becoming an ever-greater proportion of the population in Iceland, as elsewhere. While these developments offer great potential, they also give

rise to many ethical questions that will need to be addressed before the technology is introduced in the health services.

The same applies to new technology and techniques that are already available in the health services, such as the genetic profiling of individuals, stem-cell research and the possibility of diagnosing illnesses long before they become apparent. While all this offers exciting possibilities, persistent moral and ethical questions also pop up which will need to be answered before the technologies are in general use in the health system.

Greater equality is the guiding principle in improving access to the health services for everyone. Certain steps have been taken in this direction with the introduction of new payment systems for medications and health services and through agreements on the payment of a larger share of the costs of dental treatment for children, the elderly and disabled people to be borne by Icelandic Health Insurance. A ceiling has been placed on patients' payments; further moves towards achieving equality could be taken by further reducing the share that they pay.

Promotion of the primary health clinics as the first port of call for users of the health services has long been a matter of official policy; it is based on law and is a matter of broad consensus. Various moves have been made towards this end, e.g. increasing the number of professional groups employed within the clinics and increasing their intradisciplinary cooperation in order to meet the range of patients' needs and promote continuous and integrated services. Charges for consultations in the primary health clinics have been systematically lowered and a reference system has been introduced for children, ensuring them services without charge. In the metropolitan area, a new financing system has been introduced for the primary health clinics which is seen as having strengthened them, improved their productivity and broadened access to their services. Primary health clinics play an important role in continuing to support the good results that Iceland has scored for decades now, e.g. in infant care, pre-natal care and preventive measures against cardiac diseases, cancer and various infectious diseases.

Landspítali (the National University Hospital) is the corner-stone of the Icelandic health system, and this status is likely to become further confirmed as its development continues, including a new central treatment unit, a laboratory building and a patients' hotel. Work is also in progress on expanding the activities of its day-care and outpatient departments. These projects bring various opportunities that will make it possible for the hospital to develop in step with future expectations.

Iceland's health services are among the best in the world in many areas, and have been for decades. It is important, however, to be alert in maintaining this position and to take seriously all indications that we are not embracing progress and innovation in health services as this could lead to our falling behind our neighbouring countries.

The policy set forth below addresses the main points that must be borne in mind if the health system is to meet the challenges it faces. Its aim is that the health system should be still better prepared to nurture the health and well-being of the people of Iceland through all stages of their lives.

The health system in a broader context

A health system is not an isolated service system: it should be integrated and connected with all aspects of society. Its obvious role consists in providing people with services in diagnosing and treating diseases, preventive measures and advice of many types on the maintenance of good health and living a healthy life. As most people generally enjoy good health, only a tiny fraction of the population needs to make use of the services at any given time. From the point of view of the general public, it is of great importance that it should be able to feel confidence in the health system and its staff and be sure of receiving the appropriate services when the need arises. It is important to have easy access to simple and clear information and guidance on the health services and where to go for help when it is needed.

**69% of people
in Iceland have
confidence in the
health system**

-Gallup poll, February 2019

The health system is also part of a broader infrastructure network, and is significant in terms of both employment and the economy and social well-being of regions of the country outside the metropolitan area. One of the preconditions for people being able to live in these regions is that they can rely on good health services; thus, they are one of the fundamental pillars of society. In the light of this, the importance of a clear and sophisticated health

policy is obvious. For this policy to work, it is vital that it enjoy broad support; in fact, it must be part of a social contract reflecting the attitudes and expectations of the general public towards the welfare system.

By its nature, the health system is complex and many-faceted. There is a high degree of specialisation within it, and many service providers are involved. One of the greatest challenges is to create a holistic system that will ensure seamless services to patients at the correct service level in each individual instance. If this goal can be achieved, it will reduce the likelihood of the emergence of a problem known to attend health systems: that parts of the system seek to maximise their own gains without this resulting in better results for the system as a whole. An example of this is when service providers seek to accept, primarily, "easier" patients and not those who are suffering from more complicated health problems that are more expensive to treat. This danger exists when financial incentives do not serve the overall objectives of the system.

The following are fundamental points that must be observed when developing a good health system with the aim of providing users with quality and seamless services in the most economical manner.

- When health services are delivered, it must be ensured that patients will be able to move without hindrance between the various units within the system so that services will be seamless and serve their needs in the best possible way.
- Greater flexibility must be established in human resource management within the health system so as to make it easier to make changes in the division of labour and responsibility on the part

of healthcare professions when this is needed in order to improve services to users.

- Criteria on the quality and outcome of the health system must reflect how well the services meet the requirements of users and society at large.
- The funding and payment systems used in the health services must include incentives that will encourage a holistic approach to patients' problems rather than concentrating on individual visits to healthcare professionals or individual referrals for hospitalisation.
- The administrative and legislative framework for health issues must include sufficient flexibility for development and innovation.
- It must be ensured that new technology and new medications will only be adopted in the health services if the most stringent demands regarding tried and tested knowledge are met.

Trends in the Nordic healthcare systems

The healthcare systems of Iceland's Nordic neighbours have undergone great changes in the last 30 years. One of the reasons for this has been rapidly rising costs, even though it is not necessarily the case that there has been a corresponding increase in quality. The main changes have been as follows:

- **Funding.** Service-related funding has been adopted instead of lump-sum budget allocations. This fundamental change has created motivation for shortening the time during which patients occupy hospital beds and raising productivity and cutting costs.
- **Reduction in the number of beds.** There has been a considerable reduction in the number of hospital beds; this has been due in part to changes in the funding of the system and in part to the great expansion of day-care and outpatient department services. However, the main explanation lies not in greater economizing but rather in a shift in priorities, bringing services closer to users and their daily lives and reducing the risk of the health problems that may accompany long stays in hospital.
- **Greater quality demands.** For many years now, purchasers of health services have demanded that service providers submit certain core indicators to demonstrate the quality of their outcomes. In



certain cases, payment is subject to the condition that these core indicators be produced, demonstrating the attainment of the standards required.

- **Expansion of service areas.** Organisational changes have been undertaken, with service areas being expanded and services structured as first, second and third-level services, in which the first level is the primary health clinic and the third is a hi-tech hospital.

Work has been done on the above points with a view to enabling the health system to taken on new functions without this entailing excessive costs.

Iceland's health system has been moving along lines comparable to those described above, but in important areas it has not yet progressed so far. In 2016, the consultancy McKinsey & Co produced the report *Lykill að fullnýtingu tækifæra Landspítalans*

– *Íslenska heilbrigðiskerfið á krossgötum* ('The key to utilising Landspítali's opportunities to the full – Iceland's health system at a crossroads') for the Budget Committee of the Althingi and the Ministry of welfare. The report was compiled to clarify what changes needed to be made to Iceland's health system so as to develop more comprehensive services for the people of Iceland. According to the report, the most urgent move would be to introduce the DRG (*Diagnosis Related Groups*) classification system, and thereafter to link the funding of the health system to services. In this, funding allocations reflect defined quality standards and the outcome of services is made visible. In addition, it is regarded as necessary to give patients with complex health problems access to day-care and outpatient hospital departments.

Future vision and policy up to the year 2030

The following future vision is hereby laid down for the Icelandic health system, the guiding principle being that the people of Iceland should have reliable and efficient health services to which everyone is guaranteed access:

- **Iceland's health services stand comparison with the best in the world; public health work focuses on the promotion of health and preventive measures play a part in all services, particularly those of the primary health clinics.**
- **The health services' performance is assessed by measuring the quality of services, their safety, their accessibility and their cost.**

to be followed to strengthen the health system. These key topics are closely interrelated and cannot be separated if the system is to function as an entity towards the achievement of the goal and offer seamless services in which the patients' interests are the guiding principle. Here follows an examination of each of these key topics.

As has been stated above, seven key topics are stated in the policy which are to mark out the route

1. Leadership for results

This section examines:

- management and coordination,
- legislation on the health system,
- management and leadership ability,
- ethical considerations and value assessment.

Why is this important?

Healthcare systems, no matter how well they are structured, cannot play their role without an efficient managerial system and managers with sound leadership qualities. The legislature and the executive are involved in deciding how the health services are organised; they define their role, monitor to ensure that the system meets public expectations and see to it that funding is spent on the most urgently needed services. In addition, the legislature and the executive must ensure that the necessary demands are made regarding staff education and skills, that the necessary quality standards are demanded of institutions providing health services and that the need for new equipment and medicines is assessed (*HTA – Health Technology Assessment*). The cost of the services has to be worked out; it must then be priced, with measures to ensure that the sale and pricing of medications follow the rules and that scientific work is in conformity with domestic and international rules. A breakdown in any of these procedures can have serious consequences for users of the system and for the state, which pays for it.

The Health Services Act, the Patients' Rights Act, the Health Insurance Act and the Directorate of Health and Public Health Act are the cornerstones of health legislation in Iceland, setting out the framework for the health services and defining how they are to be managed. The Minister of Health is to lay down policy for the health services. The minister may take the measures necessary to implement this policy,

including as regards its structure, prioritisation of work within it and the efficiency, quality and safety of services and access to them.

The Health Services Act provides for the structure of health services in Iceland. The term 'health services' covers health care of all types: treatment by physicians, nursing, general and specialised hospital services, transport of patients, prosthetic services and the services of healthcare workers both in and outside health institution when these are rendered in order to support health or to prevent, diagnose or treat illnesses and to rehabilitate patients. For the most part, the health services in Iceland are funded by taxation revenues, and allocations are made in the national budget for each year. Most health services are provided by public bodies according to the structure laid down in the Health Services Act, but a sizeable part is provided by private operators. The general rule is that the state, as the purchaser of these services, is to take the initiative on what services are to be purchased, in what quantity and subject to what requirements regarding performance and quality.

It is important that services be at all times provided at the appropriate service level. The local authorities have an important role to play in the services they are required to provide under the Local Authorities' Social Services Act, the Senior Citizens Act and the Services to Disabled Persons with Chronic Support Requirements Act. Steps must be taken to ensure that it is clear to everyone where the divisions lie regarding the various roles of central and local government in this area: otherwise, there is a danger that users of the services will not receive the right services at the right level and will bear the brunt of disputes between these parties regarding the division of costs. It is desirable that decisions on services be taken as close as possible to those who need them and that healthcare institutions and the local authority where patients live should collaborate closely.

The merging of healthcare institutions within the regions, which was completed in 2014, has created opportunities for simplifying and clarifying the administrative structure of the services. Provisions are made, in the Health Services Act and in letters of appointment to managers, on the responsibilities

and range of powers of the heads and managers of healthcare institutions. The heads of these institutions are faced with comparable tasks and the same challenges regarding their operation and services to be provided to the people living in their administrative regions. It is therefore essential that they consult each other regularly under the leadership of the Minister of Health and the Ministry of Health.

It is vital that managers in all parts of the health system have good leadership abilities, as these will be necessary to meet the challenges of the future; these will call for creativity and innovation both in technological matters and in working procedures. For managers to meet these challenges, it is necessary to give them greater room for action, where their powers, both as regards financial and professional management, will be balanced by responsibility. Performance management and greater delegation of power call for the observance of certain values by both managers and other staff.

Culture and values

Every day, managers and employees in the health services face numerous difficult decisions that affect people's lives and health. Prioritisation is part of health workers' day-to-day routine. Advances in diagnostics and treatment, with rising costs, make it increasingly important for the state, which finances the health services, to set out priorities in the use of the funds available. Prioritisation by the authorities must be based on clear criteria and ethical values that are known to everyone and evident when decisions are taken, whether health workers or patients are involved, and there must be broad general approval of these values in society at large.

An extensive debate emerged in the Nordic countries in the closing decades of the twentieth century, and other parts of the world, on the need for prioritisation in the health services. Norway was the first country to publish a report on the topic in 1987, in which four prioritisation categories were set out, with criteria defined. During the following years this debate assumed greater proportions in the other Nordic countries, and in 1997 the Swedish parliament passed a motion defining the values and ethical principles that were to underpin prioritisation in the Swedish health system.

At the beginning of 1996, Iceland's Minister of Health and Social Insurance appointed a committee to make proposals on how prioritisation was to be effected in the health sector in Iceland. It submitted its proposals to the minister in the form of a substantial report, *Forgangsröðun í heilbrigðismálum – niðurstöður nefndar um forgangsröðun* ('Prioritisa-

tion in healthcare – conclusions of the committee on prioritisation') in 1998. In 1997, while this committee was still at work, the Icelandic Medical Association published a report of its own, *Um forgangsröðun í heilbrigðisþjónustu* ('On prioritisation in the health services'); the association was also brought in to comment on the report appointed by the minister. Though no further account of the conclusions of this work, either in Iceland or in its neighbouring countries, will be given here, it can be said that the findings were all similar. It is worth bearing in mind that discussion on prioritisation in the health services is something that is never finished: it is a never-ending quest. The following are the fundamental considerations on which consensus has emerged, both in Iceland and in its neighbouring countries:

Personal dignity; respect for the individual

- *All people are equal and have the same right to protection of their lives and maintenance of their health.*

Need and solidarity

- *Those who are most in need of the health services at any given time are to be given priority.*
- *The rights of those who are in a fragile position, no matter for what reason, and are consequently unable to exercise their rights or to defend them, shall be respected.*

Economy and efficiency

- *The health services are to be focussed, productive and as economically efficient as possible.*

Those considerations that are intended to protect the most important ethical values are to take precedence over others. Thus, *personal dignity* is ranked first, before *need and solidarity*, and *economy and efficiency* come last.

Since publication of the report of the committee appointed by the Minister of Health and Social Security on prioritisation in the health system in 1998, there has been little discussion of the subject among politicians in Iceland; for example, the report has never been formally discussed by the Althingi in the same way that the Norwegian and Swedish

parliaments discussed their respective reports. It should be mentioned that in Norway, prioritisation in the health services is discussed every year in connection with the national budget, and, as was mentioned above, the Swedish parliament approved the values and ethical principles that are to underpin prioritisation in the Swedish health system.

Icelandic health legislation reflects a certain ethical standpoint regarding the entitlement of people in Iceland to the health services; this is the same as that in the other Nordic welfare systems. The Health Services Act states that all people in the country are equally entitled to the best health services available

at any given time. The Patients' Rights Act also states that no discrimination may be practised against patients on the grounds of their personal qualities or their standing in society. It also states that if it should prove necessary to rank patients in an order of priority for treatment, then medical considerations are to be paramount. When policy is laid down for the health system, it is important that it should be based on a sound moral and ethical foundation, with a consensus regarding the values that are to guide the path to the goals set.

What will the **situation look like in 2030?**

1. Legislation on the health services will be clear, with unambiguous provisions on the roles of the healthcare institutions and other health service providers and how they are to communicate with each other.
2. The role and financial responsibilities of central and local government regarding the provision of health services will be well defined.
3. There will be smooth cooperation between the health services and the social services, the role and responsibilities of each having been well defined.
4. There will be a general consensus of agreement on the ethical principles underlying prioritisation and decision-making in the health system; at the same time, there will be ongoing discussion of the guiding principles.
5. Each year, institutions under the Ministry of Health will draw up their own working programme, based on the health policy and the concomitant plans of action drawn up by the Minister of health.
6. The aims of the health policy will be clear to everyone, and information on the results it produces, measured against quality criteria, will be accessible by the public.
7. The responsibilities and powers of managers of institutions which either come under the Ministry of Health or undertake tasks on its behalf, will be compatible and well defined.
8. Managers in all fields in the health system will be chosen on grounds of their professional skills, with requirements made regarding, amongst other things, leadership abilities and experience of policy-based management. They will be given regular support and training in these areas.
9. The directors of the regional health authorities in Iceland will be the administrators of health issues within their regions, maintaining regular consultation between themselves on the health services under the leadership of the Ministry of health.
10. The role and range of responsibility of Landspítali and the Akureyri Hospital towards other providers of health services will be well defined, creating a secure foundation for the coordination of services.

2. The right services in the right place

This section examines:

- the provision of health services,
- primary health clinics as the first level of the health services,
- specialist services outside the hospital as second-level healthcare services,
- hospital services as third-level healthcare services,
- service management, movement of users between service levels and how services can be managed so as to guarantee safety, economic efficiency and equality of treatment,
- distance health services and their impact on the pattern of structuring and development of the health services.

Why is this important?

The way health services are currently structured generally reflects yesterday's needs and technological solutions. With rapid growth in the field of epidemiology and technological development, the other Nordic and North European countries have shifted the emphasis in their health services and sought new ways of structuring them.

Attention must be given to ways of improving outcomes and efficiency in the health system through access management.

- National Audit Office report on the Metropolitan Healthcare Authority (April 2017)

Amongst other changes, parts of the services have been merged, centres of excellence have been opened and units that fail to meet the requirements regarding quality, safety and efficiency have been closed. Behind these moves is an awareness that human and other resources available to the health services are limited and that it is therefore wiser to concentrate competence, skills and knowledge rather than to spread these assets too widely. Examples of these moves are the reorganisation of the reception and treatment of stroke patients in Britain and elsewhere and the establishment of centres for the treatment of patients with arthritic conditions, diabetes and neurological diseases in Sweden

Roles of individual service-providers within the health system must be better defined, with a clearer distinction made between first, second and third-level services than is done at present.

- National Audit Office report on the Metropolitan Healthcare Authority (April 2017)

Various steps of the type described above have been taken in this direction in Iceland, including the merging of institutions and certain service elements. It is worth examining whether there is reason to proceed further in the same direction as our neighbouring countries have taken in order to ensure satisfactory and professional manning of workplaces and create acceptable working conditions without reducing the standard of services. Carefully-managed development of distance healthcare and increased emphasis on efficient patient transport can open up opportunities for providing quality health services through-

out the country and guarantee patient safety in the more remote parts of the rural areas. Here, it must be borne in mind that ‘patient transport services’ refers not only to the movement of patients between locations, but also the need to be able to bring emergency aid to patients as quickly as possible.

‘It’s as if walls have been built up to stop people working together’

- Patient

Iceland’s health services come out well in international comparison, and hi-tech services are found in Iceland that are equal to those available in much larger countries. Nevertheless, the smallness of the population inevitably imposes certain limitations, and in some cases patients have to be sent abroad for treatment or consultation with experts. This applies, for example, to organ transplants, surgery for inherited cardiac problems and serious haematological diseases. It is important to determine a framework for services of this type so that access does not depend on random decisions.

One part in making improvements needed in this area is to define the role of service providers better than is the case at present, adopt the international DRG (Diagnosis Related Groups) classification system and then to introduce service-related funding of the health system in which payments are linked to the attainment pre-defined quality requirements, so making the service’s performance visible.

Health services: the first level

According to law, the primary health centres are assigned a large role in the provision of health services to the people of Iceland. They are supposed to be the first port of call in the system, where users should be able to find general medical treatment, nursing, rehabilitation, health protection and preventive measures. Accident and emergency reception and other services, which are defined in greater detail in regulations, are also at this level.

Health services are provided in all healthcare regions, being organised by the regional health authorities. Health centres are widely distributed and access to them is generally fairly easy outside the metropolitan area. This does not apply, however, to the most sparsely populated areas, where it has proved difficult to staff the clinics, particularly over the last few years. Attempts have been made to respond to this situation by engaging physicians to work at the centres under short-term contracts, but this is neither a desirable nor a permanent solution.

The merging of health institutions outside the metropolitan area has created a basis on which their directors can find solutions to this problem that will be to the best advantage of the local people and guarantee them access to health services. The development of distance healthcare services and more efficient arrangements for transporting patients are also making it easier to guarantee access to the health services for people living in the more sparsely populated parts of the country. Examples of how distance healthcare solutions and transport systems have been used effectively can be found in the other Nordic countries that also face the problem of providing services over large geographical areas.

‘There should be a contact person to guide the patient and make sure information gets across’

- Patient

In recent years it has proved rather difficult to staff the primary health centres in the metropolitan area satisfactorily, with the result that access to these services has not been as it should. A considerable improvement followed on the adoption of a new and completely different funding system for the metropolitan area’s centres on 1 January 2017. In this new system, the Need for Care Index – NCI, funding for the operation of the centres reflects the consumer group served by the centre in each individual case. The aim of this is to bring professional and financial incentives into the running of the clinics to promote better service, more economical operations and enabling the primary health centres to be the first port of call in the health services. After the change in the funding of primary health centres in the metropolitan area, all centres are placed on an equal footing, irrespective of whether they are run by public or private entities.

In many cases people in other professions, e.g. physiotherapists, would be better than physicians at dealing with the problems that people bring to the primary health centres.

- National Audit Office report on Healthcare Authorities outside the Metropolitan Area (April 2018)

An important factor in staffing the centres in the future will be training more general practitioners and ensuring sufficient recruitment into the profession. Teamwork and interdisciplinary collaboration

within the health centres must also be enhanced, bringing other healthcare workers into the service: various tasks which up to now have been first and foremost the province of physicians could no doubt be undertaken by many other categories of employees of the health services. Interdisciplinary knowledge, skills and experience would also come in useful in broadening contact with the municipal social services and attending to home services, preventive work and general health promotion. Contact and communication with the social services are particularly important if the increasing need for care of the elderly and of people with chronic illnesses and multiple health problems is to be met.

Health services: the second level

When the potential of the primary health centres, as the first level of the health services, is exhausted, the second level takes over. Second-level services are provided at more or less all health institutions in the country, but in the metropolitan area, as a result of developments over the past few decades they are largely provided by specialists in privately-run clinics. All people in Iceland are to be ensured the necessary access to second-level services; here, Icelandic Health Insurance (Sjúkratryggingar Íslands) plays a key role as the purchaser of these services on behalf of the state. The Health Insurance Act states that when contracts are made, access of those covered by insurance to the health services covered by the contract is to be guaranteed, irrespective of their financial standing. Furthermore, attempts are to be made to ensure that services are available to insured persons wherever they live in Iceland, and service providers are to ensure that insured persons are on an equal footing. Furthermore, the quantity, type and quality of services, and where they are to be delivered, and by whom, are to be specified in the contract.

Experience has shown that in practice, access to specialist health services does not always measure up to the provisions of the Health Insurance Act. The report by the National Audit Office (of February 2018)

'I need the services of many different specialists because of my condition. I was offered an appointment with a gastric specialist in his private consulting room in 3 months' time'

- Patient

on Icelandic Health Insurance as the purchaser of health services lists examples of purchases that have been made without satisfactory analysis of patient needs, costs and the quality of care. Also, contracts have been made on the purchase of health services that have not been in full conformity with the Health Insurance Act as regards defined quantities, clear quality levels or equal access by all people in Iceland. The National Audit Office mentions, as an example of this, the framework agreement between Icelandic Health Insurance and physicians outside the hospitals and how spending in this area has risen steadily for the reasons listed above.

This technology [distance health care] offers plenty of opportunities for rationalisation and improving services.

- National Audit Office (April 2018)

The National Audit Office has also pointed out, in the report *Heilsugæsla höfuðborgarsvæðisins* ('The Metropolitan Healthcare Authority') in April 2017, that as a result of almost unimpeded access to the services of medical specialists, there was a danger that second-level health services would be over-used. The report pointed out that medical specialists are paid according to the number of patients they



treat; thus, contracts with them constitute a financial incentive to provide their services as frequently as possible. The same criticism is made in the McKinsey report of 2016, *Lykill að fullnýtingu tækifæra Landspítalans – Íslenska heilbrigðiskerfið á krossgötum* ('The key to utilising Landspítali's opportunities to the full – Iceland's health system at a crossroads'), which points out a lack of quantity control on the part of the purchaser of the services, a lack of monitoring and easy access by patients to the services of medical specialists without 'gatekeeping' by the primary health centres. The same risk was pointed out in the report compiled by the Boston Consulting Group for the Ministry of Welfare in 2011. That year, a system was introduced in which physicians in the primary health centres refer children to specialists, the aim being to ensure that services are utilised at the appropriate level and to ensure that the primary health centres will normally be patients' first port of call. The National Audit Office has called for further work to identify the types of specialist service that should be accessed through the referral system.

The services which the state intends to purchase from medical specialists, and those that should only be provided in first-level health services must be defined. There is also a need to define the specialist services that are to be provided in the university hospital (Landspítali). On this last point, attention should be drawn to a point made in the aforementioned McKinsey report in 2016: that specialist services had moved out of Landspítali without regard to whether it would be better to locate them in the hospital or outside it.

The specialist services provided by each of the regional health authorities need to be structured according to the needs of the inhabitants. In this context, there is a need to identify what specialist services can still be offered in those hospitals that are now encountering difficulty in finding staff to fill both specialist positions and those of other healthcare workers. One way of guaranteeing access to specialist services for people in the parts of the country outside the metropolitan area would be to define the roles of Landspítali and the Akureyri Hospital in such a way as to require them to provide the country's health institutions with specialist services in collaboration with, and under contracts with, the health institutions in question. A basic prerequisite for this to be possible is that the physician staffing of the hospitals take account of this role. The extent to which these services are provided in the form of regular visits by specialists, distance health services or in some other manner is a matter to be agreed on between the parties.

Health services : the third level

Services at the third level are currently provided at Landspítali and, to some extent, at the Akureyri Hospital. Landspítali is the leading Icelandic institution in terms of skills, knowledge and technology when it comes to dealing with serious illnesses and it accepts patients from other healthcare institutions when their capacities are exhausted. It provides services in practically all generally-recognized specialisations within medicine and nursing, with the emphasis on research, development and training. It is there that Iceland's healthcare personnel are trained and that scientific and innovative work in the health sciences takes place, in close collaboration with the University of Iceland. Care of patients, teaching and research are integrated into the day-to-day activities of Landspítali, and part of the staff complement, in terms of full-time-equivalent positions, is connected with the university. The activities of Landspítali are not confined to particular buildings: they may take place in a variety of locations and in more than one institution providing the aforementioned conditions are met.

Landspítali is Iceland's principal hospital and has the status of a university hospital. It provides hospital services at both the second and third levels. In view of Iceland's tiny population, Landspítali has to play a broader role than corresponding hospitals in countries with populations in the millions; generally, it is accepted that a population of one or two million people is a prerequisite for operating such a hospital.

Landspítali is the cornerstone of Iceland's health system. As such, it must provide its staff with working facilities that are competitive with those in hospitals of the same type in our neighbouring countries. If it is not successful in doing this, then there is a danger that it will lose staff to those countries as a consequence of growing competition for skilled staff.

The McKinsey report of 2016 pointed out that the proportion of clinical staff at Landspítali was low, with physicians forming a relatively small proportion of that group. The average age among the physicians is low; many older and more experienced physicians are employed there only part-time. This results in situations where the staff lack the authority or ability to take crucial decisions, which in turn means that patients spend more time in treatment in the hospital. In the light of this situation, the general rule should be that physicians and other staff work full-time at the hospital, not splitting their time between it and employment elsewhere. The report recommended that the composition of the staff of Landspítali be changed so as to have experienced specialists on the job for longer each day: this would

result in shorter hospitalization time and shorter waiting lists.

For a long time, Landspítali has been faced with the problem that, because of obstacles in access to the services of the Metropolitan Healthcare Authority, patients have gone to the Accident and Emergency Ward of the hospital with problems which should be dealt with by the primary health centres. This is contrary to the aim of the legislation, which is that health services should always be provided at the appropriate service level. This raises costs in the health system, makes for poor utilization of specialised professionals, who are in short supply, and limits access to those professionals. These points, amongst others, were pointed out in the report by the National Audit Office on the Metropolitan Healthcare Authority in 2017.

In many respects, Landspítali delivers services that stand up to comparison with those available in nations with populations of many millions. Nonetheless, the tiny population does impose limits of various types, and in certain cases it is necessary to send patients overseas, either for treatment or to make use of specialist skills abroad. Landspítali must therefore collaborate with university hospitals in Iceland's neighbouring countries in connection with hi-tech services that cannot be offered in Iceland. This applies, in particular, to new and expensive treatments for small numbers of patients which call for highly specialised knowledge that would require very considerable investment if the aim were to provide such services in Iceland. Landspítali must also work together with other university hospitals

elsewhere in our neighbouring countries and elsewhere in the field of further education and continuous training of health system staff, and on scientific and innovative work.

The Akureyri Hospital is a teaching hospital which, like Landspítali, has obligations towards the whole country and provides both second and third level services. It needs support to enable it to fulfil this role and to expand collaboration between it and the University of Akureyri. The special conditions in Iceland mean that new ways must be sought of educating and training healthcare workers so that it will be possible to staff healthcare institutions throughout the country. This may involve locating education and training to a greater degree in the educational institutions outside the metropolitan area.

It can be expected that in future, the burden of providing hospital services will be increasingly borne by Landspítali and the Akureyri Hospital. Nevertheless, it must be assumed that there will still be a basis for maintaining hospital services in other localities so as to provide general emergency services and certain option services that do not have to be provided in a hi-tech hospital like Landspítali. For this to be possible, it must be possible to staff such operations in such a way that there will be no diminution of the quality and safety of the services. One option could be to provide these services in collaboration with Landspítali and the Akureyri Hospital, which could provide the professional back-up necessary to staff the services in times of need.

What will the **situation look like in 2030?**

1. Everyone in Iceland will have access to clear information on how and where to go for health services when the need arises.
2. Health services will be categorized as first-level (the primary health centres), second-level (specialist services outside the university hospital) and third-level services (provided by, or in collaboration with, the university hospital).
3. The role of service providers will be defined, and service management will ensure that patients receive services at the correct service level.
4. The primary health centres will be the first port of call for users of the health services when they are in need. Their staff will have a wide range of professional expertise and knowledge. The work of the primary health clinics will be characterized by interdisciplinary team work, with a constant effort towards improvement in collabo-

ration with the social services, the priority being the interests of users of the services.

5. The primary health centres will play an active part in health promotion; reception units dedicated to health promotion will offer advice on healthy lifestyles for both individuals and groups.
6. At all times, second-level services outside the hospitals will be decided in contracts with Icelandic Health Insurance (Sjúkratryggingar Íslands) according to the requirements of those who need these services.
7. Access to primary health centres and specialist services outside the metropolitan area will be improved by means of distance health services and well organised patient transportation.
8. Waiting times for health services will be based on professional assessment, and will be within the limits set in contracts with service providers.
9. Construction work on Landspítali on Hringbraut in Reykjavík and on the Akureyri Hospital will have been completed, leaving good facilities for providing emergency and elective health services and full services in the day-care and out-patient departments.
10. Landspítali's role as a university hospital has been upgraded; hi-tech third-level services, which cannot be provided anywhere else in Iceland, are delivered there.
11. The role of the Akureyri Hospital as a teaching hospital and a provider of second- and third-level health services for specific healthcare institutions has been defined and the hospital has received support for these purposes.
12. Icelandic Health Insurance (Sjúkratryggingar Íslands) and Landspítali have arranged collaboration with university hospitals elsewhere in the Nordic countries on hi-tech services that cannot be delivered in Iceland.
13. Hospital beds are used by patients who require treatment at that service level and who can be discharged immediately after treatment.

3. People in first place

This section examines:

- human resources and a sound and secure working environment in the health services,
- the importance of ensuring that the health services will be staffed by well-educated, competent and motivated workers.

Why is this important?

While a strong infrastructure and sound organisation are of great importance, a health system must also have competent and motivated staff who can share their knowledge and experience, fulfil the

quality standards required in the service and contribute towards a future vision in healthcare. Work on improving the Icelandic health system demands that attention be given to the human resources that keep the system running. Modern health services are complex and demand large staffing complements with expertise in many fields. An indication of this is the fact that there are now 34 health service occupations with legally-protected designations in Iceland whose members must be licensed by the Directorate of Health and who work under its supervision.

Steps must be taken to ensure a sufficient supply of competent staff and a good working environment in the health services where organisation and design are appropriate to the environment. Staffing levels must correspond to the scale and nature of the services and the facilities at any given time so as to guarantee services of the highest quality, patient safety and the rational use of financial resources. There are many indications that strain on the services will increase in the years ahead, not least

because of people are living longer and the greater frequency of lifestyle-related disorders.

In the past few years it has proved difficult to fill positions in certain parts of the health services. It is therefore a matter of urgency to find ways of recruiting more workers in many healthcare occupations, raising their proportion of the whole and reversing the brain-drain that has taken place. Repeated surveys of workplaces show clearly what factors are crucial in attracting workers to the occupations in question and reducing staff turnover. Management and the part played by senior staff are chief among these, followed by the working environment, opportunities for advancement and professional development, wage policy, working hours and scope for time off, gender equality considerations, etc. Legislation, regulations and policies also have an impact on workplace facilities and the working environment. It is necessary to have a certain amount of flexibility to enable management to take decisions on staffing, organisation and working conditions in accordance with the nature and needs of the operations. There is no ignoring the fact that it is the role of the managers of each institution, and their responsibility, to ensure staffing both in the short term and the long. The role of the state is to ensure that educational institutions will train healthcare workers in sufficient numbers for each occupation and that there are incentives that will promote satisfactory staffing levels and the development of Iceland's healthcare institutions.

'We've got some very competent people but the system doesn't work properly.'

-Patient

Education is the basic requirement for staffing the health system satisfactorily and providing patients with quality services. Necessary new recruitment levels in the individual healthcare occupations must be secured, and attention must be given to the composition of these professions in term of workers' age. The educational system must meet the needs of the healthcare services for well-educated workers in all occupations.

In 2006, the University of Iceland's Institute of Economic Affairs prepared a forecast on the human resources needs of the health system at the request of the Ministry of Health and Social Insurance. This was the first, and only, forecast of this type that the healthcare authorities have published in Iceland. Such forecasts must be made regularly in future. Attention must also be given to ways of raising the

number of students choosing subjects in which there is a lack of qualified workers in the health-care system. In February 2018, the Prime Minister, the Minister of Health and the Minister of Finance and Economic Affairs signed a declaration in connection with the collective agreements between the constituent unions of the Association of University Graduates and the state, in which it was said that a special project to forecast the human resources needs of the health system for the next 5-10 years would be undertaken; targets in the healthcare sector, and ways of achieving them, would be identified in collaboration with the professions in order to ensure good health standards in Iceland and to create an attractive working environment for health-care workers.

The Directorate of Health and Public Health Act states that the Minister is to issue regulations stating minimum professional requirements for the operation of particular parts of the healthcare services, including minimum staffing requirements. The situation in Iceland has generally been that the healthcare institutions have set their own staffing frameworks, though using official figures as a reference point. The National Audit Office's 2017 report *Hjúkrunarfræðingar – Mönnun, menntun og starfssumhverfi* ('Nurses – Staffing, education and the working environment') criticized the lack of more exact reference figures for minimum staffing levels or what levels would be desirable. As proper staffing is important for patient safety and the quality of health services, it is logical to conclude that more hard-and-fast guidelines in this area should be urgently considered.

What will the **situation look like in 2030?**

1. The human resources requirements of the health system will have been defined and the state will have taken the appropriate measures to ensure that the health services are adequately staffed.
2. Staffing of the healthcare institutions will be on a par with the highest standards abroad, in line with the scope of operations and ensuring their quality and safety.
3. The managers of the healthcare institutions will have a clear responsibility to take the necessary measures to staff their operational units, and will have the means and power to do this.
4. The healthcare institutions will be sought-after workplaces and will be known for their good working environment and smooth interpersonal relations.
5. Staff of the healthcare system will find themselves in a working environment in which the aim is to make constant improvement and develop knowledge.
6. Healthcare workers' working hours and shift-work obligations will be in accordance with the most tried and tested expertise in the field, and with the provisions of laws and regulations.
7. Overtime work by healthcare workers will be subject to clear rules.
8. There will be collaboration between institutions; working procedures in the health services will be based on team work and a holistic approach to tasks, the aim being to ensure quality and continuity in the services.
9. Long-term agreements with university hospitals overseas will form the basis of scientific collaboration, education and joint development in the healthcare services.



4. Active users

This section examines:

- participation by users of the services and how their 'health literacy' can be improved and also their access to, and understanding of, information which will make it easier for them to assume responsibility for their own health,
- how it can be made easier for people to choose services and support in accordance with their needs,
- how important it is that healthcare service providers understand people's needs and expectations and work with people in resolving their health problems,
- how IT and digital solutions can be used to give the public information, service and guidance in the health-care system.

Why is this important?

An important part of the health services consists of providing the public with information that will enable people to understand what factors influence their health and well-being and how they can increase the likelihood that they will maintain good health. *Health literacy* is the term used to describe people's ability to obtain and understand basic information about health and the health services so that they can take informed decisions about their own health.

People's *health literacy* can be improved, and with it their ability to take responsibility for their own health, through deliberate work by health-service providers. This must take place in close collaboration with users of the services and it is important

to take account of the different needs of different groups. Factors such as age, place of residence, mental and physical disabilities, cultural background, expectations and various other things may be of importance in this.

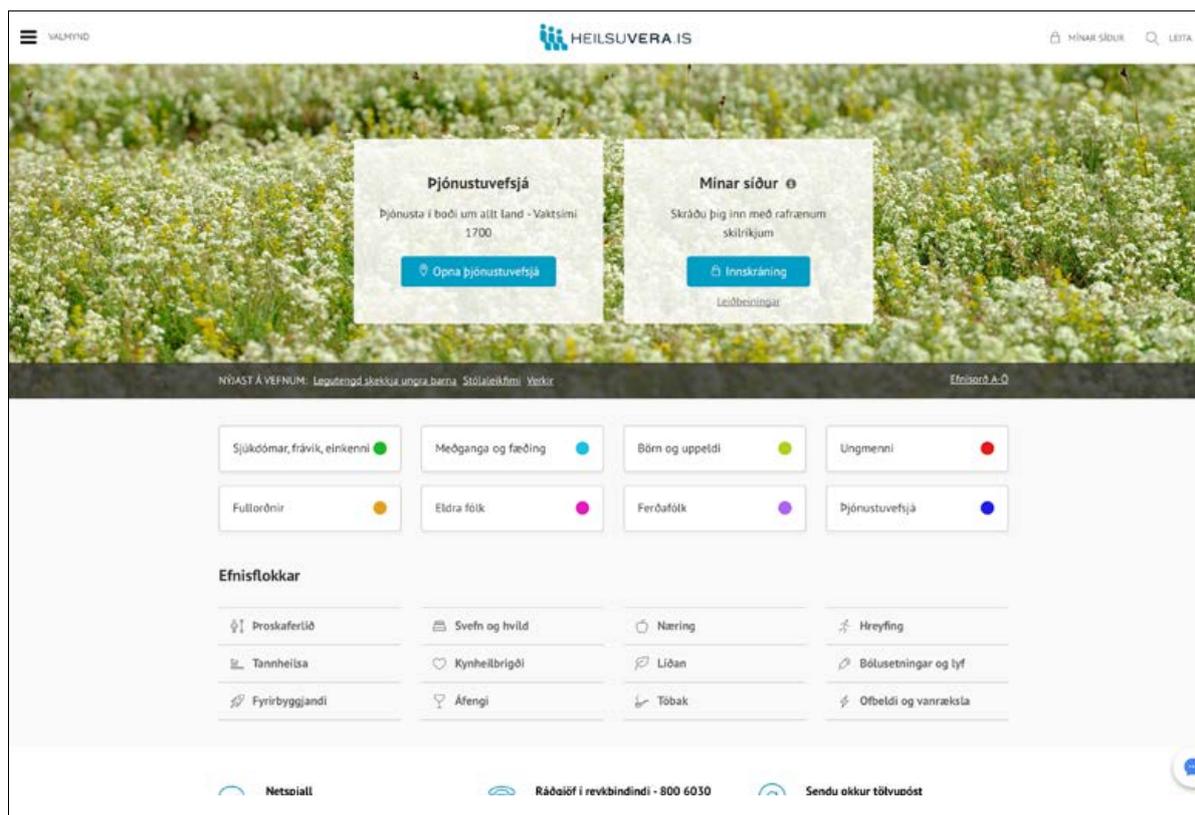
In the light of the fact that the municipalities provide a broad range of social services as prescribed by law, and that the boundaries between those services and the healthcare services are not always clear, it is important that service providers work closely together and that there be smooth cooperation between authorities at the central and local government levels.

To ensure that the health services will be in accordance with the needs and expectations of those who use them, regular surveys of people's experience and attitudes must be made. The findings of such surveys must always be visible and must be used in regular moves to develop and improve services as allowed for in the quality achievement schedule of the Directorate of Health.

'It's been very difficult to get information. In practice, the patient has to get everything himself.'

-Patient

The use of IT (information technology) and digital solutions in the health services is constantly growing and will continue to do so in the years ahead. This applies both to providers and to users of the services. The application of technology in distance health services and the use of various apps are creating ever new opportunities that are not dependent on geographical location. The general demand is that use be made of the opportunities offered by IT, whether this is in the health services or in other areas. It is generally recognized that the use of IT in the health services will make for greater patient safety and for efficiency and quality in services. The trend in recent years has been in this direction, with users of the health services being more informed and more active participants in their own treatment. The Medical Records Act contains, amongst other things, provisions on the right of patients to have access to their own medical records. Thus, work



The user interface of the web portal Heilsuvera, offering users access to their own health data.

must continue on providing patients with safe and easy electronic access to their own health data.

The Directorate of Health is in charge of developing, applying and introducing electronic medical records and electronic communication involving health data throughout Iceland. Amongst other things, this involves the development and introduction of IT into the health services in a secure, economical and efficient manner, so promoting sound and secure services and better public health among people in all stages of life. It also involves the development and introduction of electronic medical records according to the needs of patients, healthcare workers, administrators and government authorities.

Among the projects that the Directorate of Health has developed and introduced for this purpose is the web portal *Heilsuvera*. Through it, people can enjoy safe electronic access to their own health data at any time and from any location, independent of the regional health authority, primary health centre or private clinic where the data were registered. The main aims of Heilsuvera are:

- To improve patient safety by giving people access to their own data, e.g. as regards medication, allergies and vaccinations.

- To enable people to have secure contact, by electronic means, with physicians, nurses and other healthcare professionals.
- To maintain electronic surveillance of persons who are at risk, in which they can register their own health information and receive comments and advice.

Heilsuvera, as it is now and will be developed in future, gives people more opportunity to monitor their own health, participate in their own treatment and have an overview of their dealings with the health services.

What will the **situation look like in 2030?**

1. People in Iceland will have easy access to information and knowledge enabling them to take informed decisions regarding choices of health-care services, e.g. via an electronic users' portal like Heilsuvera.
2. Each and every user of the health services will have a separate set of medical records which will be accessible by the appropriate health-care professionals in accordance with his or her wishes.
3. All people in Iceland will have unrestricted access to their own medical records via Heilsuvera.
4. All users of the health services will be able, at any time, to check their position in the system of cost-sharing between individuals and the state.
5. All people will have access to practical, tried and tested information on health which will make it easier for them to pursue a healthy lifestyle and maintain their health.
6. From the point of view of technology, all people in Iceland will be able to contact the health services from their home, irrespective of where they live.
7. Regular surveys of users' attitudes and satisfaction levels will be used to make improvements in the services.
8. Health service providers will understand the needs and aims of those persons who come to them and concentrate on providing services that meet those needs and aims.

5. Efficient service purchasing

This section examines:

- the funding of the health services,
- the purchase of health services,
- payments to health service providers.

Why is this important?

The health system in Iceland is for the most part funded publicly, i.e. with taxpayers' money. Users also pay charges for services; these vary according to the service in question and also from one user group to another. Healthcare institutions all over the country have also benefited from gifts and contribu-

tions of various types from individuals and NGOs to cover the purchase of certain types of equipment.

It is estimated that the share of costs borne by patients in Iceland amounts to about 17% of total spending on health; this is slightly higher than the proportion borne by patients in the other Nordic countries.

The funding of the health system, and how this funding is allocated, has a great effect on how healthcare services are delivered and how the service providers divide the resources when addressing patients' needs. Payment systems are therefore very important instruments when it comes to managing the funds that the state is prepared to spend on the health services and how they benefit patients. It is vital that public funding of the health system be based on a clear vision that will ensure that money is spent on the most urgently needed services at any given time and in accordance with a rational scheme

of prioritisation. Work has been done in recent years on a number of changes in the way the health services are funded and the part played by patients, but it is clear that more changes will be needed in order to ensure better utilisation of financial resources and to have services corresponding to the needs of patients. Funding of most of the state-run health-care institutions takes the form of fixed allocations in each year's state budget; the amounts are known at the beginning of each year. On the other hand, Icelandic Health Insurance is charged with making agreements with specialist health services in which payment is normally on the 'fee for service' basis, i.e. separate payments are made for each service unit.

A clear policy is the precondition for proper contracts on health services.

- National Audit Office, *Icelandic Health Insurance as the purchaser of health services* (February 2018)

The criticism has been made that funding as part of the state budget is a system that undermines motivation and will not produce a greater volume of service or better quality of service unless funding is increased. Under this arrangement, demands for saving are met by cutting services down rather than by streamlining them; operations that are funded in this way are often characterized by waiting-lists. On the other hand, the 'fee for service' system has been criticised because it invites the delivery of more units of work than are actually needed, so leading to the over-use of the health services, with unnecessary operations being performed. The survey by the National Audit Office in 2017 substantiates the claim that the services are being over-used in this way.

In recent years, most European nations have adopted performance-related funding of their hospitals based on the international DRG (*Diagnosis Related Groups*) classification system for hospital cases, which originally came from the USA. At Landspítali an Icelandic version of the Nord-DRG system, dating from 2003, has been in use. Based on the international system, this has been adapted to the Nordic environment and is the product of Nordic collaboration on the development of a production assessment system for hospitals. The Nord-DRG system groups all patients who are hospitalised or checked into day-care departments on the basis of diagnosis, treatment, patient age and gender and discharge status. Funding of Landspítali was changed, partly, in 2017, being based on the DRG system together with detailed costing calculations under an agreement between Landspítali and Icelandic Health Insurance. Under this agreement, only

a small part of the hospital's services was funded according to the DRG system. The aim must be to continue on the same path to the end.

Icelandic Health Insurance must be supported in its role as purchaser of health services.

- National Audit Office (February 2018)

The DRG classification system is not without its faults any more than other payment systems, but it encourages savings and finding ways to shorten the time patients spend in hospital beds. One of the flaws of the system is that it is not suitable when it comes to chronically ill patients who need hospital services again and again. Attempts have been made to come to terms with this shortcoming by using a system that makes it possible to take account of situations in which patients need healthcare services repeatedly because of the same health problems.

Efficient purchasing of health services must be secured.

- National Audit Office (February 2018)

In addition to the funding methods mentioned above, an approach that has gained popularity in recent years is that of linking funding with the composition of the population and the number of people living in the service area in question, and also certain defined indicators that measure the quality of services. An example of a funding systems based on this approach is the one that was introduced in the Metropolitan Healthcare Authority in 2017.

It is important that the authorities define people's health service needs under the insurance system.

- National Audit Office (February 2018)

Many countries have started linking payments to certain quality indicators, the payments rising if services meet certain quality levels. What all systems based on quality indicators have in common is that they must be accompanied by satisfactory recording of quality and results to make it possible to guarantee that the service providers will be accountable to patients, on the one hand, and to the state, as the purchaser of the services, on the other.

As the purchaser of healthcare services, the state must have a clear policy regarding what is to be purchased, and it must be in control in this area. In this context, it is important that the role of institutions involved in purchasing services be clear and well defined. The Minister of Health lays down policy regarding health, prioritizing matters in action plans and ensuring that funding is provided in accordance with the prioritisation and the decisions taken by the Althingi in processing the budget. The role of Icelandic Health Insurance is defined in the Icelandic Health Insurance Act of 2008. The National Audit Office has pointed out that the aims of the act regarding the purchase of health services have not been achieved, that purchasing of services is not based on detailed costs or needs analyses and that more stringent demands need to be made regarding quality. To do this, Icelandic Health Insurance's capacity must be upgraded to enable it to assess needs and to set out demands regarding the services to which the government has given priority. This would best ensure that purchasing of health services would be in line with the government's policy and the needs of patients. In this context, it should

be remembered that the role of the Directorate of Health is defined in law as monitoring the quality of services. Even though it is important that all these institutions work together towards a common goal, it is necessary to ensure that the monitoring body remain impartial and is not made responsible for decisions that it is supposed to be monitoring.

It is vital that professional considerations and cost-efficiency guide this process and not decisions taken by individual workers or groups.

- National Audit Office (February 2018)

Much work has been put into developing funding systems for the health services in Iceland's neighbouring countries over the past three decades. This is a task that will always demand attention and it is necessary that the Icelandic health authorities keep abreast of these developments and play an active part in the process.

What will the **situation look like in 2030?**

1. Icelandic Health Insurance will see to all contracting on behalf of the state for the supply of health services, whether the providers are public or private entities.
2. The purchase of health services will be based on needs analyses, taking account of the needs of all people in Iceland.
3. If it is necessary to prioritise, then patients whose need is greatest will receive priority.
4. The necessary demands regarding access, quality and patient safety will be made whenever health services are purchased.
5. A service-related funding system, based on the international DRG classification system, will have been introduced for the purchase of all hospital services and comparable services delivered in privately-run bodies outside the hospitals.
6. The funding system used in the Metropolitan Healthcare Authority will have been developed further and introduced for the funding of primary health clinics all over the country.
7. The funding system used in the health services will encourage greater quality, better health on the part of the users of the service with easy access to services when they are needed; costs will be kept under control.
8. The cost of screening programmes and checks for drug-resistant bacteria and virus diseases in groups at risk will be paid from public funds.
9. The share of the costs of medications and medical treatment borne by patients will be on a par with the lowest found in our neighbouring countries; sensitive groups will receive free health care.

6. Quality first

This section examines

- the quality and safety of the health services,
- the development of core indicators to demonstrate results of the services,
- the Directorate of Health's quality schedule,
- how demands for higher quality and better safety levels in the health services can be made.

Why is this important?

A respected English medical specialist and professor, Sir Cyril Chantler, said in 1999: *Medicine used to be simple, ineffective and relatively safe. It is now complex, effective and potentially dangerous.* In the time since then, medicine has certainly not become less complex. New technology, more powerful drugs and increased knowledge have resulted in great strides in progress in the health services, but have also made them more complex. More treatment choices are available, but it is often correspondingly more difficult to take the right decision and ensure patient safety.

Studies show that there is good reason to take this comment by Sir Cyril Chantler seriously. It is estimated that about 10% of patients treated in hospitals in western countries are in fact harmed by medical errors or accidents which are classified as 'adverse events.' All over the world, and not least in the Nordic countries, quality and safety in the health services are under the microscope. These two terms are closely linked, since the safety of services has much to say about their quality.

Quality in the health services is defined in terms of how much the health services increase the likelihood of improved health and higher quality of life and also how far services are delivered in accord-

ance with the best available knowledge. The main factors affecting quality in the health services are safety, correct timing, effective and successful services, equality and user-oriented services.

'Reforms in the hospital don't reach down to the people who actually do the work'

- An employee

Safety in the health services means that users will not be at risk of being harmed by the treatment or other services intended to improve their health or quality of life.

Quality and safety in the health services are related to countless other factors, but the foundation is the culture prevailing in each institution; this in turn depends on, amongst other things, the attitudes, values, rules, ideology and ideals of those who work there.

Tried and tested knowledge and professional orders and guidance are the foundations of service quality and professional monitoring.

- National Audit Office (February 2018)

Various criteria may be cited to show that Iceland's health system comes out well in international comparison. Infant and puerperal mortality rates in Iceland are among the world's lowest. The success rate of general vaccination has been very high and vaccination has virtually eradicated the diseases in question, preventing large numbers of fatalities and other serious consequences. The results of scanning and treatment for various types of cancer have also been good.

The McKinsey report of 2016 devotes some attention to the use of core indicators in the Icelandic health service. It states that Landspítali and the health system as a whole need to adopt more core quality indicators, make increasing use of international indicators and announce the results of their application in assessment in a transparent manner. It also states that Landspítali measures and keeps up with rather

few quality indicators, which limits transparency as regards quality trends in its services. It would be a step in the right direction, says the report, to define success indicators covering all categories of service in the hospital and ensure that they are comparable with corresponding international indicators, e.g. those defined by the OECD. The report pointed out that other university hospitals in the Nordic countries carry out regular measurements of their medical success, patient safety, access to services, patient satisfaction and staff satisfaction. In order to emphasise the importance of quality indicators, it would be useful if the Directorate of Health were to set clear rules on certain minimum requirements to be made at Landspítali and other healthcare institutions regarding quality indicators to be monitored.

The Directorate of Health and Public Health Act states that the Directorate of Health is to draw up a schedule on the development of quality within

the health services, which is to be submitted to the minister for approval. The aim of this is to improve the quality and safety of the services and encourage development. It is envisaged that healthcare institutions and healthcare professionals will draw up quality schedules based on the directorate's schedule and submit annual statements of the results achieved.

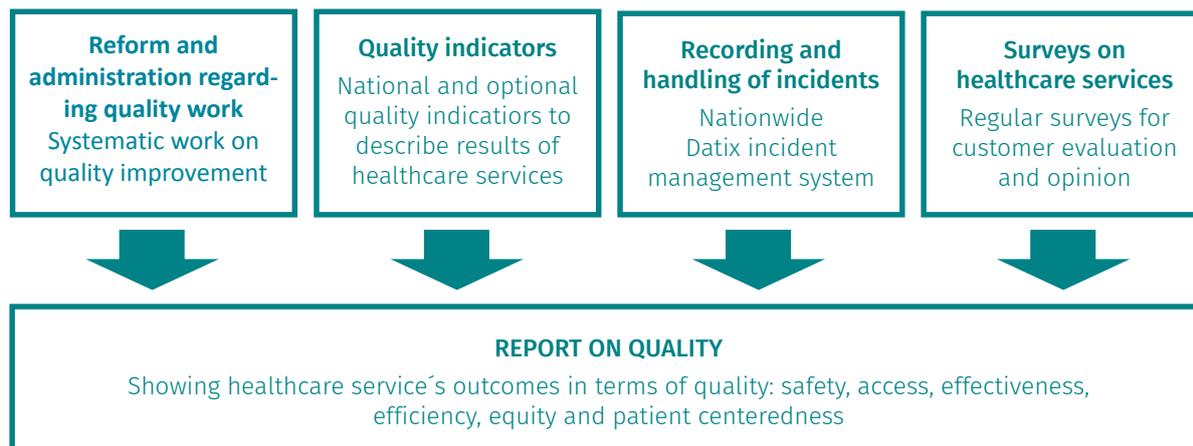
Data on quality and results in the health services is important at all service levels, irrespective of who provides the services. Such data is very important, whether for the users of the services, healthcare workers or the state as purchaser and monitor to ensure that the services meet the standards set regarding quality and safety. Data on quality and results is also vital in making improvements and enabling service providers to compare themselves with others providing comparable services.

What will the **situation look like in 2030?**

1. Iceland will be among the world's top nations as regards the presentation of data and publication of its health services' results.
2. It will be possible to compare data on the results achieved by individual parts of the health services from region to region and also with the results achieved by other nations. Comparisons of this type will be made regularly.
3. Clear demands regarding core quality indicators and the results to be achieved will be set out in contracts with service providers.
4. Payments to service providers will take account of results as shown by core indicators.
5. In order to receive full payment for their services, service providers will have to submit annual quality audits showing results as demonstrated by core indicators that have been agreed on in their contracts.
6. Surveys of the services will be made regularly, their results being used in day-to-day work on improvements.
7. The Directorate of Health's quality schedule will have been implemented in full.



Quality development schedule in the health services, 2019-2030



7. Thinking about the future

This section examines:

- science, education and innovation in the health services,
- Iceland's potential in the health sciences,
- the importance of having the education of healthcare professionals take account of conditions in Iceland,
- the systematic assessment and introduction of new technology, medications and innovations in the healthcare services by the HTA model.

Why is this important?

For some decades now, Iceland has built up databases and biobanks containing data on disease and health among the Icelandic population. In many cases, the biosamples go back to the middle of the 20th century. Over the past 2-3 decades, data on the

genetic makeup of the population has been added, throwing new light on the origins of the population, the causes of many diseases and risk factors that may result in the emergence of diseases in later life. Already, Iceland can boast of being in the van in the field of genetic research in the service of the health sciences. Examples of this are the extensive research programmes carried out by deCode Genetics (*Íslensk erfðagreining*) and the Icelandic Heart Association (*Hjartavernd*) and studies by various knowledge-based companies that have established themselves in the health sciences in recent years.

The role of the University of Iceland's Health Science Faculty is to lead teaching and research in the health sciences in Iceland. It operates in close collaboration with Landspítali, which is the country's university hospital, and other institutions both in Iceland and abroad. Under the Health Services Act, Landspítali and the Akureyri Hospital are to carry out scientific research in the field of health. Also, the Metropolitan Healthcare Authority is to carry out scientific research in the field of healthcare. Scientific research in the field of health is subject to a separate act of law dating from 2014, the aim of which is to promote quality scientific studies and safeguard the interests of participants in them.

According to a report by NordForsk published in 2017, Landspítali was considered as being in a strong position at the beginning of this century as regards scientific work, both in a Nordic and an international context. NordForsk is a Nordic institute that

monitors collaboration on research and research training in the Nordic countries. At the beginning of the century, Landspítali was the Nordic university hospital whose studies were most frequently cited. Three years later, the number of citations had fallen, and in 2014 Landspítali had the fewest citations of all the Nordic university hospitals, and was the only one with fewer than the global average number of citations.

Landspítali has set itself a future vision regarding the structure and development of its scientific work. Emphases in this include increased consultation and contact between the hospital and the University of Iceland, having scientific work in the hospital on a level comparable to that in other Nordic university hospitals, making this work visible both outside and inside the hospital and having it funded in a manner comparable to practice in the countries with which Iceland strives to compare itself. One of the prerequisites for enhancing scientific work in the hospital is that its physician staff receive the time and facilities to pursue scientific activities side by side with their clinical and teaching duties. This also applies, as appropriate, to other healthcare professionals in the hospital.

Scientific research in the field of health should form one of the firm supports of the healthcare system and be comparable, in terms of quality and volume, with research elsewhere. Research has an important part to play in the development of services, the education of healthcare professionals and the foundation for creating an attractive working environment for staff in all the healthcare occupations.

In order for Iceland's health system to meet the highest quality standards and be comparable with the systems in the other OECD countries, support and attention must be given to the soil from which scientific studies spring.

Quality in the health services depends to a large extent on having well-educated healthcare staff. In most subjects, those who intend to study health sciences are able to pursue studies entirely in Iceland, emerging with the required licences to work according to their qualifications. However, many choose to pursue postgraduate studies abroad, and in some subjects this is necessary. This applies particularly to physicians, but also to other occupations. In many ways it is desirable, in occupations where a high level of specialisation is required and progress is rapid, that young people should go abroad for their education and practical experience. On the other hand, there is the disadvantage that Iceland's health system does not have the benefit of their work input while they are studying abroad, in addi-

tion to which there is a danger that they will settle abroad permanently.

Closer collaboration with universities abroad on the postgraduate training of Icelandic healthcare professionals offers various opportunities. Examples of this are specialist training programmes in internal medicine and in clinical pharmacology which have been developed in collaboration between the University of Iceland, Landspítali, *University College London*, the *Royal College of Physicians* and the professional associations involved. Collaboration of this type can make it possible to deliver postgraduate level training in subjects that was formerly not available, either entirely or in part.

There are various indications that the education of healthcare professionals in Iceland is out of step with the needs of the health system as a whole. It has been pointed out, for example, that the training of physicians, and particularly their practical training, is geared far too much to the needs of hospitals and too little to the needs of the primary health centres. It is worth examining whether changes can be made in the basic training of healthcare professional with a view to better meeting the needs of Iceland's health system and the structure of the services in the country as a whole, including as regards conditions in the less populous areas.

An example of what this involves is the University of Tromsø in Norway, which was established to meet the needs of regions outside the main population centres. A vigorous programme of health-science studies was established there in connection with the regional hospital, which later received recognition as a university hospital. This has had a great and positive impact on the staffing of the health services in Northern Norway. The same could be said of the establishment of a health sciences faculty at the University of Akureyri.

Great strides have been made in the health sciences in recent years, resulting in a large number of innovations in the treatment of diseases. New equipment and medications have been developed which can be of crucial importance for patients, but in many cases these new treatment methods call for greatly increased spending on the health services. When innovations are introduced, whether they consist of new equipment or new medicaments, it is important that a clear policy be in place covering prioritisation and the assessment of outcomes for patients and society as a whole.

Many countries in Europe have adopted the *Health Technology Assessment* method of ensuring that new technology and techniques that are funded by public resources will result in the best possible outcome

for patients and the community at large (normally as demonstrated in terms of better health). Part of this assessment involves ascertaining that, when innovations are adopted, the greatest possible caution is used and the effectiveness of the new treatment has already been confirmed by recognized scientific methods.

Many questions remain to be answered concerning the methodology behind the HTA model, which

is still being developed. Amongst other things, it remains to assign it a place in the health system and define its role vis-à-vis the healthcare institutions and other providers of health services. If the HTA methodology is introduced in Iceland's health system, then it would be sensible, in view of the tiny population in Iceland, to seek collaboration on this with the other Nordic countries.

What will the **situation look like in 2030?**

1. The role of the health system will be to provide healthcare services, educate healthcare professionals and pursue scientific activities. Each aspect of the health system will be costed and funded in a transparent manner.
2. Staff in public healthcare institutions will have the opportunity to engage in scientific research or quality-development projects for a certain length of time each year.
3. It will be expected that healthcare professionals working at the university hospital will undertake teaching and scientific research in addition to their clinical work.
4. A health science fund will have been established to make grants for research in the health sciences.
5. Databases and biobanks in the health system will be open and accessible to scientists with the requisite licences to pursue scientific research.
6. The basic education of healthcare professionals will have been adapted to conditions in Iceland with a view to guaranteeing that the healthcare services will be properly staffed.
7. Contracts will have been made with other nations on the postgraduate training of physicians.
8. The postgraduate training of healthcare professions will meet the most stringent international requirements.
9. Formal collaboration with the other Nordic countries will be in place covering the assessment of new technology and methods.
10. Formal assessment of established value in practice will be the criterion for the adoption of new technology, new medications and new methods in the health services.

Implementing the policy

It will require organised working procedures and a concerted effort by all concerned if this policy is to be implemented by the end of 2030. Each and every one of the seven key topics covered in the policy will call for special five-year plans of action with objectives and assessment criteria which will have to be reviewed every year and linked to work on the preparation of the state budget. The minister's intention is that a health conference will be convened each year for discussion and consultation regarding emphases in Iceland's health sector and that the plan of action drawn up each year will be submitted to the Althingi for debate.

The Ministry of Health will be ultimately responsible for implementing this policy and for making it clear to everyone what is to be done, and when, and who is responsible for each part. Inevitably, the directors of the various institutions that come under the ministry will bear a heavy responsibility for ensuring that policies and working schedules are drawn up for each institution, taking account of the Health Policy to 2030. It will be up to the ministry to follow up and make sure that this is done.

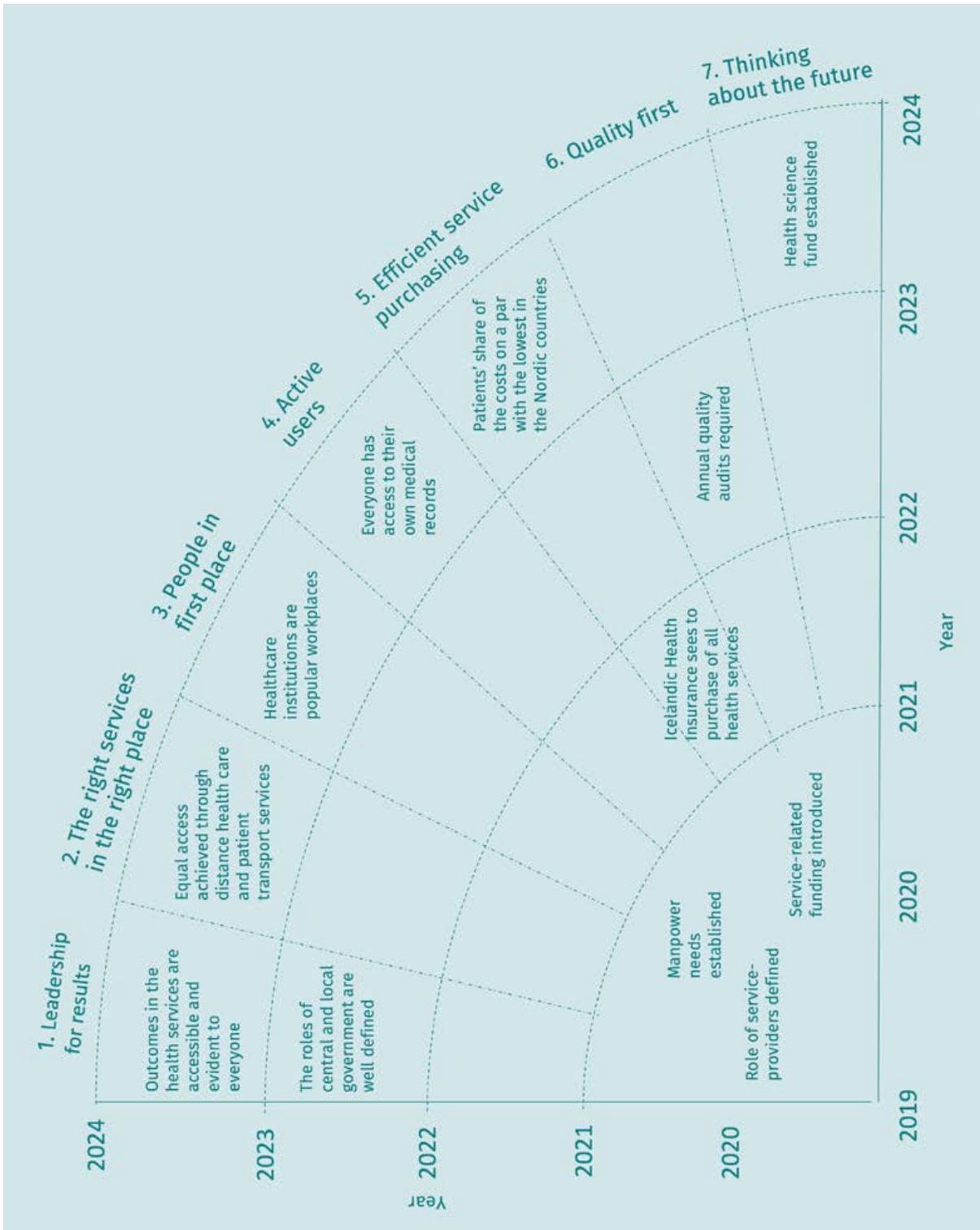
This report has discussed, amongst other things, first, second and third-level services rather than specific parts of the health services or their providers. Nonetheless, work will have to be directed towards specific specialist areas and patient groups in accordance with the priority ranking that has been decided on at any given time. In this work it will be necessary to have these seven key topics in mind so as to ensure uniformity of approach independent of the specialist field, patient group or operational structure.

In all this work, we must create a culture that will be firmly grounded in common values: values that will be our guiding principles in our mission to create services that will be based on users' requirements and ensure them seamless and reliable services. If these values are to be living and if there is to be a social consensus about them, then they must be discussed in society at large and the Althingi must approve them, as has been done in our neighbouring countries. It will also be important to begin work as soon as possible on the review of the funding and payment systems in use in the health system and to introduce a quality schedule. Both these projects will have a great impact when it comes to formulat-

ing a culture and it is therefore important that at any given time, they include incentives that will lead us in the right direction.

Examples of **targets and results** according to the **action plan under the health policy**

See the first five-year action plan, beginning in 2019



Principal sources

Alþjóðaheilbrigðismálastofnunin (WHO). (2013). Health 2020: A European policy framework and strategy for the 21st century. Sótt af http://www.euro.who.int/_data/assets/pdf_file/0011/199532/Health2020-Long.pdf

Alþjóðaheilbrigðismálastofnunin (WHO). (2015). Some reflections on priorities for health systems strengthening in the WHO European Region. Sótt af http://www.euro.who.int/data/assets/pdf_file/0011/287363/Some-reflections-on-priorities-for-health-systems-strengthening-in-the-WHO-European-Region.pdf

Boston Consulting Group. (2011). Health Care System reform and short term savings opportunities Iceland Health Care System project. Sótt af https://www.government.is/media/velferdarraduneyti-media/media/ritogskyrslur2011/Iceland_HCS-Final_report-Long_version.pdf

Efnahags- og framfarastofnunin (OECD). (2018). OECD Health Statistics 2018. Sótt af <http://www.oecd.org/els/health-systems/health-data.htm>

Embætti landlæknis. (2017). Tíðni aðgerða í einkarekinni þjónustu 2007–2016. Sótt af https://www.landlaeknir.is/servlet/file/store93/item32756/Tidni_adgerda_Embaetti%20landlaeknis_vefur_sept_2017_LOK.pdf

Forgangsröðun í heilbrigðismálum. Niðurstöður nefndar um forgangsröðun. Rit 2 – 1998. Heilbrigðis- og tryggingamálaráðuneytið.

Hagfræðistofnun. (2018). Skýrsla nr. C18:02. Greining á menntun, starfstéttum og atvinnugreinum á vinnumarkaði – stöðumat. Sótt af <https://www.vinnu-malastofnun.is/media/2080/skyrsla-hagfraedistofnunar-juni-2018.pdf>

Hagstofa Íslands. (2017). Mannfjöldaspá 2017–2066. Sótt af https://hagstofa.is/media/50752/hag_171030.pdf

McKinsey & Company. (2016). Lykill að fullnýtingu tækifæra Landspítalans – Íslenska heilbrigðiskerfið á krossgötum. Sótt af <https://www.stjornaradid.is/media/velferdarraduneyti-media/media/skyrslur2016/Lykill-ad-fullnytingu-taekifaera-Landspitalansb.pdf>

Nordforsk. (2017). Comparing research at Nordic higher education institutions using bibliometric indicators. Covering the years 1999–2014. Sótt af https://www.nordforsk.org/en/publications/publications_container/comparing-research-at-nordic-higher-education-institutions-using-bibliometric-indicators-covering-the-years-1999-2014

Ríkisendurskoðun. (2018). Sjúkratryggingar Íslands sem kaupandi heilbrigðisþjónustu. Sótt af <https://rikisendurskodun.is/wp-content/uploads/2018/02/Sjukratryggingar-Islands-sem-kaupandi-heilbrigdisthjonustu.pdf>

Ríkisendurskoðun. (2017). Hjúkrunarfræðingar – Mönnum, menntun og starfsumhverfi. Sótt af https://rikisendurskodun.is/wp-content/uploads/2017/10/SU-Hjukrunarfraedingar_Monnun_menntun_og_starfsumhverfi.pdf

Ríkisendurskoðun. (2017). Heilsugæsla höfuðborgarsvæðisins. Sótt af https://rikisendurskodun.is/wp-content/uploads/2017/04/SU-Heilsugaesla_Hofudborgarsvaedisins.pdf

Robotar och övervakning i vården av äldre – etiska aspekter. Rapport av Statens medicinsk-etiska råd. Stockholm 2014. Sótt af <http://www.smer.se/rapporter/robotar-och-overvakning-i-varden-av-aldre-etiska-aspekter/>

