



National Institute for Public Health  
and the Environment  
*Ministry of Health, Welfare and Sport*

# Dutch Health Care Performance Report

Dutch Health Care Performance Report 2010



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A publication by the  
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3720 BA Bilthoven  
The Netherlands  
[www.rivm.nl](http://www.rivm.nl)

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The report was originally published in Dutch under the title: Zorgbalans 2010. De prestaties van de Nederlandse zorg.

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RIVM: 260602006  
ISBN: 978-90-6960-247-9

# Foreword

The Dutch health care system is in full swing. Major reforms have been introduced in the past few decades. In many ways it is a ‘work in progress’. In addition, the present economic crisis is more than likely to affect health care. Still, the ambitions of the Ministry of Health, Welfare and Sport (Ministry of Health) in the field of public health and health care are and will remain unflaggingly high, despite the crisis. We want a health care system of high quality, with good access, which is effective and which remains affordable.

It is therefore important that at some distance from health policy and the field of health care, RIVM periodically takes the pulse of the health care system and examines the state of affairs regarding the quality, accessibility and affordability of Dutch health care from an independent position. The present *Dutch Health Care Performance Report* (DHCPR) describes the situation in 2008 and 2009 based on 125 indicators. The DHCPR shows how the Netherlands has been doing internationally and whether there have been positive developments.

I am pleased with the results of the third DHCPR. The Dutch health care system fares well, the RIVM concludes. Accessibility is excellent; quality is above average in many areas and for years the costs of health care have not been significantly diverging from those in neighbouring countries. Still, there is no reason to sit back and relax. Despite these positive results, we are facing huge challenges for the near future. The sharp increase in the number of older people affects the demand for care at the population level and increases its complexity. The number of chronically ill people is also rising fast. The labour shortages are increasing, making it necessary to deploy the increasingly scarce human resources as efficiently as possible. Innovation can make an important contribution to reducing the workload. Innovative new treatment modalities are increasing, but this comes at a price. And, all of this is happen-

ning in a period when major cuts are inevitable. How can we maintain our strong position in the next few years? Working more efficiently is the best way to cut costs. ‘Saving lives and costs,’ president Obama said. Better health care at lower costs by rewarding quality, improving safety and preventing over- and undertreatment.

The DHCPR also reminds us of what does not go well or goes less well. The cost benefit relationship in health care in 2008 and 2009 was not convincingly beneficial. Understandably so, because the system reforms are a long-term process that is still ongoing. More efforts are needed to achieve competition on the basis of quality in Dutch health care.

The DHCPR offers a wealth of empirical data on the performance of preventive, curative and long-term care in the Netherlands. This is not only useful for the Ministry of Health and the House of Representatives, but also for anyone who thinks about the future of health care.

Besides the DHCPR, the fifth edition of the Health Status and Forecast report (VTV) *Van Gezond naar Beter* (From Healthy to Better) recently appeared. While the DHCPR presents an overview of the performance of health care and developments in the performance, the VTV focuses on health in all its aspects with an eye to the future. Together the DHCPR and the VTV present a clear picture of health care and health in the Netherlands.

Many have been involved in the realisation of the present DHCPR. The DHCPR provides a solid empirical foundation for the policy of the Ministry of Health for the challenging period ahead. I sincerely thank everyone who has contributed to laying this foundation.

Ab Klink,

A handwritten signature in black ink, appearing to read 'Ab Klink'.

Minister of Health, Welfare and Sport





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# Executive summary

From a policy perspective, it is important to monitor how well the various parts of the health care system are functioning and whether all the people are benefiting equally from the resources provided. In view of the rising costs of health care, it is also relevant to find out whether those resources are producing sufficient returns – how efficient is the health care system? To monitor trends in the quality, accessibility and costs of health care, the Dutch Ministry of Health has commissioned RIVM to produce the *Dutch Health Care Performance Report (DHCPR)* every two years. Using a finite set of indicators, this third edition of the report assesses the performance of the health care system in 2008 and 2009 and compares it to previous years and to other countries.

What findings stand out in the 2010 Performance Report? First of all, many strong points could be identified. Access to Dutch health care is mostly excellent. Many parts of the system are delivering good-quality care, and demonstrable improvements have been made. Most users are consistently positive about the services they receive. The rising costs of health care are mainly due to the greater volume of services delivered. As the 2010 *Health Status Forecast* has reported, Dutch people are living longer, and the two additional life years gained are spent in good health (Van der Lucht and Polder, 2010). Disease prevention and health care are both critical factors in these health gains.

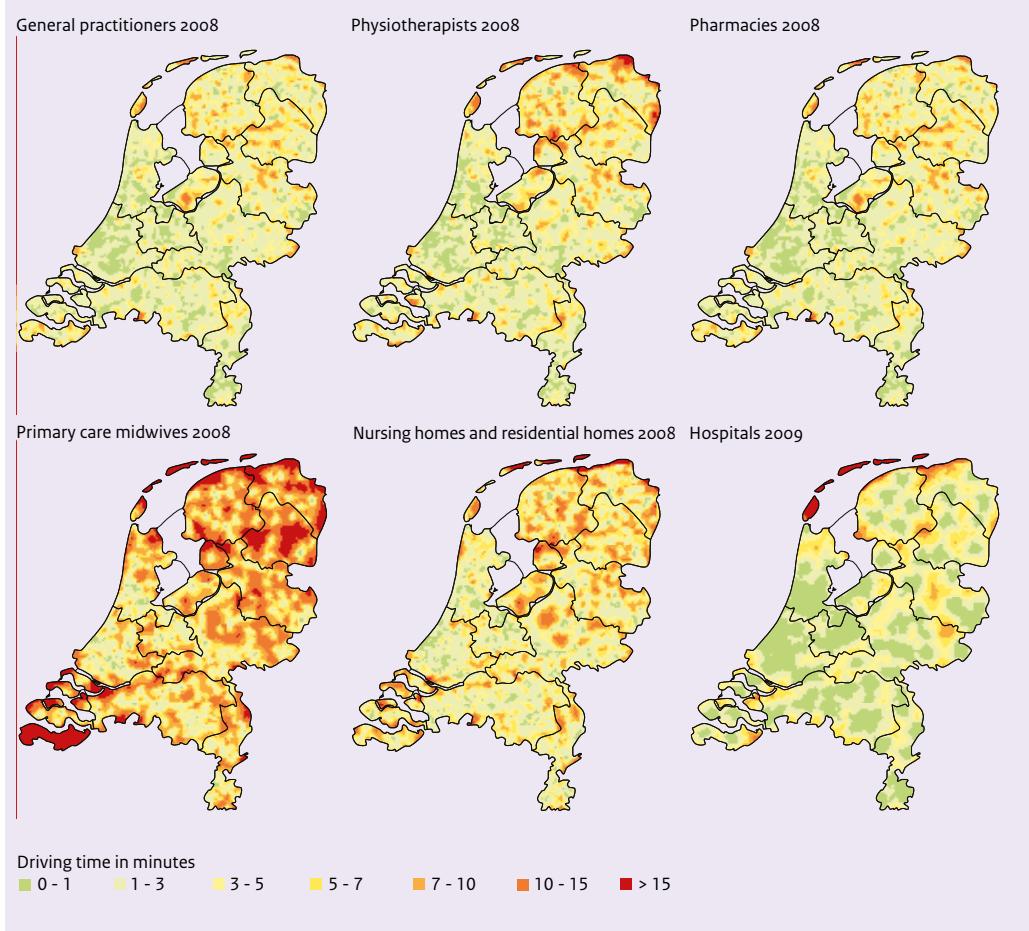
In contrast with positive findings like these, there is also evidence that Dutch health care is not living up to the high ambitions and expectations in every way. Accessibility is unsatisfactory in some areas, as evidenced by persistent waiting lists in certain sectors and the difficulty of reaching GP practices by telephone during office hours. Wide variations exist amongst health care providers in terms of both price and quality. The co-operation and co-ordination between different providers are not as good as they should be. Although quality improvement goes hand in hand with cost savings in some instances, this cannot be firmly concluded for the system as a whole. In fact, the total costs of care continue to grow at a fast rate, while the quality of care improves slowly. One prerequisite for a well-functioning system is that quality data must be available – and that it must also be put to use. The amount of available data has increased, but it is still insufficient for comparing health care providers in terms of quality and patient outcomes.

## Excellent performance in many areas ...

### Health care accessibility is a strong point

The Dutch health insurance system includes a broad basic benefits package under which practically all residents of the country are insured for health care costs. Co-payments are amongst the lowest in the OECD-countries. In comparison with six other affluent countries, the Netherlands has reported the smallest percentages of residents (1%) and people with chronic illnesses (3%) who forego a visit to the doctor for financial reasons. The essential health care services are also within easy reach.

**Figure1: Average driving times to the nearest care service of a certain kind, 2008/2009**



Most people (85%) say they generally experience no problems with access to health care. Some 90% of respondents queried about their health care experiences report that they always or almost always get the help they need. Such figures have remained more or less stable in recent years. In terms of health care utilisation (with the exception of dentistry), there is little difference between low- and high-income groups or between ethnic Dutch and ethnic minority groups.

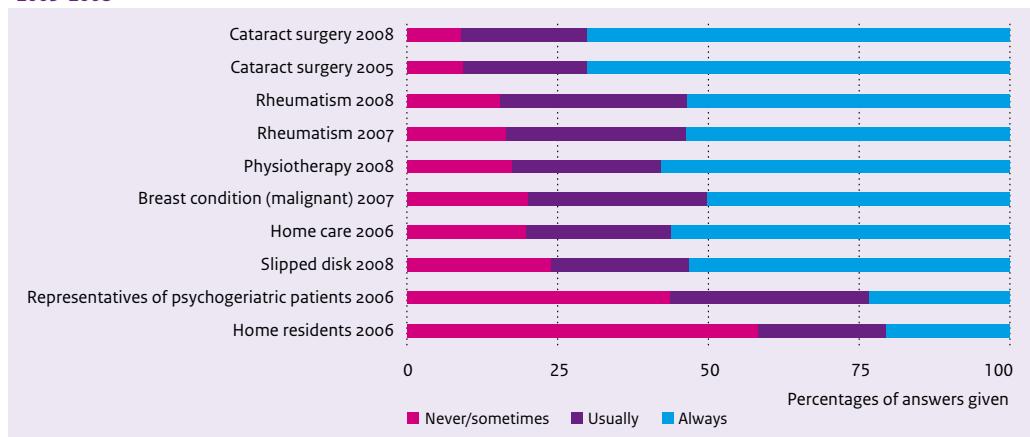
## Quality of care stands out in many ways

The overall quality-of-care ratings for 2008 were much like those in 2004 and 2006. On many indicators, the Netherlands compared well with other affluent Western nations. Uptake of preventative screenings was high. Rates of avoidable hospital admissions were low, pointing to a strong primary care and outpatient clinical care. In almost two thirds of cases, GPs prescribed medicines in conformity with professional guidelines. Infant mortality further declined in 2008 to 3.8 per 1000 live births, thereby improving the Dutch standing on that indicator. The 5-year survival rate for cancer was high in international comparison.

## General public remains positive about the health care system

Nine out of ten people surveyed gave favourable ratings to the Dutch health care system. More than 90% was satisfied with the interaction between them and health care providers, a percentage that has remained steady over the years. This finding is based on questions about whether professionals are polite and respectful, take patients seriously, listen attentively, allow enough time and explain things understandably. Clients in nursing or residential facilities, clients receiving home care and the representatives of clients in psychogeriatric care generally rated the services as professional and safe.

**Figure 2: Care users who reported that they were involved in decision making about care and treatment (%), 2005-2008**

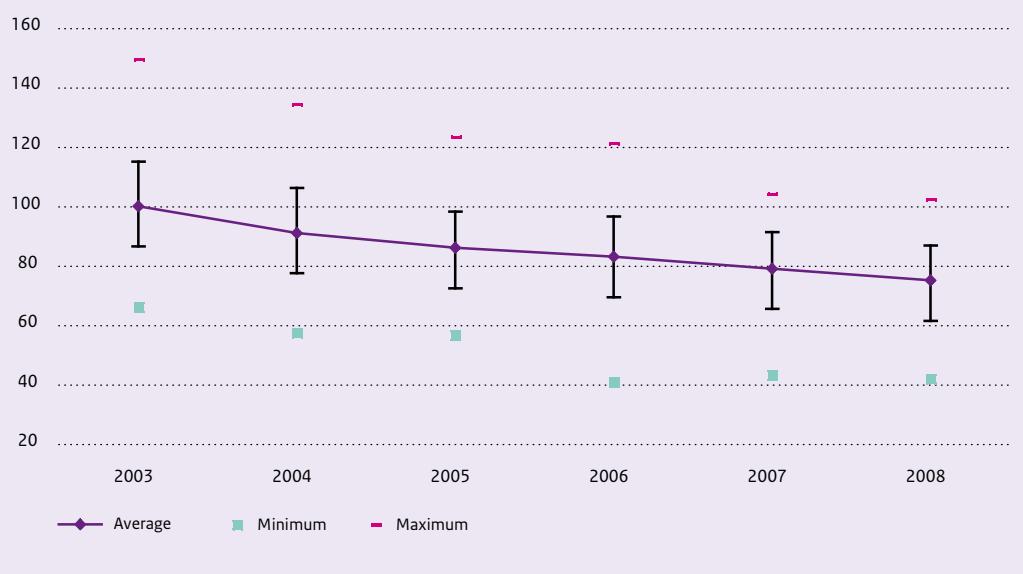


(Source: CKZ / NIVEL, 2010)

## Safety is firmly on the agenda

In terms of health care safety, a number of positive trends have been evident in recent years. The percentage of nursing home and general hospital patients with pressure ulcers was halved in the past six to ten years. The percentage of malnourished patients in nursing or residential facilities declined somewhat. The number of structured consultation groups of pharmacists, GPs and other doctors about the safety of medication dispensation steadily grew. The standardised mortality rate in hospitals declined in the 2003-2008 period. The percentage of patients with chronic diseases who believed that one or more errors had been made in their treatment (17%) was the lowest in an international comparative study with six other affluent countries.

**Figure 3: Hospital standardised mortality rate, 2003-2008**



(Source: Prismant; data analysis by RIVM)

## Growth in health care expenditures mainly due to increase in the volume of care

In the period 2007-2009, health care expenditures grew at a faster rate than in the preceding years. The most recent OECD time-series (2000-2007) shows that the growth in Dutch real expenditures was about average as compared to other countries. It resulted largely from an increase in the volume of care – that is, more services were delivered. Since 2002, the volume of care provided by Dutch hospitals has mounted by 4.2% yearly, as compared to the average price rise of 1.6%. Inpatient admissions grew by 3% and day-patient admissions by 10%. At the same time, the volume of Dutch hospital care has remained relatively low in an international perspective. Interestingly, medicine prices have fallen dramatically in

recent years, but the volume of medication prescribed (the number of prescriptions filled) increased in 2008 by almost 15%. The volume of care for the elderly grew by yearly averages of 5.5% for outpatient care and 3.4% for nursing and residential homes. In mental health care, outpatient treatments increased by about 8% per year. The growth of care for the disabled was seen mainly in outpatient care, averaging 9% per year since 2004.

## ... but ambitions are high and improvement is feasible

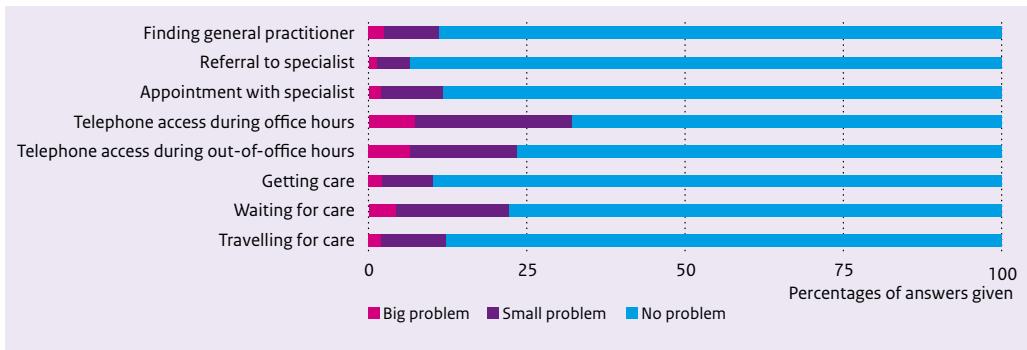
### High ambitions and expectations

“Dutch government policy shows high ambitions. ‘The Dutch government believes the performance potential of the health care system can be substantially boosted if centralised state control makes room where possible for a more decentralised system of regulated competition’ (VWS, 2004). One ambitious measure has been the comprehensive health care reform implemented in the past decade. Its primary aim was to secure a better balance between costs and benefits, thus preserving the affordability and accessibility of health care for present and future generations. The Dutch general public has high expectations as well; all people want the best possible health care, and at a reasonable cost. This makes it essential to detect any signals that parts of the system are not functioning adequately and need improvement.

### Waiting times and reach of services are not optimal in all cases

Although overall accessibility is good, several indicators in this report point to problems with accessibility. For 25% to 33% of clients in the mental health sector, waiting times for treatment were longer than the agreed standard. One quarter of hospital outpatient clinics reported that their waiting times exceeded the standard. The number of problematic cases on waiting lists in long-term care stood at 4500, unchanged in recent years. Poor telephone access to GP practices during office hours was reported as a problem by many people; one third of emergency calls to GP practices were not answered within the 30-second standard. A preventive intervention for depression was found to have improved its reach, but that still remained very small at 2%. Population screening for cervical cancer scored well in comparison to other countries, but had still not surpassed the 66% mark. The numbers of hard-to-fill vacancies in the health system mounted steadily, foreshadowing serious accessibility problems for patients and clients in the future.

**Figure 4: Patients who reported that they experienced problems with access to health care in eight areas (%), 2008**



(Source: CKZ / NIVEL, 2010)

## Quality not always up to par

A number of indicators suggested room for improvement in the quality of care. Patients undergoing surgery for cataracts, varicose veins, slipped discs and hip or knee problems did not always experience improvement after the operation. Hip surgery and cataract operations scored best, with 65% of patients reporting improvement in functioning. The death rate within 30 days of hospital admission for an acute condition (heart attack, brain haemorrhage, stroke) was about twice as high in the Netherlands as in the European countries with the lowest rates.

**Figure 5: 30-day hospital mortality rate for acute myocardial infarction (%), 2005 for the Netherlands and 2006-2007 for other countries; the Netherlands, United States, Western Europe, highest and lowest scoring countries**



((Source: OECD Health Data)

<sup>1</sup> Austria, Denmark, Finland, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, United Kingdom

Although concerted efforts have been made to preserve good practice in the long-term care sector, a combination of factors is threatening the quality and the safety of the care delivered in nursing and residential care facilities: hard-to-fill vacancies, increasing care intensity and heavy workloads for nurses and care workers. Although the (often highly dependent) residents generally expressed satisfaction with the care they received, one quarter of the representatives of psychogeriatric patients reported that staff 'never' had enough time for the clients, and only 22% answered 'always'. Research on moral dilemmas has shown that many nurses and caretakers in long-term care feel they cannot provide the care that is needed and that they wage a constant struggle with understaffing and work pressures. Only one third of the representatives of psychogeriatric patients rated the physical care of their charges as 'always good'. When clients had suffered falls, insufficient preventative measures were taken to avert a recurrence. The co-ordination of care also needed improvement. Four out of ten patients with rheumatoid arthritis reported having to tell the same story several times to different health care providers, as compared to only 10% of patients with diabetes. In terms of safety, the Dutch health care system scored favourably in international terms, but some unsafe conditions persisted nonetheless: one patient in six reported having experienced minor or major medical errors during treatment, and in nursing or residential care facilities at least 7% of clients experienced a medication incident during one month.

## Wide variations in price and quality

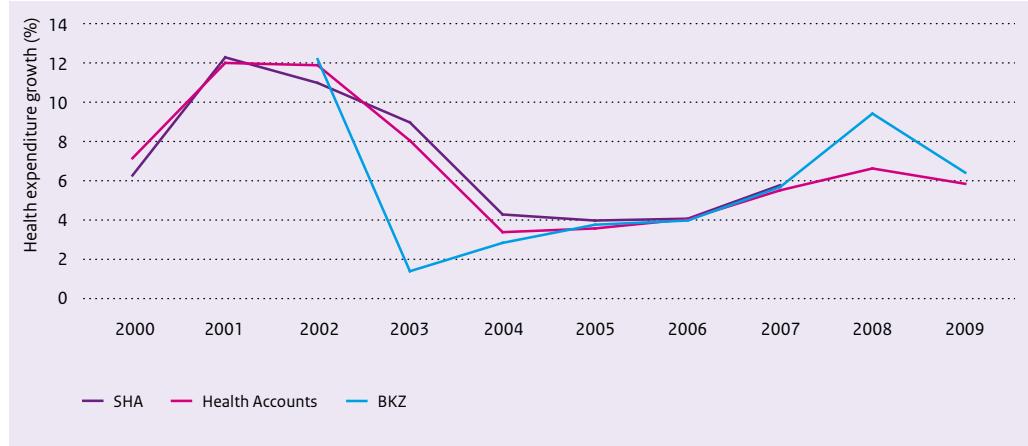
At €184, the highest consultation fee for an out-of-hours GP cooperative was over five times the lowest fee of €35 in 2008. Average hospital charges for a hernia operation ranged from €1000 up to €2500.

GPs differed by nearly 30 percentage points (49% versus 77%) in the numbers of their medication prescriptions that conformed to the professional guidelines. The percentages of hip fracture operations within 24 hours of hospital admission varied between 67.5% and 100% across hospitals. The percentages of unplanned Caesarean sections performed on low-risk women varied widely from 7% to 30%. For some conditions being treated in the mental health sector, the percentages of patients dropping out of therapy ranged from below 5% to 28%. In nursing and residential care, the numbers of fall incidents varied between facilities, with 15% of the care homes sharply diverging from the average.

## Balance between costs and quality could be better

From the indicators we used to measure the performance of the Dutch health system and compare it to that in other Western countries, we may conclude that the Netherlands lies somewhere in the middle. Our two previous performance reports reached a similar conclusion. Clear progress has been made in certain areas. Quality has improved in some respects, while the health care expenditures grew at an average annual rate of 6% to 7% between 2007 and 2009.

**Figure 6: Annual nominal growth in health expenditure (%), 2000-2009**

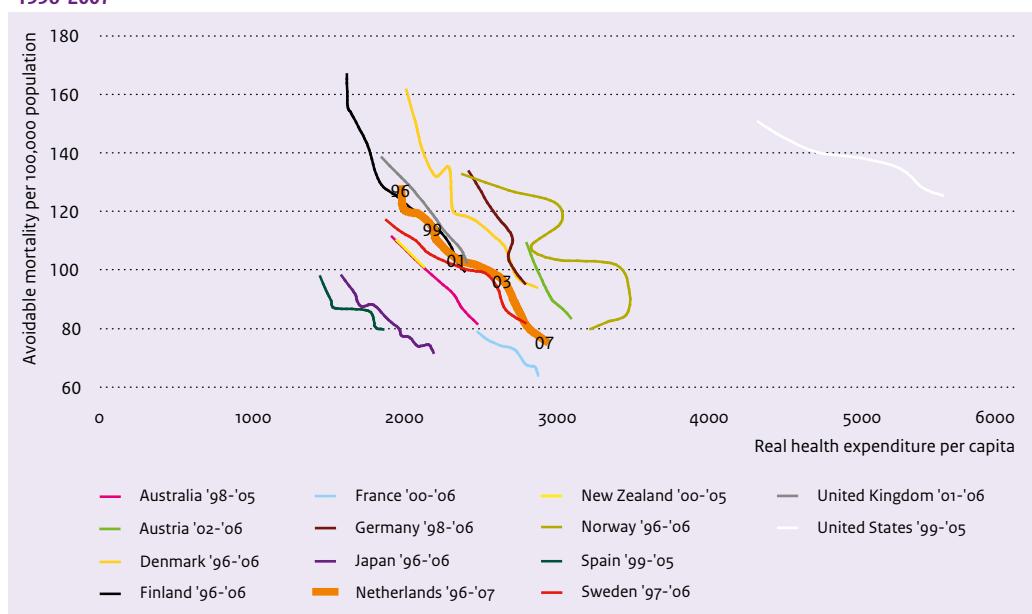


(Source: VWS, 2009b; VWS, 2010a; CBS, 2009b; OECD Health Data)

BKZ (Budgettair Kader Zorg) = Health Care Budgetary Framework (= gross BKZ = net BKZ + co-payments); SHA = System of Health Accounts

If we illustrate this with a direct cost-benefit comparison between health care expenditures and avoidable deaths, then the Netherlands does not stand out in the comparison. Avoidable mortality declined rather rapidly in most countries between 1995 and 2008, whilst health care expenditures rose at a comparable pace. As avoidable mortality is an indicator of the rate of death from illnesses such as asthma, influenza or appendicitis that could have been effectively treated in an adequately functioning health care system, the avoidable mortality rate reflects the unique contribution of health care to health.

**Figuur 7: Avoidable mortality per 100,000 population and real health expenditure per capita (in US\$ PPP), 1996-2007**



(Source: OECD Health Data; WHO, 2009b, data analysis RIVM)

PPP (Purchasing Power Parities) = US\$ PPP is an exchange rate that corrects for differences in purchasing power between countries

Since 2005, Dutch hospitals have been allowed to freely negotiate with health insurance companies about the price of a number of designated services – the ‘B-segment’. The question now is whether this has led to more efficient care in comparison with the state-regulated A-segment. This report concludes that while price trends in the B-segment have been moderate, the total expenditures have nevertheless increased due to expansion in the volume of care. That does not seem to bode well in terms of cost containment. Still, it remains difficult to interpret figures and draw firm conclusions on the basis of the limited data now available.

## Quality of care lacks transparency and is not yet a driving factor

The Dutch health care reforms implemented in recent years were intended to foster a system of regulated competition. An underlying aim was to give health care consumers a more pivotal role in the market, thus resulting in affordable and good-quality health care for all. Such an outcome will require time and patience. At present, insurance companies are mainly competing to limit the prices of insurance policies and the costs of health care services. The quality of the care is still of limited influence in the purchasing process. This applies to both curative and long-term care. Regulated competition assumes that insurers and consumers alike have complete, transparent information available on the quality as well as the price of health care products. However, suitable information about quality of care, and about patient outcomes in particular, is still lacking.

## Concerns about the availability of data on health care and public health

The data currently available cannot yet be adequately analysed in terms of demographic characteristics such as socioeconomic status and ethnic background. That makes it difficult to judge whether all people have equal health care opportunities (equity). Much of the current information about health care providers is based on self-reports, and the quality of that information is subject to dispute. There are also concerns about the continuity of some important data registries; failure to maintain these would threaten the ability to monitor developments in the health care system. Subsequent editions of the DHCPR will further assess the trends identified in the present report. They will also provide more detailed analysis of the effects of the recent health care reforms.

For ‘government at a distance’, reliable data is of the essence. The report ends by pointing out the current gaps in the available information systems and knowledge.

# 1

## Background and approach

### The commission

The Dutch Health Care Performance Report (DHCPR) has been compiled by RIVM and was commissioned by the Ministry of Health, Welfare and Sport (further referred to as the Ministry of Health).

The DHCPR comprises two informative products:

- The summarising report the 'DHCPR', which with the help of roughly 125 indicators describes the quality, accessibility and costs of Dutch health care from a macro-perspective.
- The Dutch website <http://www.gezondheidszorgbalans.nl>, which, besides the findings about the performance levels of Dutch health care per indicator used, also provides a scientific justification.

### The approach

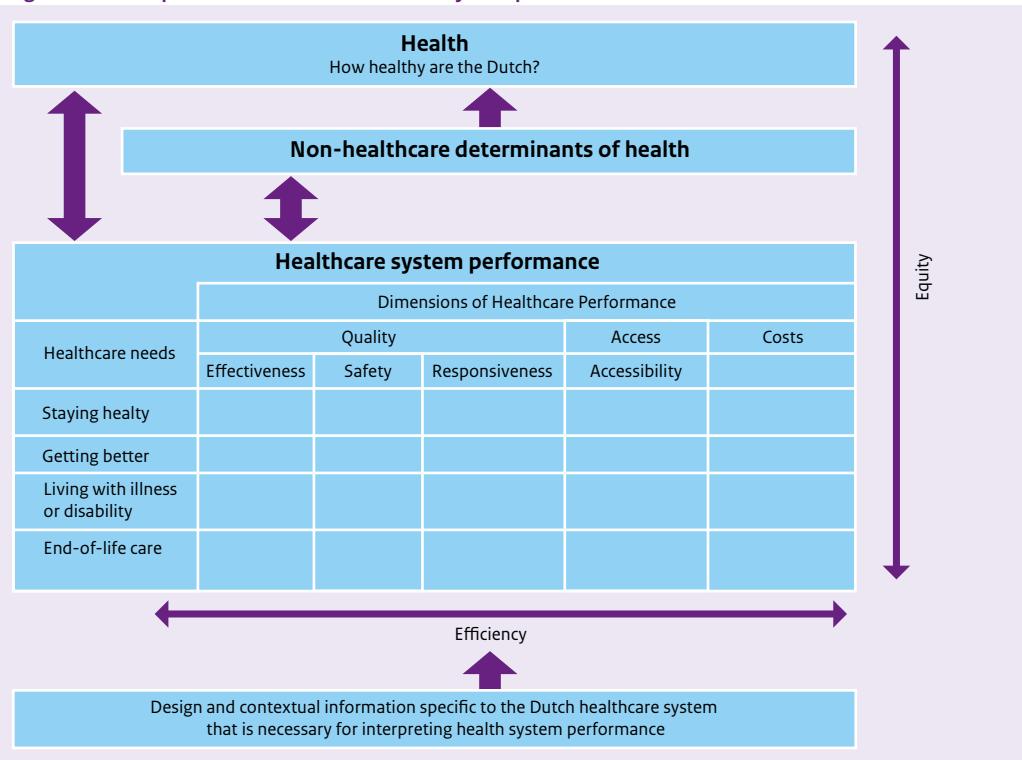
For the purpose of the DHCPR-series, the Ministry of Health provided a large set of indicator domains that are crucial for assessing the performance achieved and the actual status of health care. RIVM ranked the set of indicator domains across the three objectives for which the Ministry of Health bears overall system responsibility: quality, accessibility and costs (Westert, 2004).

The DHCPR makes use of a conceptual framework for performance indicators (see Figure 1.1) that is

*Health care* is defined as activities aimed at alleviating, reducing, compensating and/or preventing deficiencies in the health status or autonomy of individuals (Van der Meer and Schouten, 1997). In this report, health care includes preventive, curative and care services for both somatic and mental conditions and complaints. Welfare has not been included in the DHCPR.

based on the report *Bakens zetten* (Positioning beacons; Delnoij et al., 2002) and an extensive international literature review (Arah et al., 2005 and 2006). In the applied framework, health care is divided into four specific health care needs: staying healthy (prevention), getting better (cure), living independently with a chronic illness or disability (long-term care), and end-of-life care. For each separate care demand, health care performance is presented and analysed for the aspects quality, accessibility and affordability. The indicator framework developed and used is well accepted internationally. The Organisation for Economic Co-operation and Development (OECD) has adopted this framework for the further development of international comparisons of health care system performance (OECD, 2009).

**Figure 1.1: Conceptual framework of health care system performance**



(Source: Arah et al., 2006)

## The structure of the Dutch Health Care Performance Report

DHCPR → System objectives (3) → Indicator domains (13) → Indicators (125) → Key findings

The DHCPR has a graded structure. The first layer consists of the three system objectives, namely quality, accessibility and controlled cost development and efficiency. These three objectives are then subdivided into thirteen indicator domains based on (international) literature.

### Indicator domains

#### *Quality*

- Effectiveness, Safety, Co-ordination, Responsiveness

#### *Access*

- Financial access, Geographical access, Timeliness, Access according to needs, Availability of personnel, Freedom of choice

#### *Costs and efficiency*

- - Health care expenditure, Efficiency, Financial position of care providers and health insurers

## System goals

The Ministry of Health has system responsibility for three major interests: quality, accessibility and affordability. One of the ways to attain this is through a regulated market.

#### *Quality*

The government has a duty to safeguard the public interest of a good-quality health care and has tools to do so. By means of the Quality of Care Institutions Act (*Kwaliteitswet zorginstellingen* (Kzi)) and the Health Care Professions Act (*Wet beroepen individuele gezondheidszorg* (BIG)), the legislator puts health care providers / professionals under a number of obligations. They must provide appropriate care, i.e. organise their work, provide personnel and equipment, and allocate responsibilities, such that this does or should lead to appropriate care. They should systematically monitor, control and improve quality of care. And, they should account for their actions in this respect. So, it is primarily the responsibility of caregivers to deliver good-quality care. Whether they act in accordance with this responsibility, is monitored by the Health Care Inspectorate (IGZ) in line with both acts. Quality involves:

- Effectiveness
- Safety
- Co-ordination
- Responsiveness.

## **Access**

The government is committed to equal access to health care for all people irrespective of their lifestyle (VWS, 2005a). The Health Insurance Act (Zorgverzekeringswet (Zvw)) provides tools to ensure basic access.

Access involves:

- Financial access
- Geographical access
- Timeliness
- Access according to needs
- Availability of personnel
- Freedom of choice.

## *Health expenditure and efficiency*

Controlled cost development and an efficient health care system are central to the Health Care Market Regulation Act (*Wet marktordening gezondheidszorg* (Wmg)), introduced in 2006. As part of the system reforms, rules for the regulation of the market and its supervision are laid down in this act. A responsible expenditure growth ensures that health care remains affordable for society and does not heap pressure on public resources.

Improved efficiency can help to control expenditure, but it goes beyond that. Efficiency is about the relationship between the costs and revenues of the care provided. A further increase in expenditure can be effective, provided the yields are accordingly. In the new health system the insured and insurers have an important role to play in the area of efficiency: they are expected to choose care with the most favourable price-quality ratio.

Health care expenditures and efficiency involve:

- Health care expenditures
- Efficiency
- Financial position of health care providers and health insurers.

## **Tension between system goals**

Between different system goals, tensions may exist, for example between a controlled cost development and a necessary, good quality, universally accessible health care and between risk solidarity and freedom of choice (VWS, 2001). Regarding the former, it is put forward that quality demands should not increase the price such that the affordability of care is strained. The health insurer will have to assess the reasonableness of the desired quality improvement. The supervisor of the insurers will monitor whether the insurers act in accordance with this mission (VWS, 2002a). More in general is chosen for guaranteeing minimal levels. Quality and accessibility need to reach a sufficient level and to be in accordance with expenditures. Quality supersedes accessibility (VWS, 2008a).

To avoid adverse effects of market forces and to achieve the system goals of accessibility and affordability, conditions must be formulated as to the insurers' duty to accept, risk equalisation, premium levels and health insurance coverage (VWS, 2004b). The Health Insurance Act offers appropriate tools for doing so.

## **Indicators**

For each indicator domain, indicators were selected that have a signalling function for the domain concerned. An indicator is a measurable aspect of care that gives an indication of a specific performance aspect, such as quality of care (Colsen and Casparie, 1995). The selection of indicators is primarily based on (a combination of) two criteria:

- the intrinsic relationship between the indicator and a specific care aspect to be investigated,
- the availability of data.

Each indicator eventually leads to a key finding.

## **Connecting themes**

In the third DHCPR the following connecting themes are addressed: efficiency and the effects of health system reforms. The themes link system goals with indicator domains.

The theme ‘efficiency’ considers whether an optimal output is produced with the resources invested. Accordingly this theme attempts to link the public goals of ‘affordability’ and ‘quality’. Are the Dutch getting value for money? The theme is to be found in Section 4.3, as part of the chapter on health expenditures.

The second theme addresses the health system reforms. In the present DHCPR, the effects of the health insurance system reforms, which were introduced 1 January 2006, are evaluated. Since the first DHCPR (2006) described the situation in 2004 and the second DHCPR (2008) the situation in 2006/2007, the present DHCPR attempts to provide an answer to the question about what effects these system reforms have had to date on the quality, accessibility and affordability of the entire health system, seen from a macro perspective.

## **The purpose of the Dutch Health Care Performance Report**

The aim of the DHCPR is to make a contribution to the strategic decision-making of the Ministry of Health in the area of health care. To realize this objective the DHCPR attempts, in accordance with its commission, to paint a broad picture, to present trends over time, to compare the Netherlands to other countries and where possible to state (policy) standards and benchmark data, so that policymakers have the information they need to make their own assessment of the performance of the Dutch health system.

An important requirement of the DHCPR is to minimize the number of indicators used. Consequently, during the selection of the indicators not all of the data available in the Netherlands were included. Therefore the DHCPR mainly has a *signalling function* at a global level, without fully considering all specific components and aspects of the health system. The ultimate goal of presenting all these measurements is to create a representative picture of the general system performance of the Dutch health system, in line with the system objectives of the Ministry of Health policy.

## **Outline of the Dutch Health Care Performance Report**

Chapters 2, 3 and 4 describe the three system objectives, namely quality, access and health care expenditures and efficiency. Each chapter starts with a section ‘What is...’ (Sections 2.1; 3.1; 4.1), in which quality, access and cost of care are defined and the indicator domains are explained. The consistent arrangement of the sections across the indicator domains in these three chapters is:

- Key findings
- How indicators are used to determine performance of a specific aspect
- The current state of affairs in measurements and counts
- Conclusion.

The thirteen indicator domains are eventually considered in nineteen sections. In several cases a given indicator domain is further divided, as is the case for effectiveness and timeliness.

Chapter 5 addresses the connecting theme ‘The effects of the health system reforms’. The concluding chapter, Chapter 6, describes improvements and gaps in the provision of the information needed and the usefulness of the DHCPR, and looks ahead to the next DHCPR.

# 2

## Quality of care

### 2.1 What is quality of care?

Good-quality care is one of the three health care system goals, next to accessibility and affordability. There are various definitions of the concept of quality. The Institute of Medicine (IOM) defines quality as “doing the right thing, at the right time, in the right way, for the right person, and having the best possible results” (IOM, 2001). This interpretation refers to a number of concepts, which are considered in the literature as essential to quality: effectiveness, safety, timeliness and responsiveness (Arah, 2005). The Care Institutions Quality Act (*Kwaliteitswet Zorginstellingen (Kzi)*) also uses concepts like effectiveness (efficacy) and patient orientation.

The government has formulated three priorities for improving the quality of care: to make quality transparent and measurable, to increase the influence of patients and clients and to make health care safer. Hence these issues will be extensively discussed in the present DHCPR. To make quality more transparent and measurable various important initiatives have been taken in recent years. The indicators in the DHCPR are in line with these initiatives. Examples are the indicators used by nursing homes, residential homes and home care in the framework of the standards for responsible care, the OECD health indicators and information about client experiences in health care collected by means of the so-called CQ-index questionnaires.

As is discussed in Chapter 5, the transparency of quality of care is also a crucial prerequisite for the health care system to function properly. Indeed, one of the major reasons for the introduction of the Health Insurance Act (*Zorgverzekeringswet (Zvw)*) in 2006 was that health care users need to make informed choices as to health care providers and health insurance policies and that health insurers purchase care

on a critical basis. Since the late 1990s, more and more initiatives have been taken to improve the measurability and transparency of quality of care. The approach taken depends strongly on the goal. In 2007 the Health Care Transparency Programme (Zichtbare Zorg) was launched. In the framework of this programme, various indicator sets have been developed or are under development that will yield information for health care users, health insurers and government. Depending on the goals the various parties pursue in making quality of care transparent, we distinguish:

- choice information (for health care users)
- purchasing information (for insurers)
- accounting information (for Health Care Inspectorate, policy makers and politics)
- steering information (for health care providers and policy makers)
- referral information (for health care providers).

These indicator sets tend to be organised along sectoral lines: the quality of a nursing home, a hospital, a Municipal Health Service, etc. This is done for practical reasons; a care user must be able to look for a specific hospital and any health care institution must be accountable to the Health Care Inspectorate for the quality of care it delivers. Although there are very good reasons for adopting a sectoral classification, there are often multiple health care providers and institutions involved in the care process of an individual patient. Sometimes the various forms of care are in line with one another, sometimes they run parallel and they often do both. Patients do not always experience care as organised in sectors. To be able to say something about the quality of the care process, it is important to use intersectoral indicators as well.

The DHCPR does not seek to measure the performance of individual care providers or institutions, but rather to present a broad picture of the performance of the health system as a whole with the care user playing a pivotal role in it. So, rather than choosing a sectoral approach, this chapter uses a format that is based on intersectoral concepts such as safety, co-ordination, and responsiveness. When addressing effectiveness of care, we do distinguish between curative care and long-term care. The reason is that the goal of curative care is clearly different from that of long-term care.

## **Outline of the chapter**

- Effectiveness of prevention (Section 2.2)
- Effectiveness of curative care (Section 2.3)
- Effectiveness of long-term care (Section 2.4)
- Patient safety (Section 2.5)
- Responsiveness (Section 2.6)
- Co-ordination and co-operation (Section 2.7)
- Palliative care (Section 2.8)

The indicator domains are not strictly defined or mutually exclusive. It goes without saying that unsafe care is usually less effective and that a misalignment of care processes within a care pathway is by definition not demand-oriented. Hence, the classification of an indicator under a specific domain may be inspired by pragmatic reasons.

Finally, we would like to point out some differences with the previous DHCPR. Because the DHCPR is a monitoring tool, we strive for continuity. At the same time, system reforms are an ongoing process and we aim for continuous improvement. Hence, the old format was somewhat adapted to accommodate for these seemingly contradictory aims. Two indicator domains were dropped, namely ‘the effectiveness of mental health care and addiction care’ and ‘innovation in health care’. These issues were incorporated in the sections on effectiveness, patient safety, etc. Innovation is discussed in Section 4.3 on efficiency. Two subjects that were not addressed as separate issues in the previous DHCPRs are ‘co-ordination and co-operation’ and ‘responsiveness’.

## 2.2 Effectiveness of prevention

### Key findings

- The uptake of preventive screening has been high and is still rising. More than eight out of ten women of the target group participated in breast cancer screening, two thirds in cervical cancer screening and almost all newborns had a heel prick
- The vaccination rates ranged from 91% for the acellular pertussis vaccine to 96% for the meningo-coccal C vaccine. Still, the vaccination rate in some provinces was below the WHO standard of 90%
- The number of people receiving preventive help for depression doubled between 2005 and 2007
- Over 18% of primary schools and 31% of secondary schools participated in the prevention programme ‘The healthy school and drugs’
- The number of smokers has been slowly decreasing; by 2008 almost 27% of the population smoked. Approximately 13% of the population drank too much
- The percentage of children under 16 years of age that sometimes drank alcohol halved in eight years time
- Although obesity was less prevalent in the Netherlands than in many other European countries, almost 47% of the population was overweight. This percentage has been quite stable
- Almost all children under five years of age were in contact with preventive child health care; rates ranged from 100% in the first year of life to 80.6% in the fifth year of life
- In 2008, the infant mortality rate further declined to 3.8 per 1000 live births

## How we determine the effectiveness of prevention

The aim of prevention is to ensure that people remain healthy by promoting and protecting health and to prevent diseases and disorders or to detect them in as early a stage as possible, so that treatment can be started sooner. Prevention also includes the prevention of disease complications. The priorities of the prevention policy are described in the prevention memorandum *Kiezen voor gezond leven* (Opting for a healthy life; VWS, 2007a) and the vision report on prevention *Gezond zijn, gezond blijven* (Being healthy and staying healthy; VWS, 2007b). The greatest health effects are expected for the priorities that were chosen as spearheads: smoking, harmful alcohol use, obesity, diabetes and depression. The vision report on prevention states that the importance of prevention is not just to be found in health gains but also in being able to make a positive contribution to society by active participation. A second point the report makes, is that prevention ensures the viability of the health care system.

### Indicators

- Participation rates of screening programmes
  - breast cancer
  - cervical cancer
  - heel prick test
- Vaccination rates of the National Vaccination Programme
- Uptake of preventive interventions for depression
- Percentage of schools that applied for the project 'The healthy school and drugs'
- Lifestyle
  - smoking
  - drinking alcohol
  - obesity
- Coverage of preventive child health care
- Infant mortality

## The current state of affairs

**The uptake of preventive screening has been high and is still rising. More than eight out of ten women of the target group participated in breast cancer screening, two thirds in cervical cancer screening and almost all newborns had a heel prick**

Table 2.2.1 shows the uptake of preventive screening programmes since 2001: the population-based breast cancer and cervical cancer screening programmes and the heel prick screening.

The uptake of the screening programme for breast cancer has increased slightly over the years. In 2007, 82.4% of the target group (women aged 50 to 75 years) had themselves screened. The EU set a participation rate of 75% as standard, the Ministry of Health aims for a participation rate of 80% (Rijksbegroting, 2008). Both standards are met by the Netherlands.

Cervical cancer is caused by an infection with the human papilloma virus (HPV). A precursor of cervical cancer can be detected by a Pap smear. Two thirds (66%) of women in the target group had a Pap smear in 2006 as part of the cervical cancer screening programme. This participation rate is relatively stable. The Ministry of Health is committed to a participation of more than 65.6% in 2008 and 2011 (Rijksbegroting, 2008). It is difficult to make international comparisons, because the age limits of the target group and the frequency of screening vary by country.

Although it is certain that cervical cancer and specifically its precursors can be detected by a smear, its effect on the incidence of cervical cancer has never been proven in a randomised trial. However, the incidence of cervical cancer in the period 1989-2003 decreased by almost one third, which is most likely due to the treatment of pre-cancerous stages detected by screening. More cases of cervical cancer could probably be detected, when the participation rate is increased and when an HPV test is used (Ronco et al., 2010). One third of the women who get cervical cancer never had a cervical smear test or had it a very long time ago (Van Kemenade and Casparie, 2009).

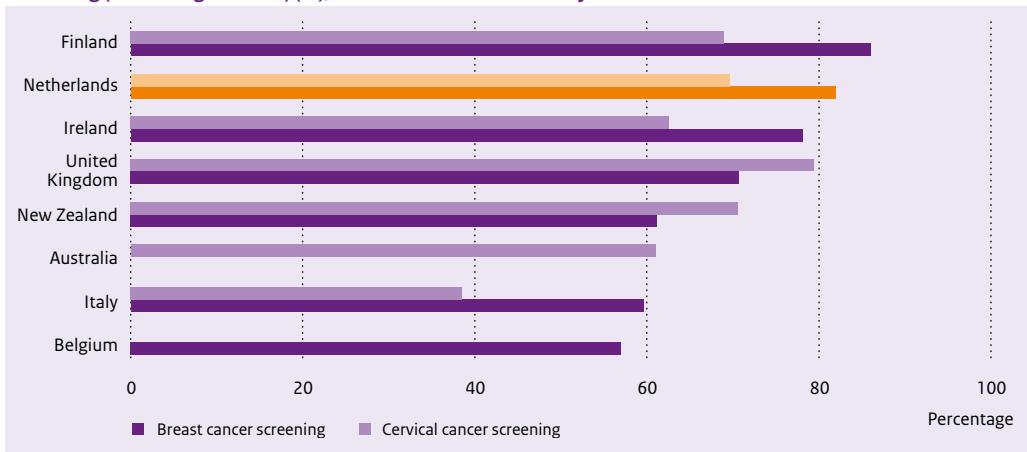
**Table 2.2.1: Participation rates of screening programmes (%), 2001-2007**

	2001	2002	2003	2004	2005	2006	2007
Breast cancer screening (women aged 50-75 years)	78.7	79.1	80.8	80.8	81.7	81.8	82.4
Cervical cancer screening (women aged 30-60 years)	62	64	66	65,5	65.5	66	
Heel prick test (neonates)	99.9	99.9	99.9	99.9	99.9	99.9	99.9

(Source: LETB, 2008; NPK, 2008 (LETB-data); Lanting et al., 2008)

Figure 2.2.1 shows the percentages of women screened for cervical cancer and breast cancer for a number of countries for which these figures were available. The percentages for the Netherlands differ somewhat from those in the table, because the age groups on which the figures are based differ somewhat. For cervical cancer screening the age group is 20 to 69 years and for breast cancer screening 50 to 69 years. Both screening participation rates were high in the Netherlands. As to participation in breast cancer screening the Netherlands is in second place, the participation rates for cervical cancer screening were slightly higher in the United Kingdom and New Zealand.

**Figure 2.2.1: Participation rates for breast cancer screening (women aged 50-69) and for cervical cancer screening (women aged 20-69) (%), most recent measurement year 2005-2007**



(Source: OECD Health Data)

In 2007, almost all newborns were given a heel prick on or before the age of eight days. With a participation rate of 99.9%, the heel prick screening is particularly successful. The percentage is well above the norm of 90% as stated in the heel prick guideline and the target of 99% of the Ministry of Health. In 2007, the heel prick was extended and now screens for 17 diseases. This extension has had no effect on the participation rate.

**The vaccination rates ranged from 91% for the acellular pertussis vaccine to 96% for the meningococcal C vaccine. Still, the vaccination rate in some provinces was below the WHO standard of 90%**

The National Immunisation Programme (Rijksvaccinatieprogramma (RVP)) focuses on the prevention of infectious diseases and its complications. Most of these diseases constituted a major public health problem in the past and they almost disappeared with the advent of vaccinations. The vaccines are administered in several doses according to a schedule. For complete protection, it is important that the entire series is completed. The number of vaccinations varies from one for meningococcal C to five for, for example, diphtheria, tetanus and polio (DTP). The rates we present here concern the percentages of the target groups who have completed the series.

Figure 2.2.2 shows the percentages completed vaccination programmes for five vaccines. On average, the vaccination rate is high for all vaccines. Moreover, the coverage of a number of vaccines has increased slightly in recent years, as the figure shows.

In 2008, the rates of completed series ranged from 91% for the acellular pertussis vaccine to 96% for the meningococcal C vaccine. Although the vaccination rate in the Netherlands is usually sufficient, this is not exceptional in international terms. Virtually all OECD countries have high vaccination rates. For DTP, for example, the rate varied between 83% in Austria to more than 99% in Poland, Hungary and Sweden (OECD, 2008a).

Next to the protection of individual children, the RVP also seeks to further the collective interest by offering protection at the population level (preventing others from being infected). According to the WHO, a vaccination rate of at least 90% is needed for an adequate protection of the population. The national figures amply meet this standard, but if we look at the regional level, we see that some provinces fail to meet this standard. The provinces of Zeeland and Gelderland do not meet the WHO standard for the diphtheria, pertussis, tetanus and polio (DKTP) vaccine. The provinces of Zeeland, Gelderland and Flevoland do not meet the WHO standard for the mumps, measles and rubella (BMR) vaccine. The lower coverage in some regions may almost certainly be explained by the clustering of people who because of religious reasons are against vaccinating (Zwakhals and Van Lier, 2009).

**Figure 2.2.2: Fully completed vaccination programmes for various vaccines (%), 2006-2008**



(Source: Van Lier et al., 2008)

HIB = haemophilus influenzae B, MD = meningococcal disease, AP = acellular pertussis, DTP = diphtheria, tetanus and polio, MMR = measles, mumps and rubella

In 2009, the HPV cervical cancer vaccine was added to the RVP. The target group for the HPV vaccine are 12 to 16 years old girls. These girls get a series of three vaccinations. So far, the turnout for the vaccination with the HPV vaccine, especially in comparison with other vaccines, has been low. Half of the girls who belonged to the target group obtained an initial vaccination, 49% a second vaccination and 45% completed the series. Ninety seven percent of the girls who were administered the first vaccination also got the second vaccination and 89% the third as well. So, almost 90% of the girls who started the series of vaccinations completed it (RIVM / NVI, 2009).

**The number of people receiving preventive help for depression doubled between 2005 and 2007**  
 Approximately 350,000 people per year suffer from depression (Meijer et al., 2006). This involves high social costs, both in terms of human suffering and in financial terms (Smith, 2007). In 2005, the cost of care for people with depression amounted to 773 million euros, this is excluding the cost of loss of productivity. The government has given depression a spearhead status and has set itself the target to

increase the reach of indicated preventive interventions. In 2007, more than 8000 people received indicated preventive help for depression (De Jonge and De Ruiter, 2009). That is about 2% of the people who eventually develop depression. Although the reach is still very limited, it has nearly doubled since 2005. For most of the preventive interventions it is unclear whether they are effective. Nevertheless, there are some interventions that are sufficiently evidence-based for them to be applied at a large scale. Several studies have more or less proven the effectiveness of the programme *In de put, uit de put* (In the doldrum, out of the doldrum). Effective denotes that the programmes can prevent depression or at least reduce the symptoms (Cuijpers et al., 2008; Van den Berg and Schoemaker, 2010). More than half of mental health care facilities offer the prevention programme 'In the doldrum, out of the doldrum' (De Jonge and De Ruiter, 2009). The programme is one of the three interventions that have been granted the 'proven to be effective' status by the independent Accreditation Commission Interventions under the auspices of RIVM and the Netherlands Youth Institute (Loket gezond leven, 2010).

**Over 18% of primary schools and 31% of secondary schools participated in the prevention programme 'The healthy school and drugs'**

*De gezonde school en genotmiddelen* (The healthy school and drugs) is a two-tier prevention programme; one programme is aimed at primary schools and one is aimed at secondary schools. In elementary education, the project aims to prevent grade 7 and 8 pupils from starting to use tobacco and alcohol. In secondary education, the goal is described as 'the students are willing and able to assess the risks of drugs and act responsibly to ensure their own health and that of others'.

In 2006 / 2007, 1823 primary schools had put in an application for this project, i.e. 18.3% of all primary schools, as well as 558 secondary schools, i.e. 30.6% of all secondary schools. The number of applications varies greatly across regions.

The effectiveness of this project is still subject of investigation. Effects have been reported in terms of knowledge and behaviour in dealing with drugs (Cuijpers et al., 2002). The programme was granted the status of 'theoretically well-founded' by the independent Accreditation Commission Interventions (Loket gezond leven, 2010).

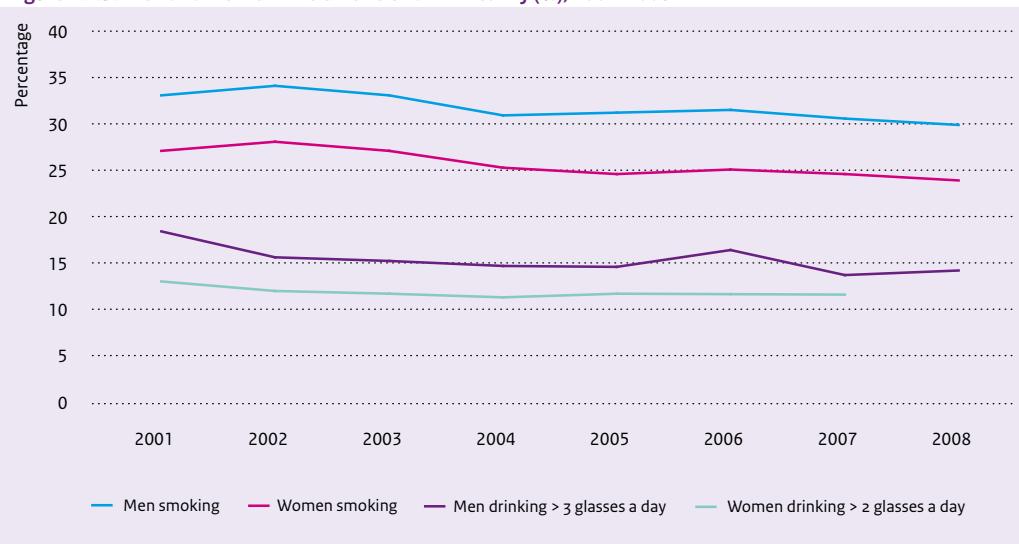
**The number of smokers has been slowly decreasing; by 2008 almost 27% of the population smoked. Approximately 13% of the population drank too much**

*Smoking*

Figure 2.2.3 shows the percentage of smokers in the population for the period 2001-2008. In 2008, 26.7% of the population smoked. That is less than in 2006. There are more men who smoke than women, 29.8% and 23.8% respectively. Although the decline in recent years has not been spectacular, it has been statistically significant though. The ambition to reduce the proportion of smokers to 20% by 2010, as stated in the Prevention Report (VWS, 2007a), has not been fulfilled.

When viewed over a longer period of time, a decreasing trend in the number of smokers is evident. Fifty years ago, 60% of the population over 15 years old smoked, in 2008 this proportion had more than halved. Since the 1980s, the number of smokers has been on the decrease, but that decrease goes at a very slow pace and it is small with the occasional one percent decrease alternated by periods of several years in which the proportion of smokers remains stable.

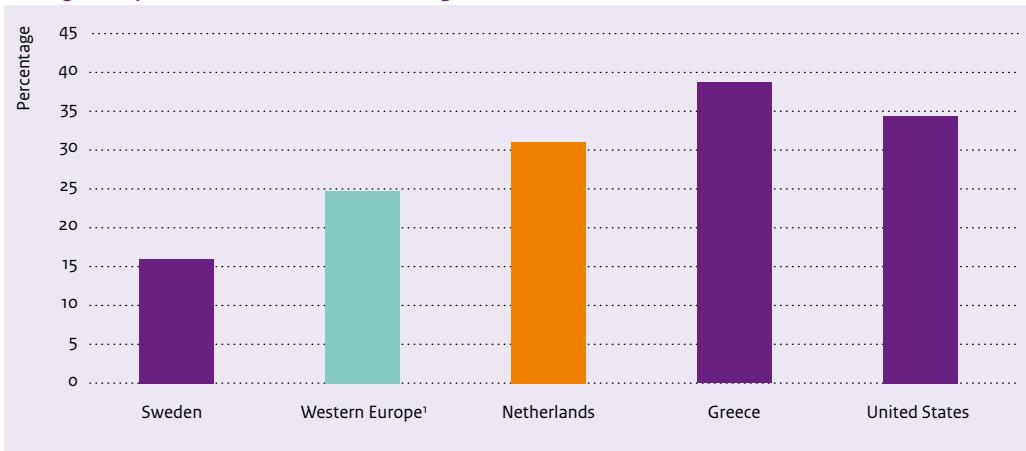
**Figure 2.2.3: Men and women who smoke or drink heavily (%), 2001-2008**



(Source: Stivoro, 2010; CBS, 2009a)

Figure 2.2.4 shows that there are still a lot of people who smoke in the Netherlands compared with other countries. The proportion in this figure is slightly higher than that in Figure 2.2.2, because the OECD uses an age limit of 15 years. Among European countries, only Turkey and Greece have higher smoking rates than the Netherlands. The large number of smokers in the Netherlands explains to a large extent the relatively high prevalence of lung cancer compared with many other countries.

**Figure 2.2.4: Smokers of 15 years and older (%), 2008; the Netherlands, United States, Western European average, European countries with lowest and highest number of smokers**



(Source: OECD Health Data)

<sup>1</sup> EU-15, Norway and Switzerland

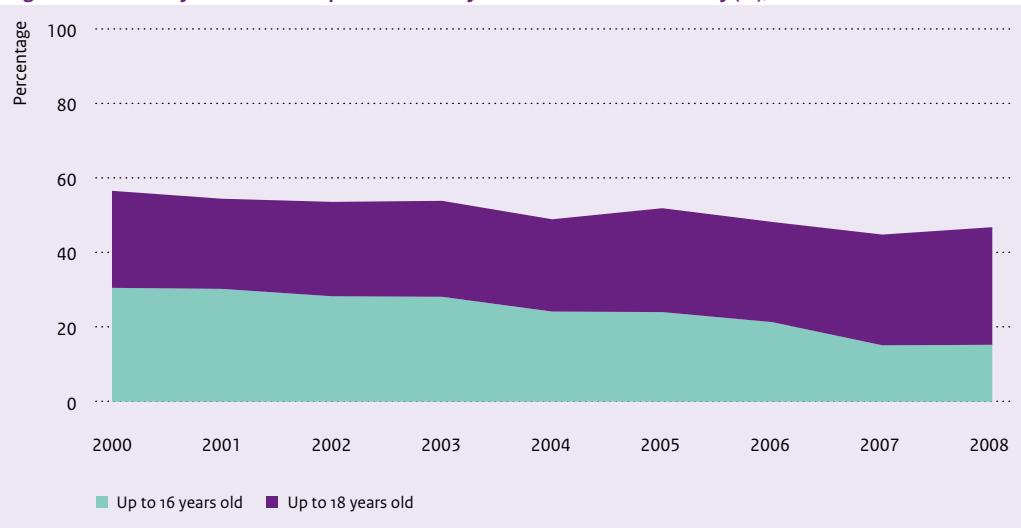
### Alcohol

In recent years harmful alcohol consumption among adults has remained fairly constant. Although alcohol consumption is relatively low compared to many other countries, it is nevertheless responsible for 1% of total mortality (about 1,900 persons) and for 4.5% of the total disease burden in the Netherlands (Busch et al., 2007). In 2008, 14.1% of the male population aged 12 years and over drank more than three drinks per day. This level of alcohol use is detrimental to health. In 2007, 10.7% of women drank more than two drinks per day. Figures for women for 2008 are not yet available.

### The percentage of children under 16 years of age that sometimes drank alcohol halved in eight years time

As the human brain is developing till the age of approximately 23 years, alcohol is much more damaging to teenagers than to adults. Through campaigns and legislation the government has been trying to prevent children under the age of 16 from starting to drink alcohol. That seems to have an effect. In 2008, 15% of children under 16 said to drink alcohol sometimes. In recent years this percentage has decreased significantly. In 2000, more than 30% of children under 16 sometimes drank alcohol, which is twice as much. After the age of 16, the number of drinkers increased rapidly; 47% of young people under 18 said to drink alcohol sometimes.

**Figure 2.2.5: 12-18 year olds who reported that they drank alcohol occasionally (%), 2000-2008**



(Source: CBS Statline, 2009a)

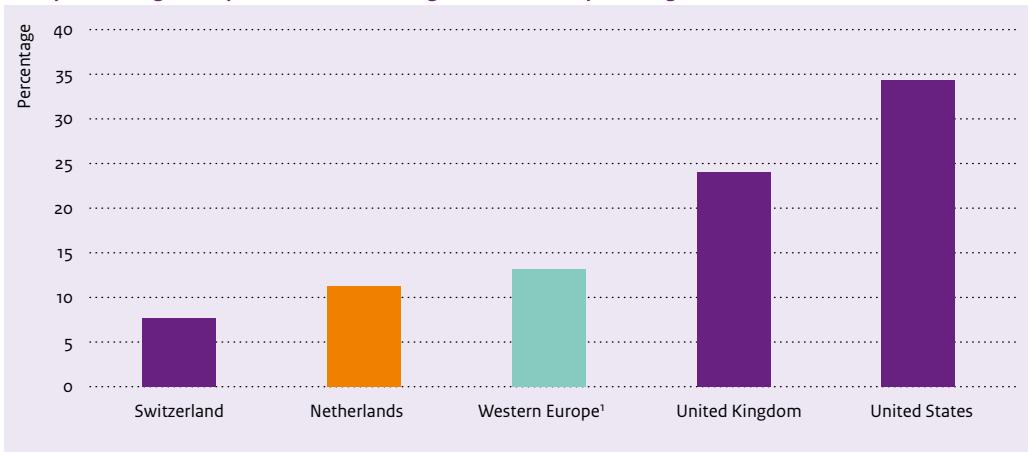
**Although obesity was less prevalent in the Netherlands than in many other European countries, almost 47% of the population was overweight. This percentage has been quite stable**

In 2008, 46.9% of the population of 20 years and older was overweight. Overweight is defined as a BMI of 25 or higher. Men are more often overweight than women. Just over half (52%) of the men and 41% of the women have excess weight.

In the past eight years, the percentage of overweight people has remained fairly constant. Approximately one quarter of overweight people (11% of the population) has severe obesity, that is a BMI of 30 or higher. The percentage of obese people in the Netherlands is low compared with most other countries. Figure 2.2.6 shows that countries like the United Kingdom and the United States have significantly higher rates. Only Switzerland and Norway show significantly lower rates.

In the period 1997-2004, the prevalence of overweight rose from 8.3% to 10.0% in 5-year-old boys and from 9% to 14.6% in 5-year-old girls. For 10-year-olds, the prevalence in boys rose from 6.9% to 14.9% and in girls from 13.4% to 16.9% (Van den Hurk et al., 2006). The latest figures for 2- to 20-year-olds indicate a decline in the prevalence of overweight. In particular, the number of obese children decreased from 3.1% to 2.1% between 2008 and 2009 (CBS Statline, 2010a).

**Figure 2.2.6: People who are seriously overweight (BMI>30) (%), 2007; the Netherlands, United States, Western European average, European countries with highest and lowest percentage**

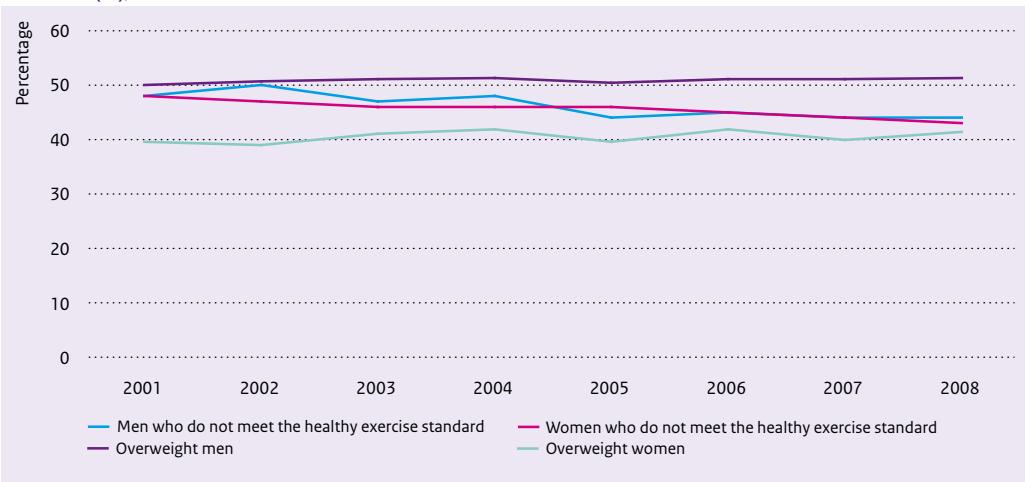


(Source: OECD, 2009)

<sup>1</sup> EU-15, Norway and Switzerland

Besides a healthy diet, enough exercise is essential to combat obesity. The Dutch Standard for Healthy Exercise (Nederlandse Norm Gezond Bewegen (NNGB)) is a standard for the amount of exercise that people of different age groups should have. For 18- to 55-year-old adults, for example, the standard is half an hour of moderate intensity exercise per day, five days a week. Figure 2.2.7 shows the percentages of men and women who were slightly overweight and failed to meet the healthy exercise standard in the period 2001-2008. More than four out of ten people (44%) did not exercise enough. There was little difference in the level of exercise between men and women. In the period 2001-2008, the percentage of people who exercised increased slightly; in 2001, 48% did not meet the exercise standard (CBS Statline, 2009b). Physical inactivity produces 4.1% of the total disease burden in the Netherlands (De Hollander et al., 2006).

**Figure 2.2.7: Overweight men and women and men and women who do not meet the healthy exercise standard (%), 2001-2008**



(Source: CBS Statline, 2009b)

### Almost all children under five years of age were in contact with preventive child health care; rates ranged from 100% in the first year of life to 80.6% in the fifth year of life

In the first year of life all children in the Netherlands are seen by preventive child health care at the child health centre. Thereafter, this percentage decreases slightly per year of life. In 2008, 98.6% of children in their second year of life visited the child health centre and 80.6% of children in their fifth year of life.

Figure 2.2.8 shows the proportion of children that had contact with the child health centre in the period 2000-2008. The frequency of visits in the first three years of life seemed to be relatively stable. For 3- and 4-year-olds the pattern was somewhat more erratic.

**Figure 2.2.8: Children who visited the child health centre, by age (%), 2000-2008**



(Source: CBS Statline, 2009c)

### In 2008, the infant mortality rate further declined to 3.8 per 1000 live births

In 2008, 184,634 children were born alive in the Netherlands and 698 children died in the first year of life (CBS Statline, 2009d). So, the infant mortality rate continued to fall. Figure 2.2.9 presents the infant mortality rate for the period 2001-2008. In 2005 the infant mortality rate was still 4.9 per 1000 live births, in 2008 this had fallen to 3.8 per 1000 live births.

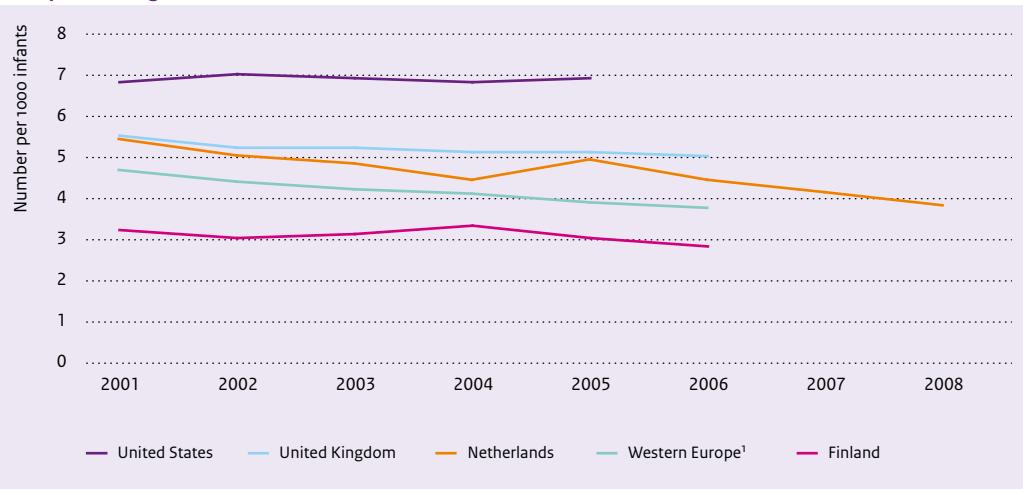
The infant mortality rate reflects the effects of the economic and social situation on the health of mothers and newborn babies (Masuy-Stroobant and Gourbin, 1995). It is also an indicator for the effectiveness of the health care system (De Hollander et al., 2006).

The Netherlands has exchanged its former top position in the EU, with a low infant mortality (number of mortalities during the first year of life) and a low perinatal mortality (number of stillbirths after a pregnancy of more than 24 or 28 weeks and number of deaths during the first week of life), after the 1990s for a position that is under the EU average (Waelput et al., 2006). Perinatal mortality in the Netherlands levelled off during the second half of the 1990s. This levelling off of the decrease can be seen in several high-income countries. Some reasons for the high infant mortality rate in the Netherlands are the relatively high age of mothers when giving birth and the associated increased risk of multiple births, the proportion of births among non-native Dutch mothers and the smoking by mothers (Waelput and Achterberg, 2006b). A recent study revealed that there is no relation between the high number of home births in the Netherlands and infant mortality (De Jonge et al., 2009).

The latest OECD Health Data statistics, which we use for international comparison, date from 2006.

Figure 2.2.9 suggests that infant mortality rate in the Netherlands is currently at par with the European average.

**Figure 2.2.9: Infant mortality per 1000 infants, 2001-2008; the Netherlands, Finland, United Kingdom, Western European average, United States**



(Source: OECD Health Data; CBS Statline, 2009d)

<sup>1</sup> EU-15, Norway and Switzerland

## Conclusion

As in most Western countries, various forms of unhealthy behaviour are quite common in the Netherlands: smoking, drinking alcohol, eating unhealthy food and little exercising. The adverse consequences show in the form of chronic diseases, such as diabetes and COPD, lung cancer and obesity. Although these matters can still be regarded as serious public health problems, there is much positive to report. The number of smokers has been decreasing slowly but steadily. More and more people are exercising. The obesity problem in the Netherlands is (still) limited compared to many other countries, though almost half of the population is overweight. Although studies have shown that Dutch young people drink a lot of alcohol compared with their peers in other Western European countries (OECD, 2008a), the number of children under 16 years of age that starts drinking has halved since 2000. In addition, many schools pay attention to the use of drugs; more and more schools participate in a prevention programme to raise children's awareness of the dangers of drug use.

Furthermore, there are positive results to report on the uptake of screening programmes. The Netherlands is in the lead internationally. Participation rates are high and are even increasing. This might explain the relatively favourable survival rates for breast cancer and cervical cancer (see Section 2.3). Infant mortality has been decreasing again since 2005, and virtually all infants are regularly seen at the child health centre.

Although there is much good to report, there are obviously things that are less positive. Internationally, obesity in the Netherlands may not seem too big a problem, but the increasing prevalence of obesity in young people is quite worrisome. And, despite the downward trend, smoking remains a problem; the Dutch still smoke a lot. The National Immunisation Programme is probably one of the most successful prevention programmes ever. The uptake is high and thanks to the vaccinations, many diseases many a household would once loose a child to, now belong more or less to the past. However, the disappointing turnout at the recently launched HPV vaccination programme suggests that at present vaccination is less taken for granted.

## 2.3 Effectiveness of curative care

### Key Findings

- In almost two thirds of cases GPs prescribed medication in accordance with guidelines; there were considerable differences between GPs
- The in-hospital case-fatality rates within 30 days for acute myocardial infarction and stroke in the Netherlands were about twice as high as in European countries with the lowest rates
- Patients who underwent surgery for cataract, varicose veins, slipped disk, hip or knee experienced an improvement in the majority of physical abilities relevant to their condition
- The 5-year survival rate for cancer in the Netherlands was high internationally
- Hip fractures were usually rapidly operated on; there were considerable differences across hospitals
- Avoidable hospital admissions were rare in the Netherlands compared with most other European countries
- The percentage of caesarean sections carried out in low risk pregnant women varied widely across hospitals, ranging from 7% to 30%
- Twelve percent of mental health treatments was unilaterally ended by the client; this percentage varied widely across institutions

### How we determine the effectiveness of curative care

Curative care is aimed at recovery or, if this is not feasible, at alleviating pain or delaying the disease process. Curative care forms the largest sector within the health care system. The majority of the population comes into contact with it occasionally. In most cases this implies the GP, hospital, dentist, physiotherapist or the pharmacist. Since curative care makes up such a large part of health care, it is also where most money is spent, about 56% of the total health care budget according to the Health Care Budgetary Framework (BKZ). As of 1 January 2009, medical mental health care has been transferred from the Exceptional Medical Expenses Act (*Algemene wet bijzondere ziektekosten* (Awbz)) to the Health Insurance Act (VWS, 2007b). This means that health insurers have become responsible for purchasing medical mental health care. In recent years much has been invested in the development of mental health care quality indicators. To date little quality information is available. In this section, we therefore use only one mental health care indicator.

## Indicators

In this section we confine ourselves to the most common forms of curative care: hospital care, specialist care, GP care and medicines.

- Percentage of prescriptions in GP practices according to formulary of the Dutch College of General Practitioners
- In-hospital case-fatality rates within 30 days for acute myocardial infarction, cerebral infarction or cerebral haemorrhage
- Experienced progress in physical functioning after surgery
- Mortality due to breast cancer, colorectal cancer or cervical cancer
- Number of hip fractures that are operated on within 48 hours
- Avoidable hospital admissions
- Unplanned caesarean sections in low risk pregnant women
- Drop-out rates in mental health care

## The current state of affairs

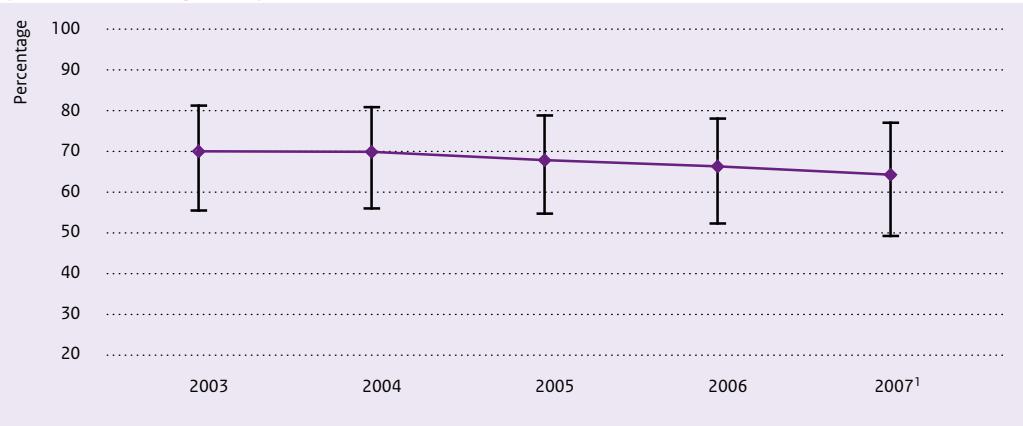
**In almost two thirds of cases GPs prescribe medication in accordance with guidelines; there are considerable differences between GPs**

A formulary is an advice system that GPs have on their computer or on paper. It gives clinical advice on the use of medicines for a particular condition or indication. This advice is founded where possible on evidence-based guidelines.

Figure 2.3.1 shows that when prescribing medication, GPs will, on average, choose a medicine according to the formulary of the Dutch College of General Practitioners (NHG) in two-thirds of cases (66%). The graph only shows data for the twenty most common conditions or indications for which medicines are prescribed.

From 2003 to 2007, this percentage stayed fairly constant, although a small decrease seemed to occur. However, the large differences between practices are striking. The range of values around the average is shown for 80% of the practices in the graph. The prescribing percentage according to the formulary varied between 49% and 77% in 2007. The 2007 figures have been compared with the formulary of 2006, therefore these figures are provisional and may need to be adjusted in the future.

**Figure 2.3.1: Medication prescriptions consistent with general practice guidelines for the twenty most prevalent conditions for which medicines are prescribed (%), 2003-2007 (upper and lower limits of 80% of the practices and average of all practices)**



(Source: NIVEL / LINH; data analysis by NIVEL)

<sup>1</sup> provisional figures

In addition to differences between practices there were also large differences in the percentages of formulary-approved prescriptions between diagnoses. These percentages are shown in Table 2.3.1 for each condition, per year. Diagnoses for which medicines are most often prescribed according to the formulary were urinary tract infections, insomnia and constipation (over 83%). A condition for which the formulary was seldom followed is acute bronchitis: only 2.7% in 2007. Antibiotics were often prescribed for this condition, against the advice of the formulary. Medicines other than those advised by the formulary were also prescribed for other respiratory conditions, such as cough and respiratory infections.

### **The in-hospital case-fatality rates within 30 days for acute myocardial infarction and stroke in the Netherlands were about twice as high as in European countries with the lowest rates**

#### *Acute myocardial infarction*

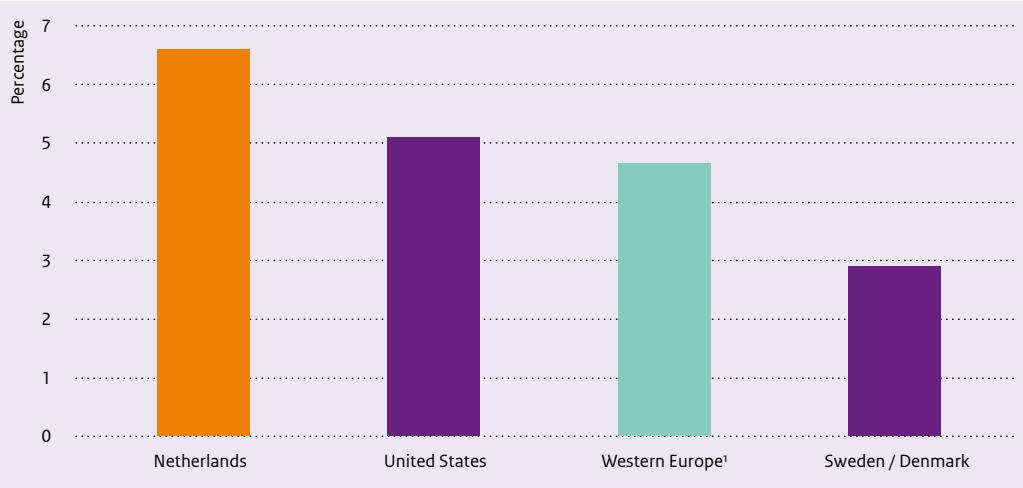
The in-hospital case-fatality rate within 30 days for acute myocardial infarction (AMI) is quite high in the Netherlands. Figure 2.3.2 shows the 30-day mortality in the Netherlands compared with other countries. The Dutch data reflects the year 2005, for most other countries data is from 2007 and for some countries from 2006. Of the people who were admitted for an AMI, 6.6% died within thirty days. In Sweden and Denmark the figure was less than 3%. In Western European countries the figure averaged 4.7%. Although the 30-day AMI mortality was high in the Netherlands, it has declined since 2003.

**Table 2.3.1: Average percentage of prescriptions consistent with the formulary of the Dutch College of General Practitioners for the twenty most common conditions for which medicines are described, 2003-2007**

	2003	2004	2005	2006	2007
Constipation	86.7	84.9	86.2	87.1	83.8
Angina pectoris	76.1	76.4	75.0	70.8	66.0
Essential hypertension without organ damage	73.8	73.9	72.9	71.7	69.3
Hypertension with organ damage	66.1	65.6	62.4	61.8	59.9
Low back pain without radicular symptoms	78.1	77.2	78.3	81.3	79.0
Feeling anxious / nervous / tense	84.5	84.6	84.6	81.9	80.9
Insomnia	89.0	89.2	89.4	88.2	87.3
Depression	72.5	73.3	69.3	65.7	63.9
Cough	43.2	45.1	46.7	44.2	45.9
Acute infection of the upper airways	34.6	36.0	37.1	36.6	33.9
Acute bronchitis / bronchiolitis	2.4	2.0	2.3	2.6	2.7
Emphysema / COPD	69.7	66.4	64.2	62.4	58.4
Asthma	72.8	71.1	65.9	62.5	57.7
Hay fever / allergic rhinitis	77.5	76.6	77.7	75.3	76.1
Dermatomycosis	87.0	86.2	85.7	83.5	81.7
Eczema	62.2	64.6	65.2	64.1	62.1
Diabetes mellitus	65.6	63.4	58.5	52.5	50.0
Lipid metabolism disorder	87.8	86.9	85.6	84.6	82.0
Urinary tract infection	87.0	88.0	88.4	88.3	87.6
Oral contraceptives	78.5	74.8	68.2	67.9	62.8
Total	86.7	84.9	86.2	87.1	83.8

(Source: NIVEL / LINH; data analysis by NIVEL)

**Figure 2.3.2: In-hospital case-fatality rates within 30 days for acute myocardial infarction (%), 2005 for the Netherlands and 2006-2007 for other countries; the Netherlands, United States, Western Europe, highest and lowest scoring countries**



((Source: OECD Health Data)

<sup>1</sup> Austria, Denmark, Finland, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, United Kingdom

#### *Cerebral infarction*

The in-hospital case-fatality rate within 30 days for ischemic stroke is high in the Netherlands compared to many other European countries (see Figure 2.3.3). In the Netherlands, the mortality rate was 5.9% in 2005, well above the rates for Denmark (3.1%), Finland (3.2%) and Norway (3.3%). Again, a positive trend was observed over the past few years.

#### *Cerebral haemorrhage*

Over a quarter of people who were admitted to hospital because of a haemorrhagic stroke in 2005, died within thirty days (see Figure 2.3.4). This made the Netherlands one of the countries with the highest 30-day mortality rate. Again, the Scandinavian countries and Austria reported significantly lower rates. In Finland less than 10% of hospitalised stroke patients died within 30 days.

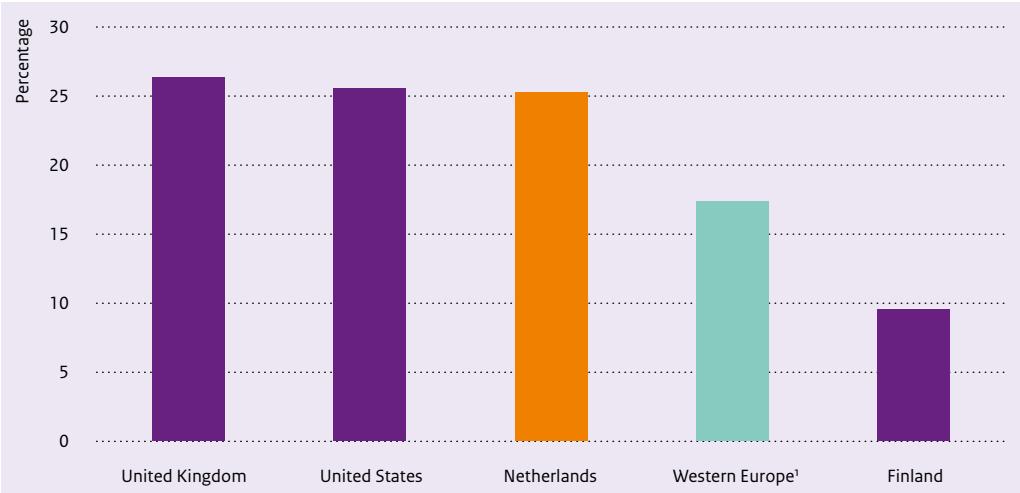
**Figure 2.3.3: In-hospital case-fatality rates within 30 days for cerebral infarction (%), 2005 for the Netherlands and 2006-2007 for other countries; the Netherlands, Western Europe, United States, highest and lowest scoring countries**



(Source: OECD Health Data)

<sup>1</sup> Austria, Denmark, Finland, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, United Kingdom

**Figure 2.3.4: In-hospital case-fatality rates within 30 days for cerebral haemorrhage (%), 2005 for the Netherlands and 2006-2007 for other countries; United States, the Netherlands, Western Europe, highest and lowest scoring countries**



(Source: OECD Health Data)

<sup>1</sup> Austria, Denmark, Finland, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, United Kingdom

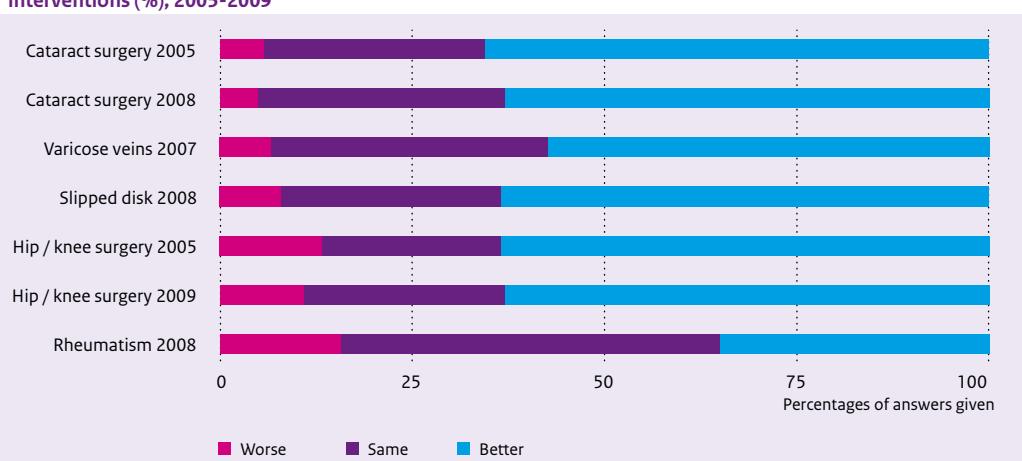
**Patients who underwent surgery for cataract, varicose veins, slipped disk, hip or knee experienced an improvement in the majority of physical abilities relevant to their condition**

Figure 2.3.5 shows for five different patient groups to what extent patients experienced improvement in physical functioning due to surgery. For each condition, the data is based on a series of questions about physical functioning. In cataract surgery, for example, the questions pertain to good near vision, good distance vision and eyesight that allows participation in traffic. Questions for slipped disk patients pertain to, for example, the ability to stand, sit and walk well or to the level of pain. The percentages indicate for each condition, for what proportion of questions patients experienced an improvement. Thus, people who had cataract surgery reported improvements in physical functioning for on average 63% of the subjects they were asked about.

With the exception of rheumatoid arthritis patients, patients experienced improvements in most of the physical abilities relevant to their condition. These percentages were around 60%. A small proportion of the physical abilities did not improve or remained the same. Clearly, most patients experienced a significant progress after surgery. Rheumatoid arthritis patients reported the least physical improvements; almost half of their physical abilities remained the same, 35% improved and 16% got worse. Rheumatoid arthritis is a chronic, incurable and progressive condition, which makes those patients less likely to show improvement in their physical functioning compared with other patient groups.

Finally, there are two patient groups for whom data is available for two years: patients who underwent cataract surgery and patients who underwent hip or knee surgery. For both conditions there are no significant differences between these two years.

**Figure 2.3.5: Experienced improvement / deterioration of physical abilities following various medical interventions (%), 2005-2009**



(Source: CKZ / NIVEL, 2010)

## The 5-year survival rate for cancer in the Netherlands was high internationally

The 5-year survival rates for breast cancer, cervical cancer and colorectal cancer are shown in Figure 2.3.6. For an international perspective, the Dutch rates are plotted against the European countries with the lowest and the highest rates. Compared with most other European countries, the 5-year survival rates in 2006 were high in the Netherlands.

### Breast cancer

Of the women diagnosed with breast cancer in 2001, 85.2% was still alive in 2006. Five years earlier, this percentage was lower at 80.7%. Internationally, the 5-year survival rate in the Netherlands was above average. Finland and Sweden reported slightly higher rates of approximately 86%.

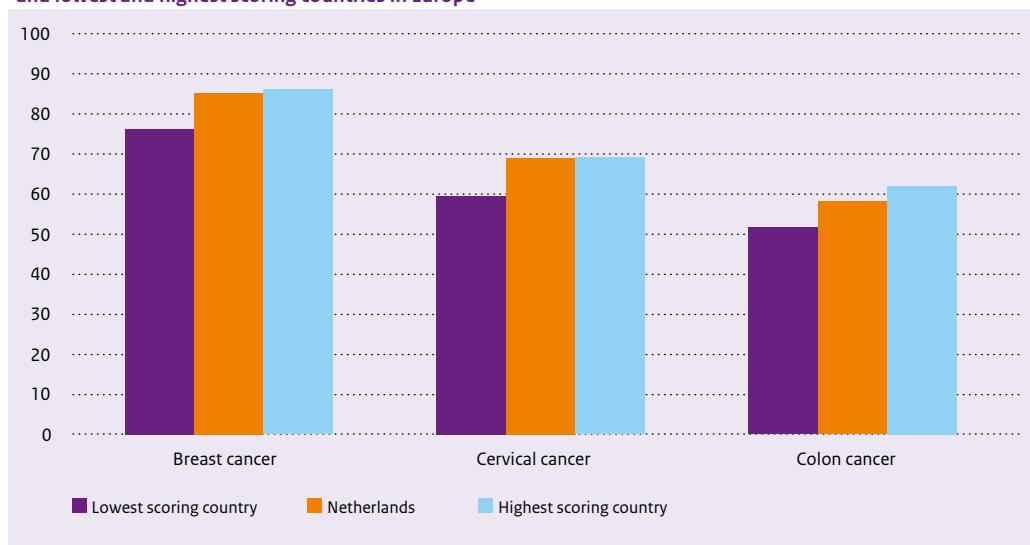
### Cervical cancer

Sixty nine percent of the women diagnosed with cervical cancer in 2001 was still alive five years later. This places the Netherlands in a top position in Europe.

### Colon cancer

Of the people diagnosed with colon cancer in 2001, 58.1% was still alive in 2006. The Dutch percentage was higher than in most other European countries. Sweden and Finland reported higher rates, 60.1% and 62% respectively.

**Figure 2.3.6: Five-year survival rates for breast cancer, cervical cancer and colon cancer, 2006; the Netherlands and lowest and highest scoring countries in Europe**



(Source: OECD, 2009)

Breast cancer: Ireland lowest, Sweden highest; Cervical cancer: United Kingdom lowest, Finland highest; Colon cancer: United Kingdom lowest, Finland highest

### **Hip fractures were usually rapidly operated on; there were considerable differences across hospitals**

In 2004, nearly eight out of ten hip fractures (79.6%) in the Netherlands were operated on within 48 hours. Compared with most other European countries this percentage was high. Again, in particular the Nordic countries (Finland, Norway and Sweden) reported higher rates (OECD, 2007). An international comparison is difficult to make because many countries do not (always) record the hour of surgery relative to the fracture. Because of the uncertainty about the numbers, a more recent comparison of OECD countries is not available.

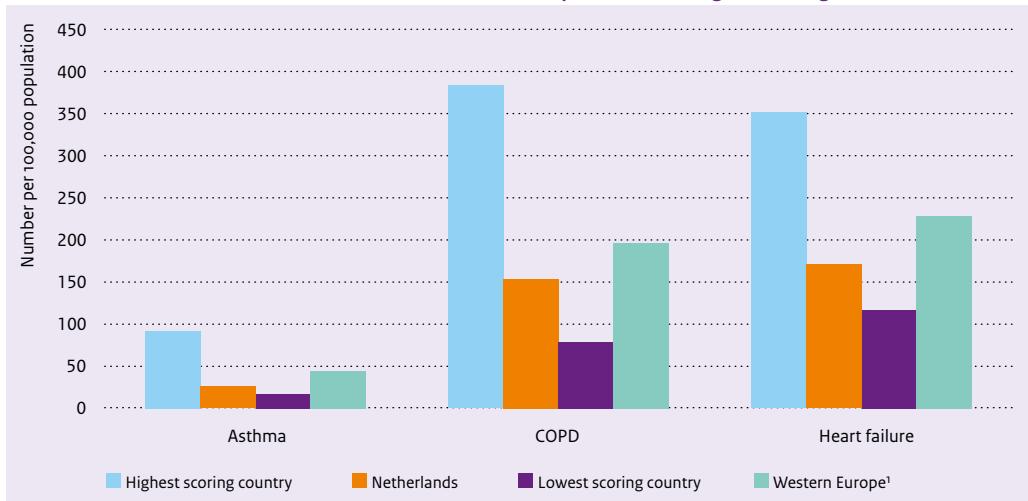
The latest figures on hip fracture surgery in the Netherlands refer to the year 2008 and were reported by the Health Care Inspectorate (IGZ, 2009). These figures allow for a more detailed picture as they distinguish between ASA classes. An ASA class expresses the severity of the illness relative to the risk from anaesthesia on a scale of 1 to 5. When patients are classified in the higher ASA classes (3 or higher) this may be a reason to defer surgery. Within the 75 hospitals that provided data, on average 98.5% of patients fell in ASA class 1 or 2 and were operated on within 24 hours. This percentage differed considerably between hospitals, ranging from 67.5% to 100%. For six out of the 75 hospitals studied this figure was below the 80% mark. Among patients who were assigned a higher ASA class, the figures ranged from 48.5% to 97.1% (average 80.7%). In this category, surgery is more likely to be postponed because of medical reasons.

### **Avoidable hospital admissions were rare in the Netherlands compared with most other European countries**

For some conditions, including asthma, heart failure and COPD, hospital admissions can usually be avoided. It would require regular monitoring and proper care for people suffering from these chronic diseases. In the framework of the OECD Health Care Quality Indicators Project, hospitalisation data has been collected for these chronic diseases. In general, avoidable hospital admissions for chronic diseases are rare in the Netherlands.

Figure 2.3.7 presents the number of admission for the three conditions per 100,000 population of 15 years and older. It contains the figures for the Netherlands, the averages of Western European countries, and the figures for the countries with the most and the least admissions. The figures for the Netherlands refer to 2005, those of other countries to 2006 or 2007. For all three conditions, the number of avoidable admissions in the Netherlands was below the European average.

**Figuur 2.3.7: Avoidable hospital admissions for asthma, COPD and heart failure, 2005 for the Netherlands and 2006-2007 for other countries; the Netherlands, Western Europe, lowest and highest scoring countries**



(Source: OECD, 2009)

Asthma: Finland highest, Italy lowest; COPD: Ireland highest, France lowest; Heart failure: Germany highest, United Kingdom lowest

<sup>1</sup> EU-15, Norway and Switzerland

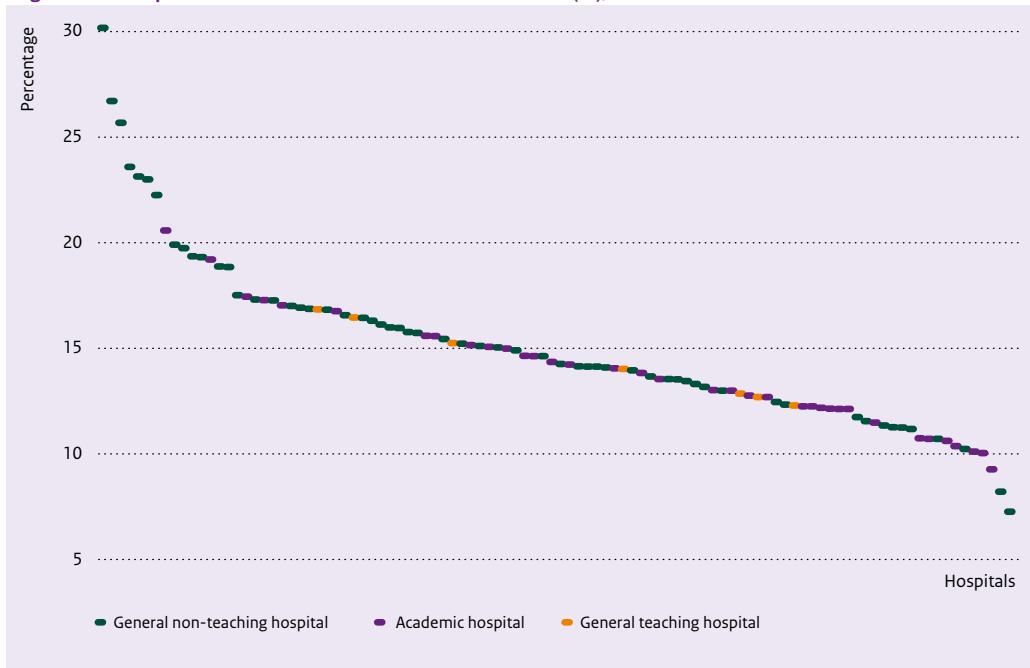
In the Netherlands the annual admission rate for asthma was 26 per 100,000 population. At 92, Finland had an extremely high number of avoidable admissions. But countries like France, Belgium, Austria and the United Kingdom also had rates higher than 40. COPD shows a similar pattern of hospital admissions. In the Netherlands there were 154 admissions per 100,000 population per year. This is comparatively low, about three quarters of the Western European average. For heart failure, the Dutch annual hospital admission rate was 171 per 100,000 population.

### The percentage of caesarean sections carried out in low risk pregnant women varied widely across hospitals, ranging from 7% to 30%

A caesarean section involves major abdominal surgery, which is not without risks. Although the number of caesarean sections in the Netherlands is low internationally, the number has increased in recent years (IGZ, 2009). In the period 2004-2008, 14.4% of hospital births involved secondary (unintended) caesarean sections in low risk women. Low risk women are women who give birth to their first child, whose child is mature (at least 37 weeks), it is a single birth and the skull position is normal. Figure 2.3.8 shows the percentage of unplanned caesarean sections per hospital performed on low-risk women. The large variation indicates that in some hospitals unplanned caesarean sections were more often carried out than in other hospitals. The rates ranged from 7.3% to 30.2%. There were large differences between types of hospitals. The variation across academic hospitals was limited, ranging from 12.3% to 17.5%. It was much larger across (general) teaching hospitals, ranging from 9.3% to 20.6%, and the variation was largest across non-teaching hospitals, ranging from 7.3% to 30.2%. Out of the fifteen hospitals with the

highest rates, thirteen were general, non-teaching hospitals. All figures quoted were derived from the Netherlands Perinatal Registry. RIVM and the Perinatal Registry are currently investigating what could explain the wide variation between hospitals.

**Figure 2.3.8: Unplanned cesarean sections in low risk women (%), 2004-2008**



(Source: Stichting Perinatale Registratie Nederland)

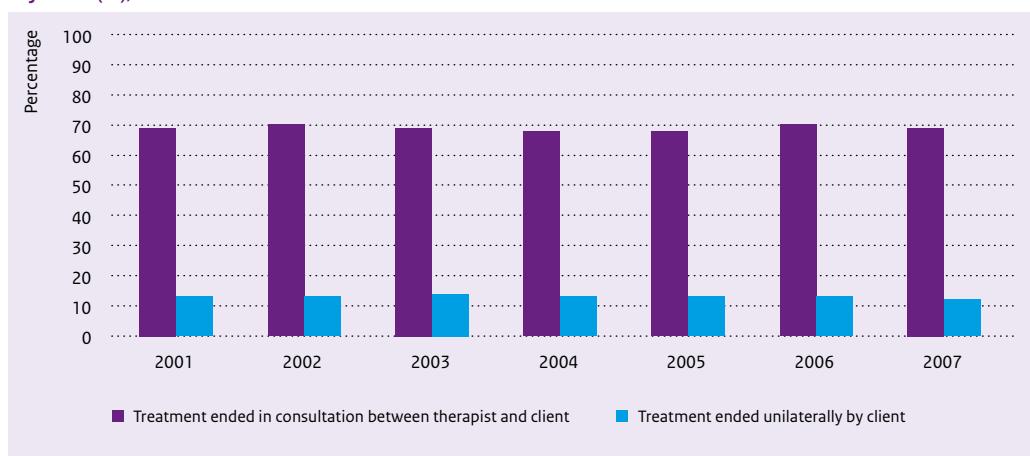
### Twelve percent of mental health treatments was unilaterally ended by the client; this percentage varied widely across institutions

In 2007, about 70% of all mental health treatments were ended by mutual consent. Treatment was unilaterally ended by the client / patient in 12% of cases. Figure 2.3.9 shows that this percentage has been stable for years. Unilateral termination (or 'drop-out') occurred more often in some circles than in others. In mental health care for adults and in institutions for sheltered housing, drop-out rates were highest: 14% and 13% respectively. Among young people 8% of the treatments was terminated unilaterally by the client / patient and at 4% the lowest drop-out rate was found in mental health care for the elderly (GGZ-Nederland, 2009a). Besides differences between circles and target groups, drop-out rates differ also between institutions. For the treatment of schizophrenia and other psychotic disorders, for example, the percentages ranged from less than 5% to 28% in 2008. Mood disorders showed a similar variation. For anxiety disorders and personality disorders, there were institutions that reported drop-out rates of more than 30%, but also institutions that recorded rates of less than 5% (ZN, 2009).

The drop-out rate has also been included in the basic set of performance indicators for mental health care. It appeared that the relapse risk for an interrupted treatment is more than twice as high as for a continued treatment (Stuurgroep, 2009).

Not only the client may unilaterally end treatment, occasionally the therapist may do so. In 2007, that happened in 5% of cases. Besides the reasons mentioned, treatment may be stopped for reasons such as relocation or death.

**Figure 2.3.9: Mental health treatments that ended in consultation between therapist and client or unilaterally by client (%), 2001-2007**



(Source: GGZ Nederland, 2009a)

## Conclusion

In the Netherlands the curative care sector functions well. The central position held by GPs and primary care in general is typical of curative care. Eighty five NHG guidelines are currently available for GP care. They contain recommendations regarding diagnosis, prescribing medication, referring and so on. These guidelines have a prominent place in family medicine. This section addressed the prescribing behaviour of GPs. It appeared that guidelines were usually followed, but that there were big differences between GPs, whether or not for legitimate reasons. In the literature avoidable hospital admissions are considered an indicator of the effectiveness of patient care. Again, a strong primary care, but also outpatient care, seemed to be paying off; avoidable hospital admissions were rare in the Netherlands compared with most other countries. Other indicators for an effective curative care included the relatively favourable cancer survival rates and the favourable hip fracture surgery time lag. On balance most people also seemed to benefit from surgery on cataract, slipped disk, hip, knee and varicose veins. How the latter results compare to other countries is unknown.

The high in-hospital case-fatality rates within 30 days for myocardial infarction, stroke or cerebral haemorrhage compared with other countries are particularly striking. Internationally, the Netherlands seemed to score poorly at these indicators with figures well above the European average. This finding calls for a more exhaustive, explanatory analysis. In 2010, RIVM in co-operation with several European research institutes started an investigation into hospital mortality rates, called EURO HOPE. Such analysis may help to identify care factors that can be improved upon or artefacts that may make the Netherlands score unfavourably unjustly.

Next to international comparisons, comparisons between providers may show whether there is potential room for improvement. A certain degree of 'inter-provider variation' is to be expected and even necessary. However, when treatment or its outcome depends highly on the performance of individual health care providers, it points to potentially huge differences in quality. A higher level of adjustment for case mix allows for a better view on differences in quality. A number of indicators show a wide variation between health care providers:

- the percentage of prescriptions in accordance with guidelines was for some GPs up to 30% higher than for other GPs;
- the percentage of hip fracture patients in lower ASA-classes that is operated on within 24 hours ranged from 67.5% to 100% across hospitals;
- the percentage of caesarean sections in low risk pregnant women varied widely between hospitals, ranging from 7% to 30%;
- for a number of conditions treated in mental health care, drop-out rates ranged from less than 5% to ≥8%.

These findings appear to confirm the importance of a best practice approach and of the use of reflective information by health care providers.

## 2.4 Effectiveness of long-term care

### Key findings

- Over 60% of residents of nursing homes and residential homes rated physical care as always good, compared to just one third of the representatives of patients in psychogeriatric care
- Clients of nursing homes and residential homes, home care clients and representatives of patients in psychogeriatric care rated care as usually professional and safe
- Staff of nursing homes and residential homes would like to spend more time with clients and give them more personal attention
- Approximately one quarter of clients in long-term care was malnourished in 2008; the initially downward trend seemed to have come to a standstill
- In a period of 30 days, one in ten home care clients had a fall; in nearly half of these incidents the clients sustained an injury
- The number of rooms with multiple beds in nursing homes and residential homes has been declining; in 2008, this decline accelerated
- In nine out of ten nursing homes, residential homes and facilities for psychogeriatric care there was always a doctor on call
- Of nursing homes, residential homes and facilities for psychogeriatric care, 88% could demonstrate that their staff were competent to perform 'reserved' procedures, compared to 84% of home care organisations

### How we determine the effectiveness of long-term care

Long-term care focuses primarily on nursing and caring rather than cure. In that it differs fundamentally from curative care. Long-term care is financed under the Exceptional Medical Expenses Act (Awbz) and includes mainly care for the elderly, care for the mentally disabled and part of mental health care. As of 1 January 2009, long-term care entitlements are defined in terms of so-called 'functions'. There are five functions, which correspond to the main functions of long-term care. These are:

- personal care
- nursing
- assistance and support
- treatment
- residence

The effectiveness of care is about providing 'responsible care'. Responsible care is understood to involve supporting people so that they can live the life they wish to lead and are used to living and it allows them to do the things they consider important and meaningful, given their abilities and limitations (Arcares, 2005). Agreements have been made with all long-term care sectors on how to measure responsible care. Parties in the field, patient organisations and the government have set out a number of standards for

responsible care and associated indicators. These indicators relate to nursing, general care and home care and are presented in the report *Toetsingskader voor verantwoorde zorg* (Evaluation Framework for Responsible Care; Stuurgroep, 2007). For the present DHCPR, indicators have partly been selected on the basis of that framework. The data in this section is mainly related to nursing homes, residential homes and home care.

The first quality data collected within the framework of *Toetsingskader voor de gehandicapte zorg* (Evaluation Framework for Care for the Disabled) will be published in June 2010. Since relevant data is not yet available, care for the disabled is not included in this section. Some related indicators from the CQ questionnaires will be discussed in Section 2.6 on responsiveness.

### **Indicators**

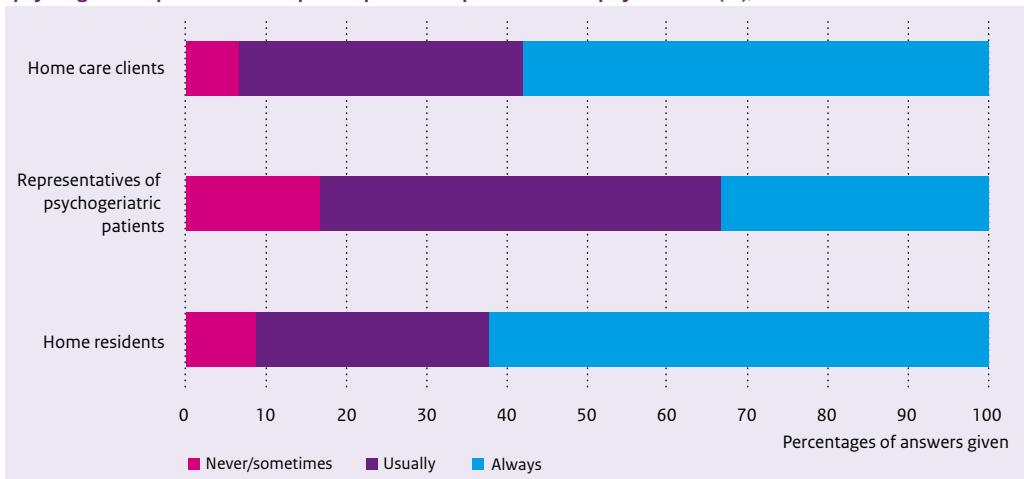
- Number of clients or representatives that experience good physical care
- Number of clients or representatives that experience care as professional and safe
- Satisfaction of nurses and carers with the quality of care
- Preventable health care problems among clients in residential homes and nursing homes and home care clients
  - malnutrition
  - falls
- Number of rooms with multiple beds in nursing homes and residential homes
- Number of nursing homes, residential homes and facilities for psychogeriatric care where a doctor is on call 24/7
- Demonstrated competence of staff in carrying out reserved and risky procedures

### **The current state of affairs**

**Over 60% of residents of nursing homes and residential homes rated physical care as always good, compared to just one third of the representatives of patients in psychogeriatric care**

Figure 2.4.1 shows the experiences with physical care of residents of nursing homes and residential homes and home care clients. Approximately 90% of the clients surveyed experienced physical care as usually or always good. Representatives of patients residing in institutions for psychogeriatric care were more critical; one third of them qualified physical care as always good and almost 17% qualified it as never or sometimes good.

**Figure 2.4.1: Nursing home and residential home residents, home care clients and representatives of psychogeriatric patients who reported positive experiences with physical care (%), 2008**



(Source: CKZ / NIVEL, 2010)

### Clients of nursing homes and residential homes, home care clients and representatives of patients in psychogeriatric care rated care as usually professional and safe

Table 2.4.1 shows the extent to which residents of nursing homes and residential homes, home care clients and representatives of patients in psychogeriatric care experienced care as professional and safe. They were asked to score their experiences on a 4-point scale (1 = never, 2 = sometimes, 3 = usually and 4 = always good experiences). As can be seen in the table, both clients and representatives were mostly positive about their experiences with care. Again, the representatives of patients in psychogeriatric care were most critical, but their average score of 3.3 was still at 76% of the scale maximum. For the other client groups the mean scale scores were around 3.5, which is somewhere between the qualifications 'usually' and 'always'. Data were also available for the year 2007. Very little appeared to have changed between 2006 and 2007.

**Table 2.4.1: Residents of nursing homes and residential homes, home care clients and representatives of psychogeriatric patients who reported that they experienced care as professional and safe, 2008**

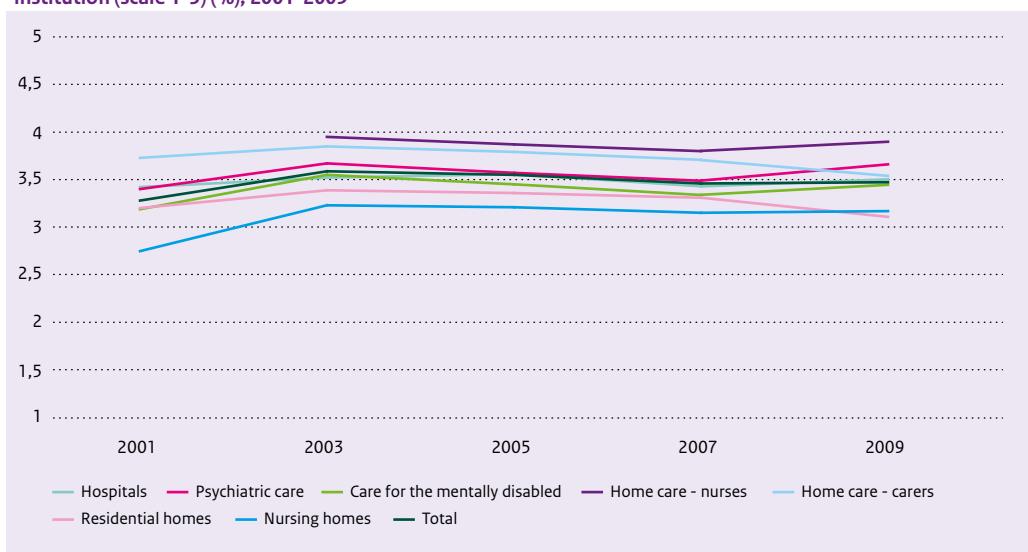
	25 <sup>th</sup> percentile	Average	75 <sup>th</sup> percentile
Representatives of psychogeriatric patients	3.18	3.30	3.42
Home care clients	3.44	3.53	3.63
Residents of nursing homes and residential homes	3.34	3.47	3.62

(Source: Stuurgroep, 2007; Plexus, 2009)

## **Staff of nursing homes and residential homes would like to spend more time with clients and give them more personal attention**

In the period 2003-2007, nursing and caring staff became less satisfied with the quality of care provided in their institutions. In the period 2007-2009, this downward trend slowed down (see Figure 2.4.2). On a scale of 1 (very dissatisfied) to 5 (very satisfied) the mean score was 3.46, approximating 60% of the maximum scale score. Two categories compared statistically significantly worse with other categories, namely the staff in nursing homes and in residential homes. Their scale scores averaged just over 3. Apparently, there is still much dissatisfaction among personnel in nursing homes and residential homes.

**Figure 2.4.2: Nurses and carers who reported that they were satisfied with the quality of care provided by their institution (scale 1-5) (%), 2001-2009**



(Source: NIVEL Panel Verpleging & Verzorging)

The Nursing Staff Panel (NIVEL) is used to measure satisfaction with quality of care every two years. The scale score is calculated on the basis of three questions related to: the extent to which there is sufficient time to properly care for clients, the level to which clients can be given personalised care, and the degree to which clients can be given psychosocial support.

Recently, the Nursing Staff Panel has been consulted to explore some moral dilemmas nursing and caring staff have to deal with. It highlighted a number of problems that potentially affect the quality of care. A question many respondents appeared to struggle with is: 'Should I give my clients the care they need by my own standards or should I keep to the care indicated?'. Half (50%) of nurses and carers asked themselves this question at least once a week. In home care, 64% of nurses and carers asked themselves

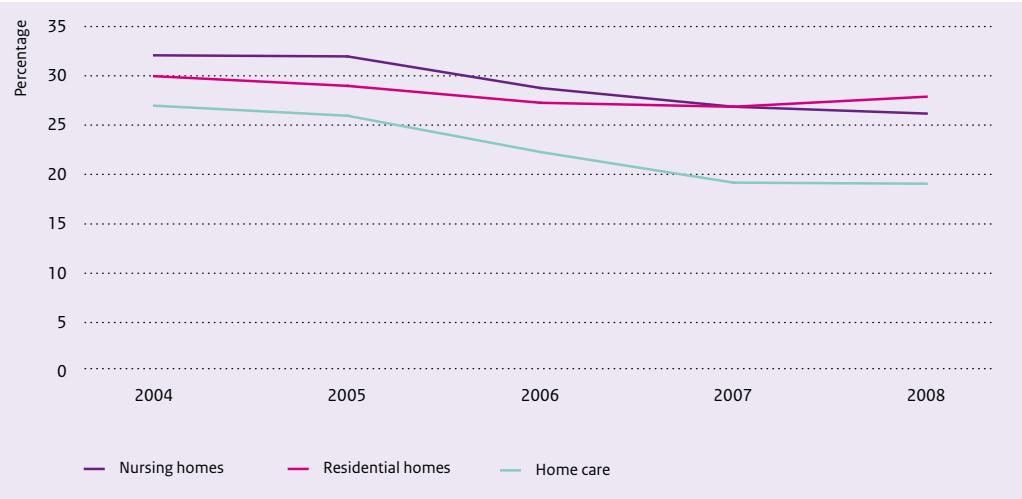
this question and 47% in nursing homes and residential homes. At least once a week, one third of nurses and carers asked themselves the question: 'Should I make overtime to prevent understaffing?'. Four in ten indicated that this dilemma is becoming more and more common (De Veer and Francke, 2009). Shortage of (qualified) staff and therefore lack of control remains a persistent problem in nursing homes. In the previous DHCPR we already reported that many nurses and carers indicated not to be able to guarantee the safety of clients at all times because of staff shortages. In nursing homes, more than 60% of nurses and carers said so. Understaffing and shortage of qualified staff can lead to undesirable situations. Sometimes, personnel may feel forced to restrict a person's freedom of movement by using physical restraints, such as fixation or gerichairs (De Veer et al., 2007).

**Approximately one quarter of clients in long-term care was malnourished in 2008; the initially downward trend seemed to have come to a standstill**

Nearly a quarter of clients in long-term care (excluding care for the disabled) was malnourished in 2008. Figure 2.4.3 shows the percentages of malnourished clients. Since 2005, the prevalence of malnutrition has fallen, especially in home care and nursing homes. After 2007 the figures seemed to have stabilised. There are significant differences in prevalence between the three categories, varying between 19% in home care clients to 27.8% in residential home clients.

Since 2004, malnutrition has been determined in the annual National Prevalence Survey of Care Problems (*Landelijke Prevalentiemeting Zorgproblemen* (LPZ)). Whether or not someone is suffering from malnutrition is determined on the basis of a combination of the body mass index (BMI) related to age, food intake in the past week and weight loss. Since 2006, the figures have been more reliable than those for earlier years, because of increasing numbers of participants being weighed.

**Figure 2.4.3: Prevalence of malnutrition (%), 2004-2008**

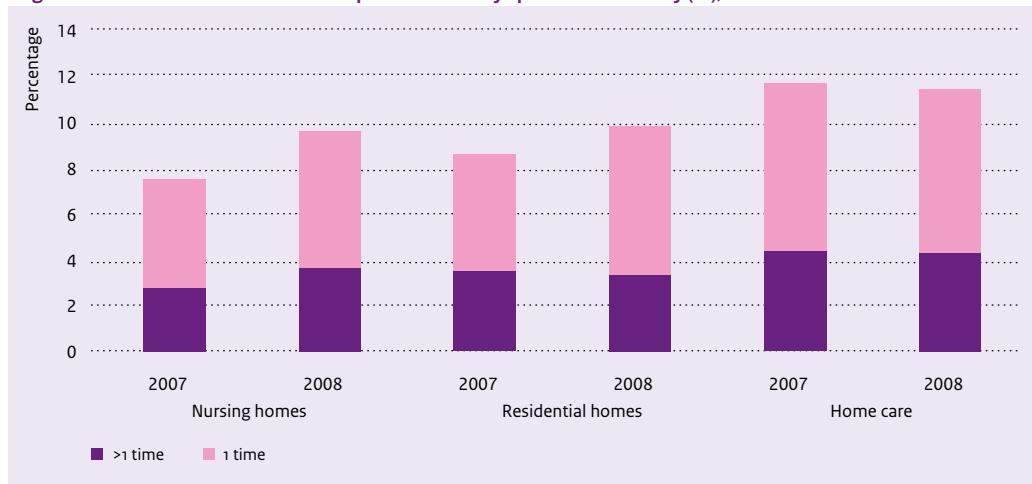


(Source: Halfens et al., 2008)

**In a period of 30 days, one in ten home care clients had a fall; in nearly half of these incidents the patient sustained an injury**

In 2007, falls were incorporated for the first time in the National Prevalence Survey of Care Problems. In 2008, the second measurement was performed. The incidence is determined over a period of 30 days prior to the survey. The number of 'fallers' is shown for three sectors in Figure 2.4.4. In home care, 11.4% of clients had a fall, in residential homes 9.8% of clients, and in nursing homes 9.6% of clients. In all three sectors, approximately one in four patients fell more than once. Figures from the Jaardocumenten zorg (Annual Care Documents) indicated slightly higher averages, respectively 12.1% for home care clients and 10.6% for clients in nursing homes and residential homes.

**Figure 2.4.4: Prevalence of falls in the period of 30 days prior to the survey (%), 2007 and 2008**



(Source: Halfens et al., 2007-2008)

The Centers for Medicare and Medicaid Services (CMS) measure falls in a similar way for the United States. The various states reported fall prevalences of between 10% and 20%, with an average of 13.1% for the entire United States in 2008 (CMS, 2008). Information from other countries is scarce. Many studies are dated and they usually report year prevalences. The WHO estimated that annually approximately 30% to 50% of people living in nursing homes and residential homes has a fall and 28% to 35% of elderly people who live independently. WHO based this estimate on six studies carried out between 1981 and 2002 in the United States, the United Kingdom, New Zealand and the Netherlands (Yoshida, 2009).

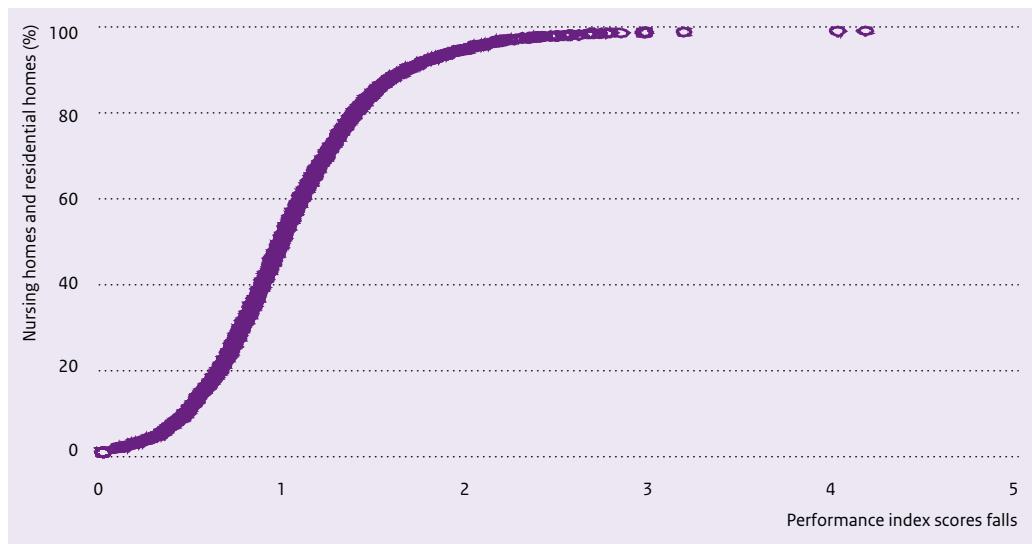
Falls resulted in injuries in over four out of ten cases. In a quarter of falls the injury was serious, like a hip fracture. Over 21% sustained moderate injuries, like cuts or abrasions. Falls remain a serious and common problem. Moreover, compared to 2007 this problem seems to have increased rather than decreased. There are various measures that can be taken to prevent (recurrent) falls or injuries resulting from falls. Examples include increasing exercise and physical activity, changing adverse environmental factors,

supervision or providing protectors. However, preventive measures are by no means applied where possible (Halfens et al., 2008).

Figure 2.4.5 shows the variation across nursing homes and residential homes. About half of the homes had a score that equalled or was below the expected value. The expected value equals the average, adjusted for care burden. That value is set at 1. Approximately 15% had a score of at least 1.5 times the expected value. Extreme scores of 2.5 or more were rare. The coefficient of variation was 0.24.

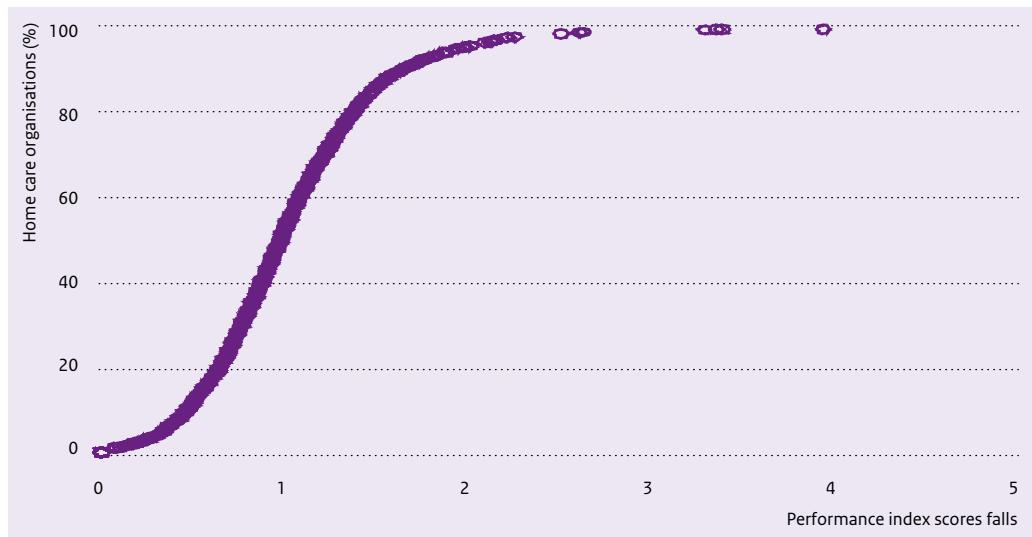
Figure 2.4.6 shows the variation in falls in home care settings. The variation was similar to that of nursing homes and residential homes. Nearly 60% had a score that equalled or was below the expected value. Only 11% had a value of 1.5 or higher. Again, extreme values were rare. Seven homes had a value that exceeded 2.5. The coefficient of variation was 0.27.

**Figure 2.4.5: Falls in nursing homes and residential homes, by home, 2008 (N=1581; performance index scores (initial rate divided by average))**



(Source: Jaardocumenten zorg)

**Figure 2.4.6: Falls in home care organisations, 2008 (N=1581; performance index scores (initial rate divided by average))**



(Source: Jaardocumenten zorg)

### **The number of rooms with multiple beds in nursing homes and residential homes has been declining; in 2008, this decline accelerated**

May 2009 there were 8799 places in rooms with multiple beds. In almost all cases, these were rooms that accommodated three persons (17%) or four persons (80%) (see Figure 2.4.7).

A multiple bedroom is defined as a room that accommodates at least three persons. There is broad consensus on the undesirability of multiple bedrooms as they allow little privacy. In 1998, the conversion of multiple bedrooms into double rooms and single rooms was started. The deadline for a 100% conversion rate was set at 2010. This deadline has not been met. If the conversions will continue at the average pace of the past five years, there will be no more multiple bedrooms by 2014.

**Figure 2.4.7: Number of places in rooms with multiple beds, 1998-2009**



(Source: College Bouw Zorginstellingen)

**In nine out of ten nursing homes, residential homes and facilities for psychogeriatric care there was always a doctor on call**

In 2008, nine out of ten nursing homes and residential homes (91%) could show that a doctor was on call 24/7. The doctor has to respond to a call within ten minutes and be on site within 30 minutes. The institutions had to demonstrate that a doctor was on call on the basis of their own registration. In nursing homes a nursing home doctor needs to be on call, in residential homes any doctor will do, and for a nursing ward at a residential home the doctor on call must be backed-up by a nursing home doctor (Plexus, 2009; Stuurgroep, 2007).

**Of nursing homes, residential homes and facilities for psychogeriatric care, 88% could demonstrate that their staff were competent to perform ‘reserved’ procedures, compared to 84% of home care organisations**

The Individual Health Care Professions Act (*Wet beroepen individuele gezondheidszorg* (BIG)) lists a number of reserved and/or risky procedures only designated health care professionals are allowed to perform. For nurses and a limited groups of carers these reserved procedures include giving injections, tube feeding, catheterisations and administering medication via a nebulizer. In 2008, 88% of nursing homes and residential homes could demonstrate that they tested whether their members of staff who performed reserved procedures had all the right qualifications. In 2007 that figure was 83%. Eighty four percent of home care organisations could show this, against 82% in 2007.

A practical test involves a member of staff performing a reserved act in the presence of an expert like a doctor or a nurse. The expert determines whether the act has been carried out properly and makes a report (Plexus, 2009; Stuurgroep, 2007).

## Conclusion

In recent years field parties, patient organisations and the government have worked hard to improve the measurability of quality of long-term care. The Evaluation Framework for Responsible Care has been developed. Institutions can use this framework as a tool to account for the quality of care they provide. In the future this information will provide care users with an increasing amount of choice information and enhance insight into the state of affairs at the system level. The latter pertains to, for instance, variation between institutions.

Previous agreements and actual policies aiming to improve matters in long-term care seem to translate themselves into positive developments. One example is the rapid decrease of multiple bedrooms. By the look of it, they will have ceased to exist within five years. This will hugely benefit the privacy of residents. The majority of users of long-term care that participated in a CQ survey was mostly positive about the care they received. Declining trends in pressure ulcers (see Section 2.5) and malnutrition were observed, although the latter trend now seems to be stabilizing. Furthermore, it could be demonstrated that the vast majority of institutions met a number of essential conditions for responsible care; in nine out of ten institutions a doctor was always on call and in 84% of institutions staff was demonstrably competent in performing reserved procedures.

The increased attention to quality of care has been beneficial and may well have more positive effects on care in the near future. Continuing on this road is important because there is also cause for concern. Long-term care is under pressure. The demand for care is growing and intensifying and becoming increasingly complex. Meanwhile, qualified staff is hard to find. There is also criticism of the quality of care, from both the users and providers of health care. Just one third of the representatives of psycho-geriatric patients qualifies physical care always as good. Nurses and carers in nursing homes are not always positive about the quality of care; a significant number considers it below standards. Section 2.6 on responsiveness also addresses the finding that due to the high workload in this sector, health care professionals cannot always provide the care they would want to. A concrete example is given in the National Prevalence Survey of Care Problems: adequate measures to prevent the recurrence of falls in people are not always taken.

Along with the efforts made to improve quality, the future challenges in long-term care will only increase; the number of elderly is rising and so are associated problems such as chronic diseases including dementia. For the period 2007-2010, the Ministry of Health allocated an additional sum of 248 million euro to employ more personnel, about 5000 to 6000 people, for care for the elderly (VWS, 2007c).

## 2.5 Patient safety

### Key findings

- Seventeen percent of Dutch chronically ill patients reported to have experienced a medical error during treatment; this percentage was low from an international perspective
- The hospital standardised mortality rate decreased in the period 2003-2008; in 2008 the mortality risk in hospitals with the highest rate was still 36% higher than in hospitals with an average rate
- In a period of 30 days, at least 7% of the residents of nursing homes and residential homes experienced an adverse drug event
- In 2008 / 2009, the percentage of patient contacts in 84 primary care practices that resulted in unintended adverse events varied between 0.06% in allied health care practices and 0.7% in GP practices
- In 2009, an average of 5.2% of hospital patients had a hospital-acquired infection
- In the period 2005-2008, the percentage of serious blood transfusion reactions per 1000 blood products fluctuated around 0.2%
- The prevalence of hospital-acquired pressure sores in at-risk patients decreased from 10.3% in 2004 to 5.3% in 2009 in general hospitals and from 10.3% to 9.8% in university hospitals
- The prevalence of pressure sores in nursing homes, residential homes and in home care declined further; the decline was steepest in residential homes, from 4.4% to 2.6%
- In 2008, 13.4% of hospitals performed less abdominal aortic aneurysm operations than is the norm; for esophageal cancer resections this was 4.1% of hospitals
- In the period 2003-2007, the percentage of Pharmacotherapeutic Consultation groups functioning at level 3 or 4 rose steadily to 50%

### How we determine patient safety

Patient safety has been high on the policy agenda for a few years now, and many initiatives have been developed in most health care sectors and within institutions with the aim to enhance patient safety. Subsequent to the EMGO/NIVEL study on adverse events in Dutch hospitals (De Bruijne et al., 2007), the hospital sector has developed the safety programme 'Avoid harm, work safely' and hospitals are obligated to have an accredited safety management system at the end of 2012. In addition, hospitals need to report annually to the Health Care Inspectorate about their performance using performance indicators, a number of which are related to safety. In primary care, Harmsen et al. (2009) recently conducted a study into adverse events in primary care. In addition, a system for safely reporting incidents in this sector is being developed to be introduced by the end of 2011. In mental health care a first case study in adverse events was conducted (Peters et al., 2009). And, 80% of mental health care institutions is to have implemented a safety management system by 2010. As to long-term care, the Evaluation Framework for Responsible Care and the Evaluation Framework for Care for the Disabled have been

developed, with both addressing safety issues. All these initiatives reflect a growing emphasis on patient safety and an increasing willingness to promote it.

### Indicators

- Percentage of chronically ill people that experienced medical errors with regard to
  - drugs or dose of drugs
  - treatment or care
  - test results
- Hospital standardised mortality rate
- Percentage of patient contacts in primary care that resulted in unintended harm
- Percentage of residents of nursing homes and residential homes that experienced an adverse drug event
- Percentage of patients with a hospital-acquired infection
- Percentage of serious blood transfusion reactions per 1000 blood products
- Percentage of patients with hospital-acquired pressure sores
- Percentage of patients with pressure sores acquired in nursing homes, residential homes or in home care
- Percentage of hospitals that performed less than the minimum number of AAA or OCR operations
- Percentage of Pharmacotherapeutic Consultation groups functioning at level 3 or 4

### The current state of affairs

#### **Seventeen percent of Dutch chronically ill patients reported to have experienced a medical error during treatment; this percentage was low from an international perspective**

In the Netherlands 17% of chronically ill patients reported to have experienced a medical error while being treated or cared for in the past two years (see Table 2.5.1). This percentage is low compared to seven other Western countries with percentages between 18% and 34%. Six percent of the Dutch patients indicated that they had been given the wrong medication or wrong dose; in the other countries this percentage varied between 7% and 14%. At 1%, the percentage of incorrect laboratory test results was lowest in the Netherlands; in other countries this percentage varied between 3% and 7%. As in France and Germany 5% of chronically ill in the Netherlands reported delays in being notified about abnormal test results, in the remaining five countries the percentages were significantly higher at 8% to 16% (Schoen et al., 2008).

The majority of errors reported were made outside the hospital. This is particularly striking because the campaigns designed to increase patient safety focus primarily on hospitals. In all countries the number of errors reported was significantly higher when four or more doctors were involved in the treatment instead of one or two doctors.

**Table 2.5.1: Adults with a chronic condition who reported that they experienced unsafety in curative care - medical errors (%), by country, 2008**

	NI	Ger	Fr	UK	Aus	Can	NZ	US
In past 2 years have you been given the wrong medication or wrong dose? (yes)	6	7	8	9	13	10	13	14
In past 2 years was there a time when you thought a medical mistake was made in your treatment or care? (yes)	9	12	8	8	17	16	15	16
In past 2 years have you been given incorrect results for diagnostic or lab test? (yes)	1	5	3	3	7	5	3	7
In past 2 years have you experienced delays in being notified about abnormal results? (yes)	5	5	5	8	13	12	10	16
Any medication, medical or lab errors	17	19	18	20	29	29	25	34
Did the error occur during your stay in hospital (no)	66	61	74	75	75	83	72	79

(Source: Schoen et al., 2008)

Aus = Australia; Can = Canada; Fr = France; Ger = Germany; NI = the Netherlands; NZ = New-Zealand; UK = United Kingdom; US = United States

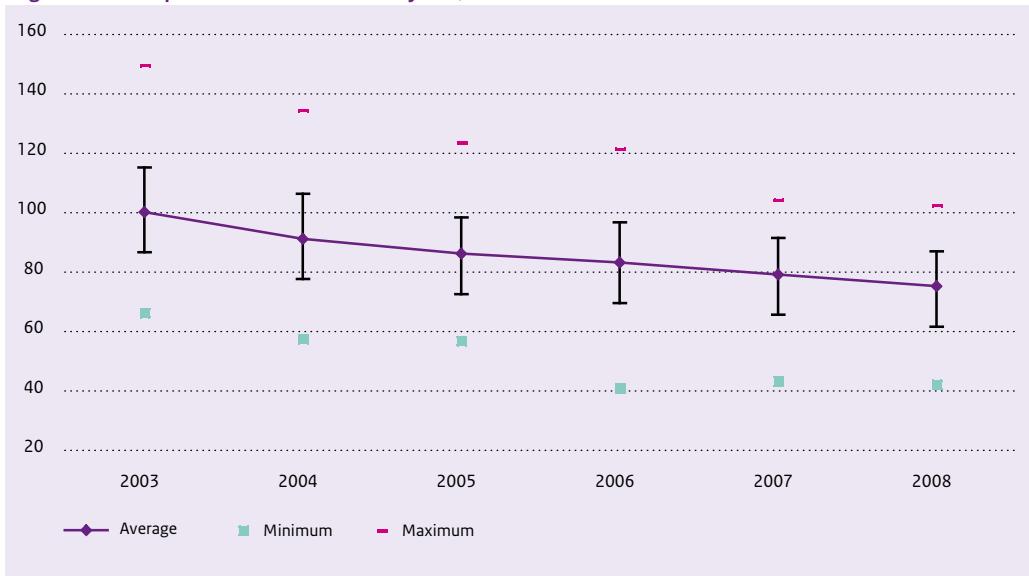
### The hospital standardised mortality rate decreased in the period 2003-2008; in 2008 the mortality risk in hospitals with the highest rate was still 36% higher than in hospitals with an average rate

The Hospital Standardised Mortality Rate (HSMR) aims to compare hospitals as to the outcome measure hospital mortality. The HSMR of a hospital is a measure that enables the mortality risk in a hospital to be expressed in relation to other hospitals (Jarman et al., 1999; Heijink et al., 2008). This measure concerns total mortality and not just avoidable mortality. Calculations are statistically adjusted for differences in age, gender, primary diagnosis and length of stay between patient populations in Dutch hospitals.

As is shown in Figure 2.5.1, the HSMR decreased steadily in the period 2003-2008. For 2003, the index year, the average was set at 100. In 2008, the average was 75, a decrease of 25%. The spread between hospitals remained significant and hardly declined. In 2008, the mortality rate in the hospital with the highest HSMR was 36% above average. The hospital with the lowest mortality rate scored 44% below average.

The data presented relate to 75 hospitals, which were analysed for six consecutive years. The HSMR appeared to be relatively stable between years. The correlations between the scores of consecutive years are high: 0.73 to 0.83.

**Figure 2.5.1: Hospital standardised mortality rate, 2003-2008**



(Source: Prismant; data analysis by RIVM)

**In 2008 / 2009, the percentage of patient contacts in 84 primary care practices that resulted in unintended adverse events varied between 0.06% in allied health care practices and 0.7% in GP practices**

In twenty dental practices, 8 (0.2%) adverse events resulting in unintended, unnecessary harm occurred in 3820 patient contacts. In twenty GP practices, 58 (0.7%) of 8401 patient contacts resulted in unintended, unnecessary harm; it concerned mainly temporary, not serious injury. Seven incidents required hospitalisation. The number of adverse events in four GP co-operatives was a mere six. In twenty allied health care practices two incidents occurred that resulted in permanent harm (Harmsen et al., 2009). No adverse event resulted in the death of a patient in any of the practices.

**Table 2.5.2: Adverse events with unintended harm in five primary care disciplines, 2008/2009**

	Adverse events / number of contacts	Adverse events with unintended harm	Monitoring needed (%)	Emotional harm (%)	Temporary harm (%)	Temporary harm + hospital admission (%)	Permanent harm (%)
20 GP practices	211 / 8,401	58 (0.7%)	57	7	24	12	0
4 GP cooperatives	24 / >1000	6	0	0	83	17	0
20 allied health care practices	18 / 16,764	10 (0.06%)	20	20	20	20	20
20 dental practices	8 / 3,820	8 (0.2%)	100	0	0	0	0
20 midwife practices	86 / 14,888	25 (0.17%)	36	24	36	4	0

(Source: Harmsen et al., 2009)

The percentages are low, but because a large part of the Dutch population visits a primary care practice at least once a year, the absolute numbers are substantial. It is estimated that 70,395 people are confronted annually with an adverse event that may require hospital admission. These data are derived from a patient record study into patient safety in primary care (Harmsen et al., 2009). For each of five primary care sectors 1000 patient records were reviewed covering a period of one year.

#### **In a period of 30 days, at least 7% of the residents of nursing homes and residential homes experienced an adverse drug event**

For an average of 7.2% of the residents of nursing homes and residential homes an adverse drug event was registered in a period of thirty days. Adverse drug events include:

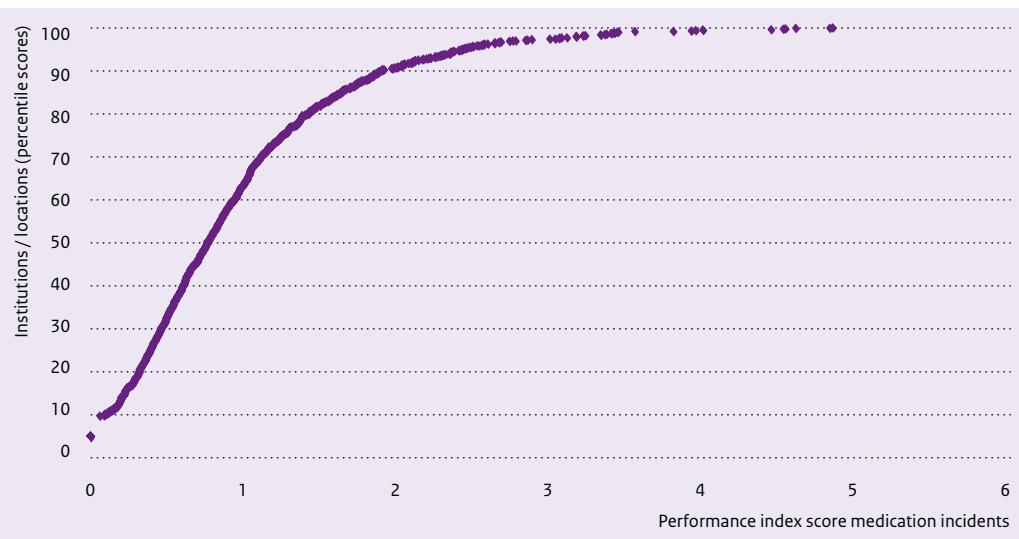
- drug not given,
- wrong drug given,
- incorrect dose given,
- drug given at the wrong time,
- client not taking the drug,
- other.

Because many adverse drug events are likely to go unnoticed and will not be registered, the figure can be considered as a kind of minimum score. Approximately 10% of institutions reported no adverse drug events. It is unclear whether these institutions do not record medication incidents or whether such incidents barely occur there.

Figure 2.5.2 shows the variation between institutions. Over 63% of institutions has a value on the performance score at or below the expected value (1). Eighteen percent of institutions has a score of 1.5 or higher. This means that the number of drug events exceeds the expected value by 50%. Again, high-quality registration can result in a higher score. A small number of institutions, about 3%, reported

numbers three or four times as high as the expected value. One institution has been excluded as it had a score of 8. The coefficient of variation was 0.64.

**Figure 2.5.2: Medication incidents in a period of 30 days, by institution or location, 2008 (N=1226; performance index scores (initial rate divided by average))**



(Source: Jaardocumenten Zorg)

### In 2009, an average of 5.2% of hospital patients had a hospital-acquired infection

Since March 2007, PREZIES (PREventie van ZIEkenhuisinfecties door Surveillance, Prevention of hospital-acquired infections through surveillance) has been carrying out a semi-annual prevalence study into hospital-acquired infections. The most frequent hospital-acquired infections are surgical site infections, symptomatic urinary tract infections, pneumonia and sepsis. There is a wide variation between hospitals; March 2009 the percentage of patients with hospital-acquired infections varied between 1.4% and 9.3% in 37 hospitals (see Table 2.5.3). This is partly caused by differences in patient population (case-mix).

Against this backdrop, it makes sense to investigate differences between hospitals for a cluster of procedures. Table 2.5.4 presents the percentage of surgical site infections for three main groups of procedures (CTG-groups) of the initial operating theatre. These three groups were selected because they cover the largest number of patients. Surgical site infections occurred most frequently with surgery of the digestive system (PREZIES data; data analysis PREZIES).

**Table 2.5.3: Patients with hospital-acquired infections, 2007-2009**

	March 2007 (95% CI)	Oct. 2007 (95% CI)	March 2008 (95% CI)	Oct. 2008 (95% CI)	March 2009 (95% CI)	Oct. 2009 (95% CI)
Number of hospitals / patients	30 / 8,424	12 / 3,497	29 / 9,449	23 / 5,760	37 / 10,471	22 / 5,732
Patients with hospital-acquired infections (%)	6.6 (6.1-7.2)	4.7 (4.0-5.4)	6.4 (5.9-6.9)	5.9 (5.3-6.5)	5.0 (4.6-5.4)	5.5 (5.0-6.1)
• symptomatic urinary tract infection	2.2	1.3	1.4	1.8	1.3	1.1
• pneumonia	1.1	0.8	1.2	1.1	0.8	1.1
• sepsis	0.9	0.8	1.1	0.8	0.8	0.9
Difference between hospitals: lowest and highest %	1.7-15	0.7-8.1	0.6-12.1	0.7-10.9	1.4-9.3	0.9-9.1
People who had surgery with surgical site infections (%)	4.6	3.3	5.5	5.0	4.0	4.7

(Source: PREZIES data; data analysis by PREZIES)

CI = confidence interval

**Table 2.5.4: Patients with surgical site infections within three CTG main groups (%), 2007-2009**

Surgical procedures on	Patients with surgical site infections (95% CI)					
	March 2007	Oct. 2007	March 2008	Oct. 2008	March 2009	Oct. 2009
Digestive system	11.7 (9.5-14.4)	6.8 (4.4-10.3)	13.4 (10.9-16.2)	12.5 (9.7-16.0)	8.7 (6.9-10.9)	9.3 (6.8-12.5)
Cardiovascular system	4.4 (2.6-7.2)	1.6 (0.4-5.7)	3.9 (2.4-6.2)	4.8 (2.6-8.9)	5.7 (3.9-8.1)	4.2 (2.1-8.0)
Musculoskeletal system	2.8 (1.9-4.0)	2.5 (1.4-4.5)	4.2 (3.1-5.6)	3.3 (2.2-5.1)	2.0 (1.3-3.0)	4.5 (3.2-6.5)

(Source: PREZIES data; data analysis by PREZIES)

CI = confidence interval

Records of hospital-acquired infections are incomplete and they are poorly comparable internationally. To give an impression of how the Netherlands compares to other countries, we present the result of a review of European Centre for Disease Prevention and Control (ECDC). The review estimated prevalences of hospital-acquired infections for a number of European countries and Canada on the basis of national surveys (ECDC, 2008) (see Table 2.5.5). The most common nosocomial infections were urinary tract infections, lower respiratory infections including pneumonia, sepsis and surgical site infections. The percentage for the Netherlands in 2007 was later revised (see Table 2.5.4). The Dutch level was relatively low, only Germany and France scored significantly lower, that is 3.5% and 5% respectively.

**Table 2.5.5: Patients with hospital-acquired infections in Western European countries and Canada**

	Can	Swe	Den	Fin	Swi	UK+ Ire	Nl	Nor	Sp	Fr	Ger
Surgical site infections per 100 admissions	10.5	9.5	8.7	8.5	8.1	7.6	6.9	6.8	6.8	5.0 <sup>1</sup>	3.5
Survey years	2002	2004- 2006	2003	2005	2002	2006	2007	2002- 2007	2004- 2007	2005	1997

(Source: ECDC, 2008)

<sup>1</sup> acute care only

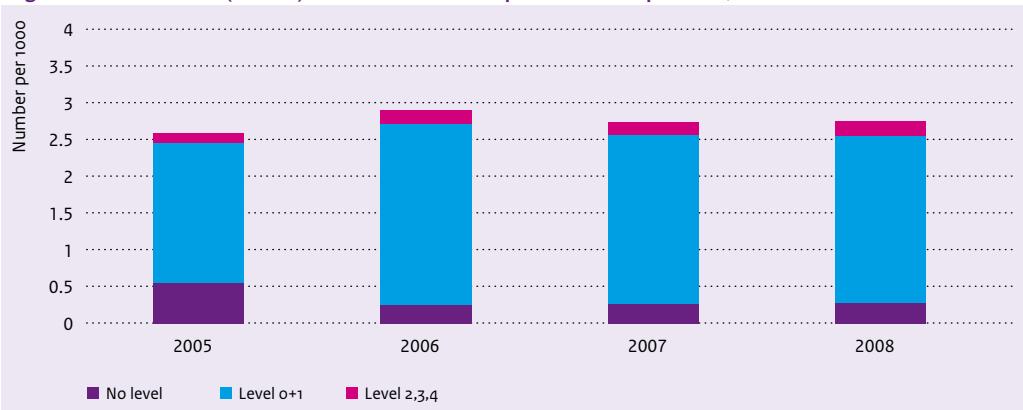
Can = Canada; Den = Denmark; Fin = Finland; Fr = France; Ger = Germany; Nl = the Netherlands; Nor = Norway; Sp = Spain; Swe = Sweden; Swi = Switzerland; UK+Ire = United Kingdom + Ireland;

**In the period 2005-2008, the percentage of serious blood transfusion reactions per 1000 blood products fluctuated around 0.2%**

Blood transfusion reactions can be distinguished by level of severity. They are considered serious if they are fatal (level 4), lead to serious morbidity that is immediately life-threatening (level 3), result in moderate to serious, potentially life-threatening, morbidity, prolong hospitalisation or morbidity, or cause chronic disability or incapacity for work (level 2) (TRIP, 2009). With the lowest level of severity (level 1), clinical reactions do occur, but they are not serious and do not prolong hospitalisation.

Since 2003 the National Bureau for Haemovigilance TRIP (Transfusion Reactions in Patients) has been in charge of the national registration of transfusion reactions. In 2008, TRIP registered 2.8 transfusion reactions per 1000 blood products supplied, with 0.2/1000 reactions being serious. Although the total number of transfusion reactions is relatively stable, the number of serious reactions increased slightly (2005: 0.13; 2006: 0.18; 2007: 0.16; 2008: 0.2) (see Figure 2.5.3). The increase in serious reactions in 2006 can be attributed to the definition of level 2 being extended to include 'prolonging hospitalisation' in line with the EU definition.

**Figure 2.5.3: Number of (serious) transfusion reactions per 1000 blood products, 2005-2008**



(Source: TRIP, 2006-2009)

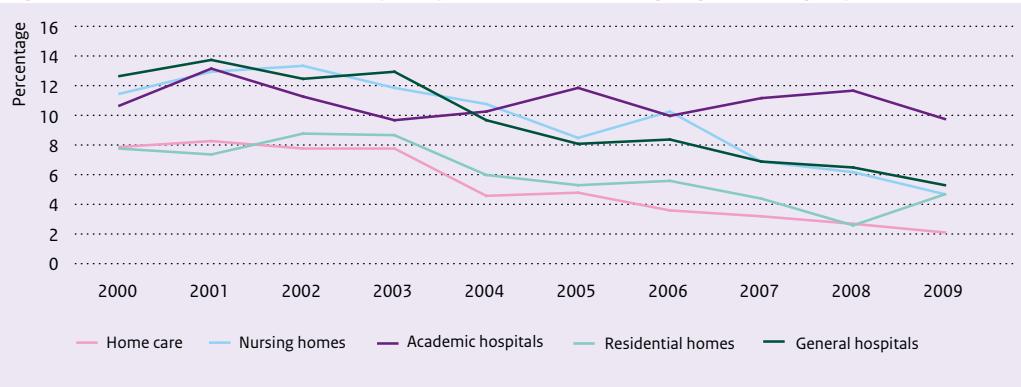
**The prevalence of hospital-acquired pressure sores in at-risk patients decreased from 10.3% in early 2004 to 5.3% in 2009 in general hospitals and from 10.3% to 9.8% in university hospitals**

In 2009, the prevalence of pressure sores among patients admitted to a general hospital was 9.9% and among patients admitted to a university hospital 14.9% (Halfens et al., 2009). These prevalences include all levels of severity (1-4) and all cases of pressure sores irrespective of whether these are hospital-acquired (nosocomial) or not. As the lowest level, stage 1, is hard to diagnose, it is left out of consideration (Halfens et al., 2001).

For the prevention of pressure sores it is important to know which patients are at an elevated risk. Risk groups are defined by scores on the Braden scale; the lower the score, the higher the risk. Measured by this scale, the percentages of patients at risk differ little between academic hospitals and general hospitals: approximately 54% and 52% respectively in 2008 (Halfens et al., 2008).

Figure 2.5.4 shows that early 2004 the prevalence of hospital-acquired pressure sores (stage 1 excluded) in risk groups was the same in general hospitals and academic hospitals and diverged strongly thereafter. In general hospitals the prevalence fell from 10.3% in 2004 to 5.3% in 2009. The prevalence in university hospitals fluctuated around 11% for years, to decline to 9.8% in 2009. Halfens et al. (2009) suggest that the strong decrease in general hospitals is associated with an increased focus on pressure ulcers.

**Figure 2.5.4: Prevalence of institution-acquired pressure sores, excluding stage 1, in risk groups (%), 2000-2009**



(Source: Halfens et al., 2005-2009)

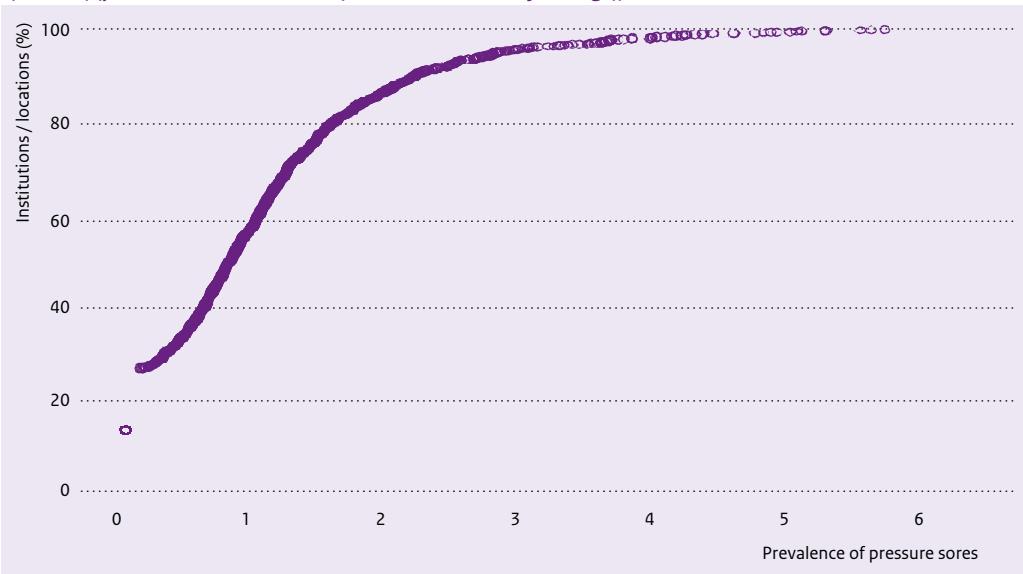
### The prevalence of pressure sores in nursing homes, residential homes and in home care declined further; the decline was steepest in residential homes, from 4.4% to 2.6%

Since 2003, the prevalence of pressure ulcers has shown a downward trend overall (see Figure 2.5.4). In 2008, the prevalence of pressure ulcers was still highest in nursing homes, with more than 6% in at-risk clients. Yet, six years earlier, in 2002, the prevalence of pressure ulcers in nursing homes had been twice as high. In 2008, the prevalences of pressure sores in at-risk clients in home care and in nursing homes were at more or less similar levels: 2.7% and 2.6% respectively. That is roughly one third of the prevalence in 2002. This decrease was not caused by a lower proportion of at-risk clients, but more likely by an increased attention to this problem, as in general hospitals. In 2009, the Annual Survey of Care Problems (LPZ) measurements no longer distinguished between nursing homes and residential homes; nursing homes and residential homes have become increasingly alike in the care they provide.

Since 2007, decubitus has also been registered as part of the Evaluation Framework for Responsible Care. These data are slightly higher than the survey figures, as more institutions are included. The figures give an impression of the variation between institutions.

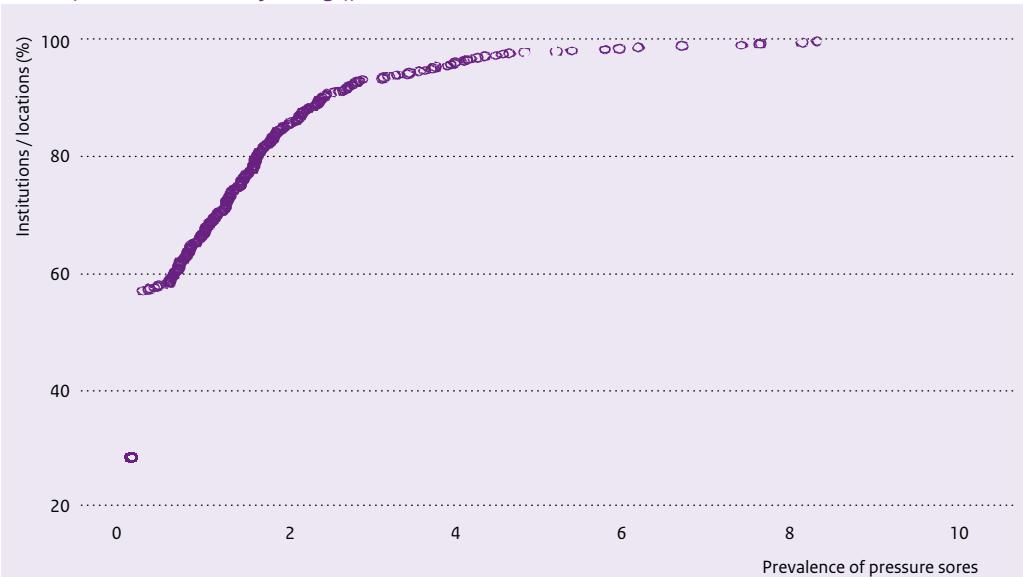
Figures 2.5.5a and 2.5.5b show the cumulative percentages of nursing homes, residential homes and home care for registered cases of decubitus for the year 2008. The number of cases registered is presented in terms of a performance score. This score is calculated by dividing the initial score by the expected score. The expected score is the average score adjusted for a number of population characteristics. A score exceeding 1 means that the prevalence of pressure ulcer cases is higher than would be expected on the basis of characteristics of the client population. A score of less than 1 indicates that the prevalence of pressure ulcers is lower than expected (Jaardocumenten zorg, 2009).

**Figure 2.5.5a: Pressure sores in clients of institutions for nursing and caring, by institution or location, 2008 (N=1577) (performance index scores (initial rate divided by average))**



(Source: Jaardocumenten Zorg)

**Figure 2.5.5b: Pressure sores in home care clients, by institution or location, 2008 (N=577) (performance index scores (initial rate divided by average))**



(Source: Jaardocumenten Zorg)

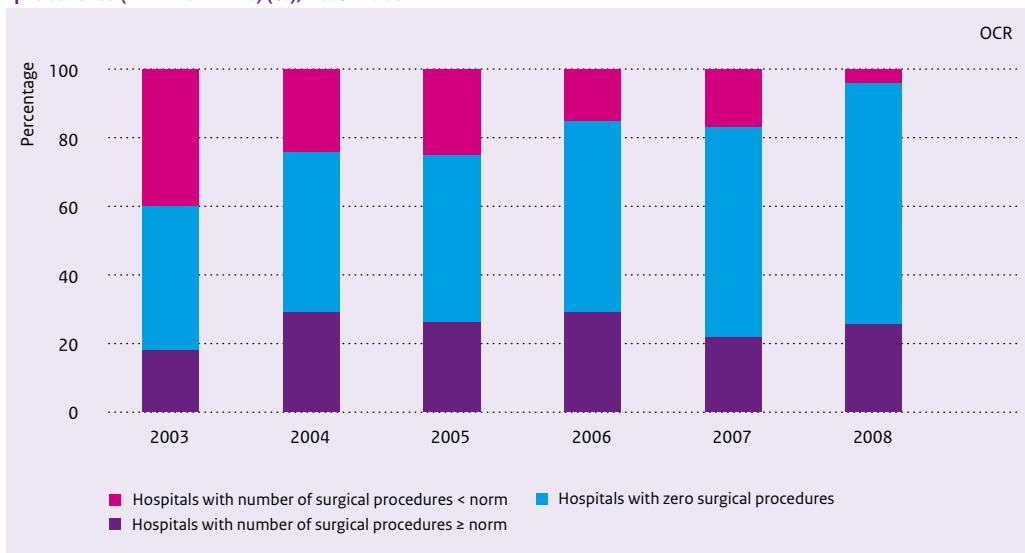
Figure 2.5.5a indicates a considerable variation across nursing homes and residential homes. Approximately 60% of homes had a score equalling or below the expected level, over 25% had a zero score and approximately 22% scored over 1.5 times the expected value. Three institutions with an extremely high score (over 6) were not included in the graph. The coefficient of variation was 0.92. The variation between home care organisations was somewhat higher than that for nursing homes and residential homes. Many homes reported no pressure ulcers at all (nearly 57%) and approximately 20% had a score at least 1.5 times as high as the expected value. The coefficient of variation was 1.7.

These figures should be interpreted with caution. A significant number of institutions did not report any decubitus cases. This may well be due to institutions not recording properly. It might also explain the slightly lower average figures compared to the National Survey (LPZ) figures.

**1In 2008, 13.4% of hospitals performed less abdominal aortic aneurysm operations than is the norm; for esophageal cancer resections this was 4.1% of hospitals**

To keep surgical expertise up to standard and to promote safety, surgeons and hospitals should perform a minimal volume of surgical procedures, especially of high-risk procedures. Abdominal aortic aneurysm (AAA) surgery (repair of localised dilatation of the abdominal aorta) and oesophageal cancer resection (OCR) are such high-risk procedures. It is evident from the literature that the hospital mortality rates for both procedures are lower in high-volume hospitals (IGZ, 2005). For both procedures, the Health Care Inspectorate (IGZ) requires hospitals to perform a minimum number per year. For OCR this norm is 10 (until 2003: 15) and for AAA surgery it is 15 (until 2004: 30) (NVvH, 2009). The percentage of hospitals that performed fewer procedures than the norm was 13.4% for AAA repair and 4.1% for OCRs in 2008. This means a slight increase in AAA procedures compared to 2007, but a significant decrease of 16.7% to 4.1% in OCR procedures (see Figure 2.5.6a and 2.5.6b). This decrease was primarily due to activities by the Inspectorate (IGZ, 2009). In addition, an increasing number of hospitals does not perform any OCRs at all, but refers patients to other hospitals.

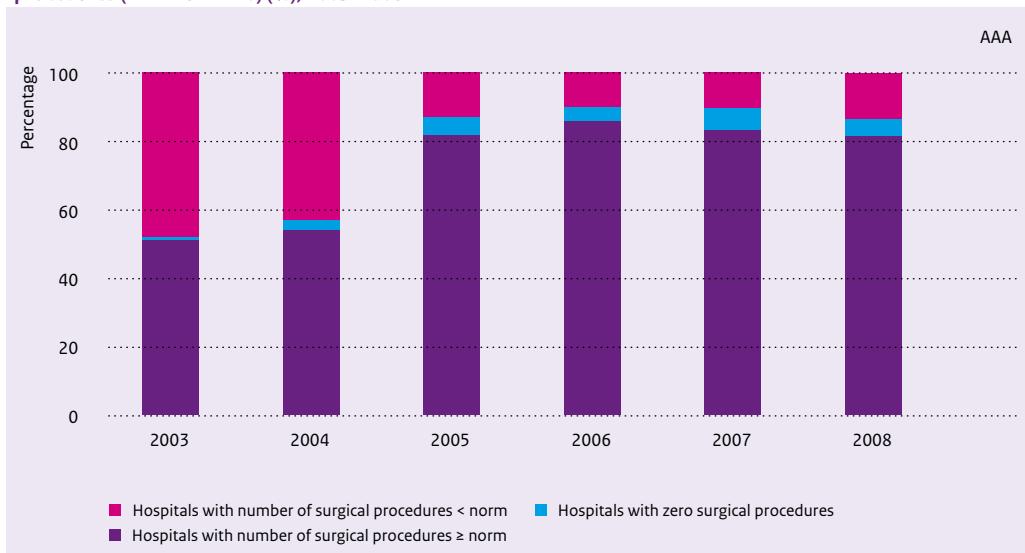
**Figure 2.5.6a: Hospitals that performed zero, less or more than the minimal number of OCR surgical procedures (minimum = 10) (%), 2003-2008**



(Source: IGZ, 2006-2009)

OCR = oesophageal cancer resection

**Figure 2.5.6b: Hospitals that performed zero, less or more than the minimal number of AAA surgical procedures (minimum = 10) (%), 2003-2008**



(Source: IGZ, 2006-2009)

AAA = abdominal aortic aneurysm

**In the period 2003-2007, the percentage of Pharmacotherapeutic Consultation groups functioning at level 3 or 4 rose steadily to 50%**

The aim of the Pharmacotherapeutic Consultation (FTO) is to improve the quality and thereby safety of medication dispensing (DGV, 2007). For both GPs and pharmacists participation in these consultations is an accredited form of continuing education; more than 90% of all GPs and pharmacists is estimated to participate (DGV, personal communication). Pharmacotherapeutic consultations are classified by level of functioning, with level 4 being highest and level 1 being lowest. Level 1 involves irregular consultations, level 2 regular consultations but no clear agreements, level 3 regular consultations and concrete agreements, and level 4 regular consultations and evaluation of agreements.

Major topics of the consultations are medication for a wide variety of disorders, polypharmacy, new medicines and patient compliance. Agreements concern generic and preferred medications, repeat prescriptions and who is doing what in monitoring medication safety. The Ministry of Health considers the performance of these groups to be an important indicator of the regional efficiency of medication dispensing and aimed for at least 80% of the groups to function at level 3 or 4 in 2007 (Rijksbegroting, 2007). Table 2.5.6 shows that the number of consultation groups functioning at level 3 or 4 increased slightly but steadily to 50% in 2007. The Dutch Institute for Rational Use of Medicine (DGV) did not conduct a survey of Pharmacotherapeutic Consultations for the year 2008.

**Table 2.5.6: Pharmacotherapeutic Consultation (FTO) groups functioning at level 3 or 4, 2003-2007**

	2003	2004	2005	2006	2007
Total number of FTO groups	823	824	819	829	844
FTO groups at level 3 or 4 <sup>1</sup>	40%	43%	47%	49%	50%

(Source: DGV, 2005-2008)

<sup>1</sup> FTO-groups that participated in the DGV FTO-survey. In the years 2003-2007 participation rates were 78%, 78%, 69%, 80% and 80% respectively

In 2008, Meulepas conducted a study of the relationship between the level of functioning of the consultations and the quality of prescribing by GPs. Scores on prescribing indicators were calculated by region and related to regional differences in level of functioning. In regions with a high percentage of consultations on level 3 and 4, excluding regions with many dispensing GPs - who do not participate in the consultations - a number of significant relationships were found indicating a better prescription behaviour of GPs. It was found that relatively more patients undergoing antithrombotic treatment take nitrate medications, patients taking bisphosphonate show better compliance, preferred RAS inhibitors are more often prescribed, there is less overtreatment with triptans, asthma patients are treated better with inhaled corticosteroids, and less thiazolidinediones and proton pump inhibitors are prescribed.

## Conclusion

At various levels in health care people are working hard to promote patient safety. For a number of indicators these efforts are beginning to bear fruit. The HSMR decreased with an average 25% in the period 2003-2008, and the spread between hospitals was also reduced. The prevalence of pressure ulcers in nursing homes, residential homes, home care and general hospitals showed a steady decline. The percentage of hospitals that performed fewer OCR procedures than the standard has fallen considerably. In the near future, the results of the hospital safety programme 'Avoid harm, work safely' will be made public; intermediate results of sub-projects seem promising.

Many figures remain uncertain: registration reliability remains a major concern, especially when it involves concepts like 'avoidable harm' that are hard to define and measure. Especially with data that is supplied by institutions and not directly applied in the health care process, the outcomes tend to be very uncertain.

## 2.6 Responsiveness

### Key findings

- Nine out of ten patients were positive about the way they were treated by health care providers
- The percentage of care users that said that they were always treated politely ranged from 97% for physiotherapists to 70% for nursing homes and residential homes
- Especially in care for the disabled, in child health centres and by physiotherapists patients were given understandable explanations
- In curative care, patients were more likely to participate in decision making about care than in long-term care
- Nearly a quarter of the residents of nursing homes and residential homes said that carers never or sometimes spent enough time with them
- Seven out of ten clients in mental health care were of the opinion that their treatment plan or support plan was carried out in accordance with their wishes

### How we determine responsiveness

There is no such person as 'the care user'. Each patient or client has his or her individual needs and desires. Apart from the fact that care must be effective and safe, for care to be of good quality it needs to be responsive to the needs of the care users. Responsiveness was also an important consideration in establishing the Health Insurance Act (Zvw). The government defines the concept of responsive care as care that meets the needs of clients and that clients may expect on the basis of their health insurance. This definition reflects that health care is not an unlimited resource. Health care opportunities are limited by health care providers' professional responsibilities on the one hand and financial constraints on the

other.

Another term used to denote the concept of responsiveness is demand-orientation. The Dutch Patient and Consumer Federation (NPCF) defines demand-oriented health care as health care that is organised in such a way that the wishes of the clients are actually determining the type of care that is provided.

Responsiveness can be realised at different levels: at the system level (macro), at the level of institutions (meso) and at the level of individual health care users (micro). At the macro-level, responsiveness is promoted by legislation and by the way health care is being funded. This is discussed in detail in Chapter 5. Responsiveness at the meso-level implies that health care is demand-driven rather than provider-driven. Demand-driven care requires good co-ordination and co-operation between health care providers. This aspect is elaborated in Section 2.7. Another aspect of responsiveness at the meso-level is the extent to which the patients' wishes are considered leading *within* organisations and employees are actually encouraged to integrate responsiveness in the care they provide.

At the-level of the individual contact between carer and care user, responsiveness is primarily a matter of communication. Information asymmetry is a common characteristic of health care; for patients to be able to decide what they want, they need to be well informed about different treatment options and their possible benefits and drawbacks. When patients have sufficient time and are treated properly, they will be encouraged to make their wishes known. Patients' involvement in the decision making about the content of care should not depend only on the assertiveness and competence of patients, but patients should be supported in their decision making. In long-term care responsiveness is primarily a matter of enabling patients to live their lives the way they want to. It may involve basic things such as determining themselves when to eat, go the toilet, or get out of bed.

## Indicators

The available information on responsiveness is limited. As the health care user is central to this concept, the data primarily focuses on the experiences of health care users. The following indicators are dealt with in this section:

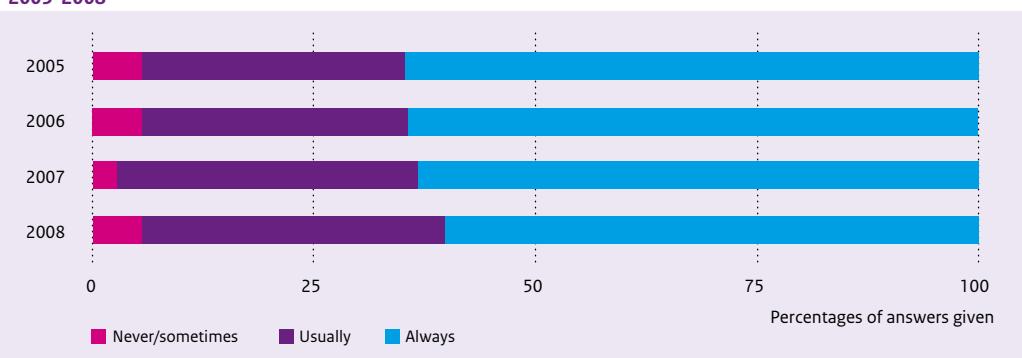
- Experienced interpersonal conduct
- Experienced polite treatment
- Receiving understandable information
- Involvement in decision making about care
- Extent to which health care providers take sufficient time for patients
- Fulfilment of care wishes of clients in mental health care

## The current state of affairs

### Nine out of ten patients were positive about the way they were treated by health care providers

Figure 2.6.1 shows that over 90% of patients was positive about health care providers' behaviour towards them. This percentage has been fairly stable over the years. Approximately one third of respondents indicated that they were usually positive about health care providers' interpersonal conduct. These figures are based on questions about the extent to which health care providers are polite and respectful, take patients seriously, listen carefully, take sufficient time and explain things understandably.

**Figure 2.6.1: Patients who reported that they were satisfied with care providers' behaviour towards them (%), 2005-2008**

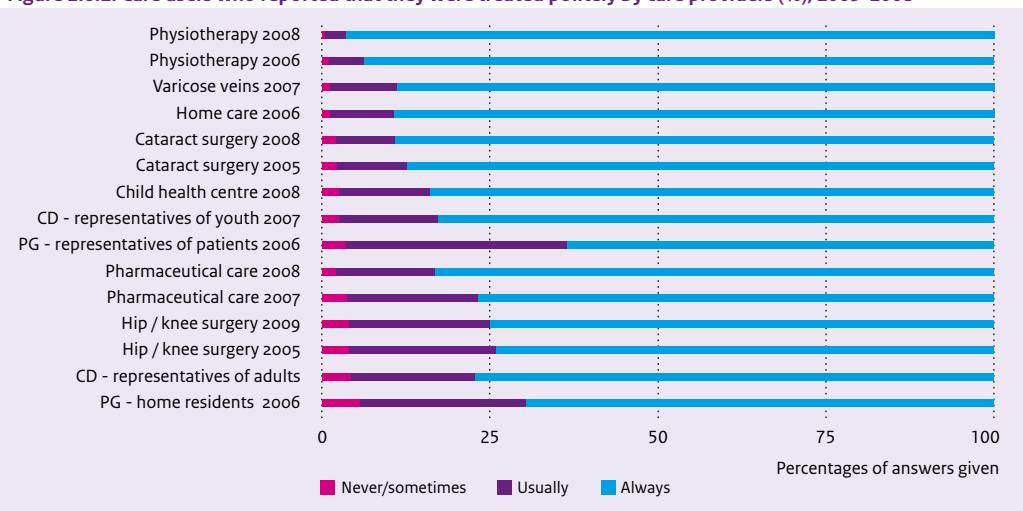


(Source: CKZ / NIVEL, 2010)

### The percentage of care users that said that they were always treated politely ranged from 97% for physiotherapists to 70% for nursing homes and residential homes

Figure 2.6.2 reflects for different types of care to what extent people experienced care providers as being polite. Few people indicated never or sometimes to have experienced care providers as being polite. Data for several years was available for physiotherapy, cataract surgery and hip or knee surgery. The differences between years appeared to be negligible. People were most positive about physiotherapists. Residents of nursing homes and residential homes and representatives of psychogeriatric patients were least positive.

**Figure 2.6.2: Care users who reported that they were treated politely by care providers (%), 2005-2008**



(Source: CKZ / NIVEL, 2010)

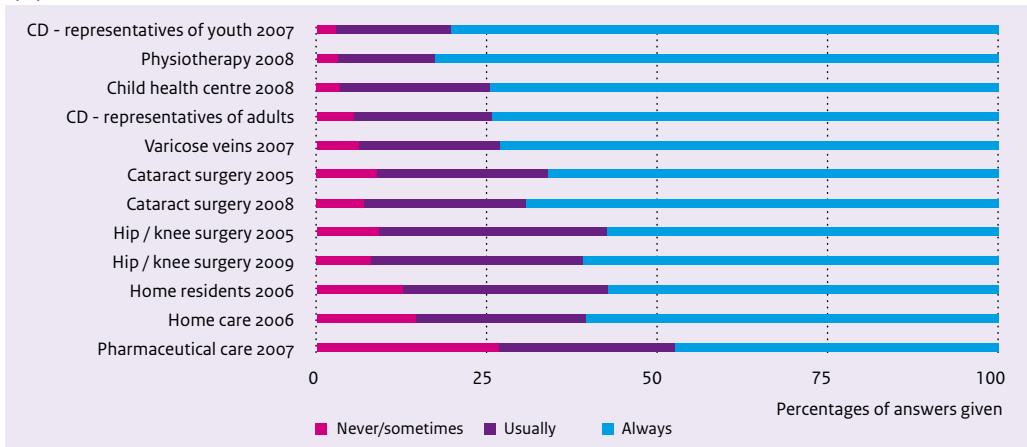
CD = care for the disabled; PG = psychogeriatric care

### Especially in care for the disabled, in child health centres and by physiotherapists patients were given understandable explanations

Figure 2.6.3 shows how often people thought that things were explained understandably. Especially representatives of disabled people, clients of physiotherapists and parents visiting the child health centre appeared to be positive in this respect. At least 75% of them reported that they were always given an understandable explanation, and 15% to 20% that they usually were. Residents of nursing homes and residential homes and home care clients had more trouble with the explanations they received; over 10% indicated that they were never or sometimes given an understandable explanation. Cognitive impairments may have played a role here. People visiting a pharmacy were least likely to be given a comprehensible explanation. This is probably because it is often assumed, rightly or wrongly, that the explanation of the doctor and the information on the medication leaflet would suffice.

Finally, data over several years was available for cataract surgery and hip or knee surgery. Again, the differences between years were negligible.

**Figure 2.6.3: Care users who reported that they were given an understandable explanation by care providers (%), 2005-2008**



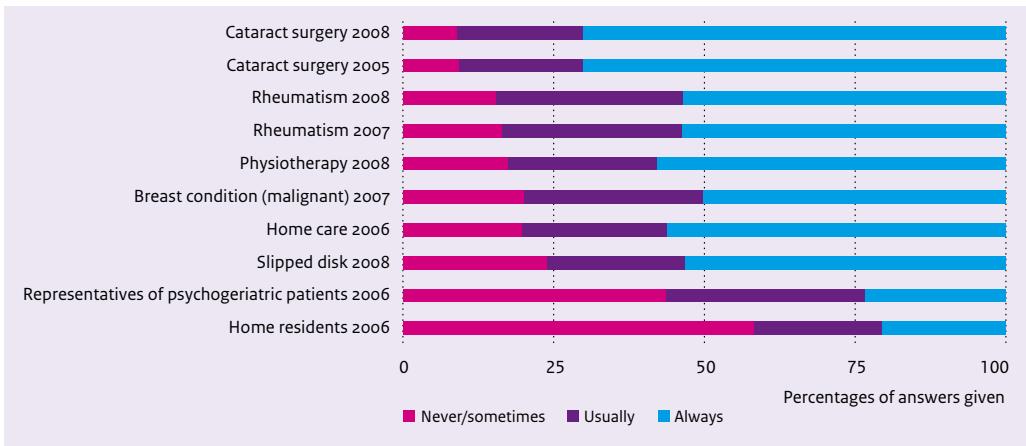
(Source: CKZ / NIVEL, 2010)

CD = care for the disabled

### In curative care, patients were more likely to participate in decision making about care than in long-term care

Figure 2.6.4 shows how often patients indicated to be involved in the decision making about the care they receive. Residents of nursing homes and residential homes indicated most often not to be able to participate in making decisions; more than half (58%) said that they were never or sometimes allowed to participate. For the other patient groups, at least 75% of the patients indicated that they were usually or always involved in decision making. For rheumatoid arthritis and cataract surgery data was available for two different years. The results differed very little between these years.

**Figure 2.6.4: Care users who reported that they were involved in decision making about care and treatment (%), 2005-2008**



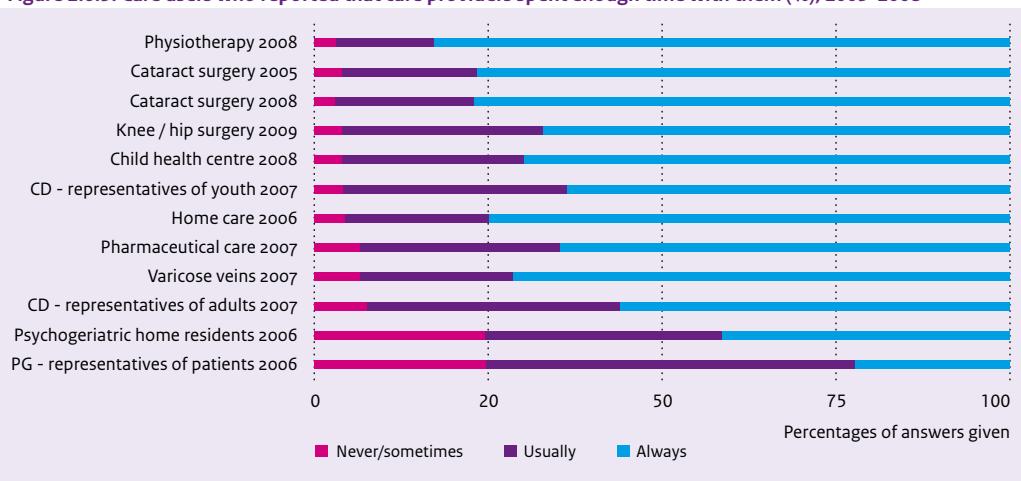
(Source: CKZ / NIVEL, 2010)

### Nearly a quarter of the residents of nursing homes and residential homes said that health care providers never or sometimes spent enough time with them

Figure 2.6.5 shows for different types of care to what extent people were of the opinion that health care providers spent sufficient time with them. A striking quarter of the residents of nursing homes and residential homes indicated that carers never or sometimes allowed them enough time. The same is true for the representatives of psychogeriatric patients; 25% of them indicated that carers never or sometimes spent enough time with the patients. Again, the results for curative care were more positive than those for long-term care.

Cataract surgery data were available for two different years; the results were almost identical for both years.

**Figure 2.6.5: Care users who reported that care providers spent enough time with them (%), 2005-2008**



(Source: CKZ / NIVEL, 2010)

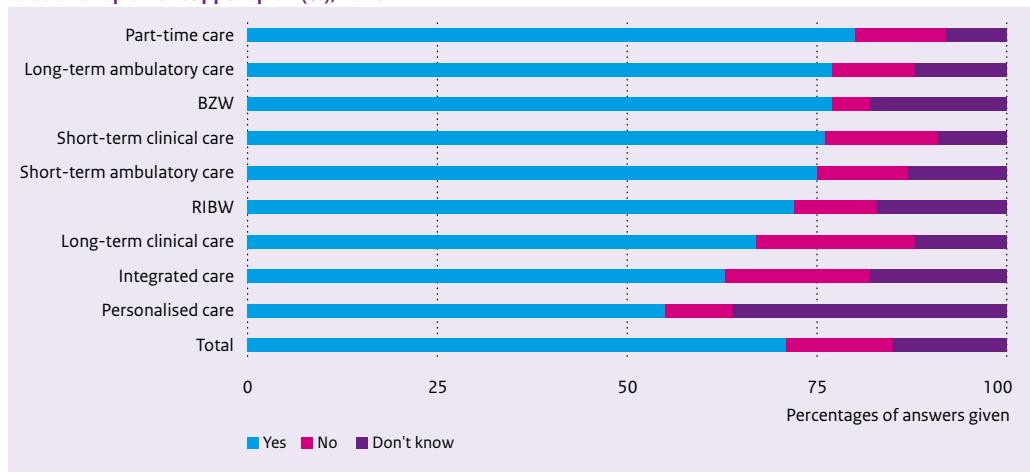
CD = care for the disabled; PG = psychogeriatric care

### Seven out of ten clients in mental health care were of the opinion that their treatment or support plan was carried out in accordance with their wishes

In mental health care it is common practice to set up a treatment or support plan. Usually this plan is developed in consultation with the client. It is an agreement between the therapist and the patient that details the purpose and type of treatment or support. From a survey among mental health care clients who concluded treatment or entered a new significant treatment stage, it appeared that 71% of the respondents were of the opinion that the treatment or support plan was carried out in accordance with their wishes (Hilderink and Van 't Land, 2009). Figure 2.6.6 presents the response percentages, broken down by type of mental health care. Clients who received part-time treatment were most positive: 80% replied positively. In addition, 75% of clients receiving outpatient treatment or a brief clinical treatment or clients living in supported living accommodations were positive. Clients receiving long-term clinical care or integrated care were more often dissatisfied. The number of positive responses was lowest for the 'personalised care' clients. Personalised care means that a coherent range of care services is offered to people with a specific disorder or treatment demand. However, the results for this group are distorted by a high 'unknown' response rate.

Mental health clients were also asked whether they thought that the treatment or support they received constituted the right approach to their problems. As a treatment or support plan is supposed to be developed in consultation with the client, a negative answer may indicate that the client was not properly involved. Seventy one percent of the responses concerning the right approach was positive. Figure 2.6.7 shows the responses by type of care. Again, clients in part-time treatment, clients receiving clinical outpatient care and clients living in supported living accommodations were most positive. More than three quarters of them were positive. Clients receiving long-term clinical treatment or integrated care less often indicated that their treatment was the right approach, 66% and 60% respectively.

**Figure 2.6.6: Mental health care users who reported that they were satisfied with the execution of their treatment plan or support plan (%), 2006**

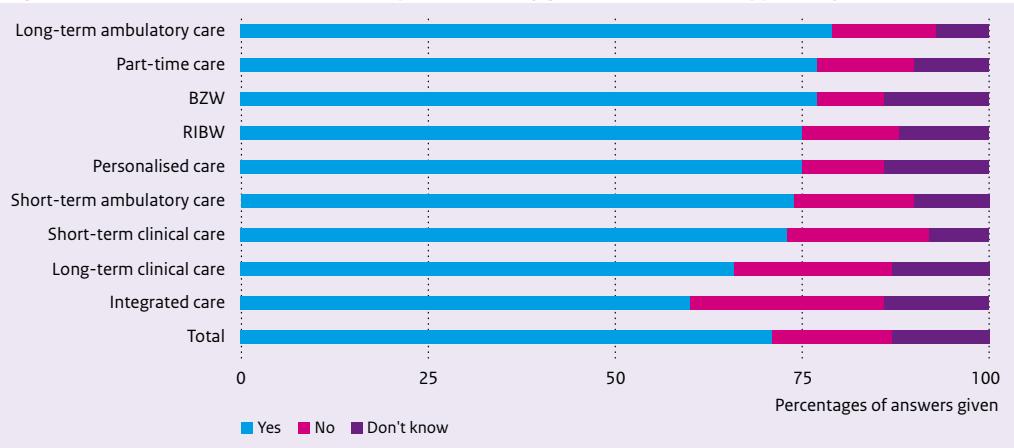


(Source: Hilderink et al., 2008)

RIBW (Regionale instelling voor Beschermd Wonen) = Regional organisation for protected and supported living;

BZW (Begeleid Zelfstandig Wonen) = supervised independent living

**Figure 2.6.7: Mental health care users who reported that they got the treatment or support they needed (%), 2006**



(Source: Hilderink et al., 2008)

RIBW (Regionale instelling voor Beschermd Wonen) = Regional organisation for protected and supported living; BWZ (Begeleid Zelfstandig Wonen) = supervised independent living

## Conclusion

There is considerable consensus about the need to provide responsive care. The extent to which care is responsive in actual practice was found to differ strongly across sectors. Evidently, the contents of care, and hence the prerequisites for a demand-oriented approach, differ considerably across sectors. In curative care, such as treatment by a physiotherapist, care tends to be delivered in defined consultations addressing specific problems. In nursing homes, care is an ongoing process that runs like a thread through clients' lives. Care is often related to daily necessities, such as going to the toilet, eating, showering and getting up. By implication, providing demand-oriented care tends to be far more complex in long-term care than in curative care, and to have a much greater impact on the lives of the care users. When care in a nursing home is not demand-driven, clients lose control over their lives; in the worst case they can no longer decide themselves when to take a shower, eat, get out of bed or even go to the toilet.

The indicators reported on in this section do not allow conclusions to be drawn regarding the level of responsiveness of health care in general. Notably, shortage of personnel and lack of time in long-term care do not go well with responsive care. Residents of nursing homes and residential homes and representatives of psychogeriatric patients experienced carers' behaviour more often as being impolite. Involvement in making decisions about care is by no means a matter of course; over 58% of residents of nursing homes and residential homes said that they were never or sometimes allowed to decide on the content of care. The same is true for representatives of psychogeriatric patients: four in ten said that they were always or usually involved in decision making. In studies among clients in other care sectors, this was 75% to 90%. Another striking finding is that almost 25% of the residents of nursing homes and residential homes and 25% of the representatives of psychogeriatric patients indicated that carers never spent enough time on the actual provision of care.

## 2.7 Co-ordination and co-operation

### Key findings

- Bundled payment of diabetes care has not yet led to demonstrably better outcomes; the various health care providers were positive about the co-operation though
- Four out of ten patients with rheumatoid arthritis had to tell the same story several times to different health care providers, compared to one out of ten diabetes patients
- Just a small minority of patients received conflicting advice from different health care providers
- About 14% of chronically ill people experienced co-ordination problems with medical tests in the past two years; this percentage is low compared with Germany, France and the Commonwealth countries
- The information patients received at hospital discharge varied widely between conditions
- Early 2010, the number of health care providers connected to the National Exchange Point of Electronic Health Records had increased to 575 of a total of about 6500 providers
- In 2007, 43% of hospital pharmacies had on-line access to information on medication prescribed outside the hospital

### How we determine co-ordination and co-operation

On their pathway through health care, patients are often confronted with a variety of health care providers. Many of them have contact with at least a GP, home care and a pharmacist. Whether the care process is in every way satisfactory depends not only on the quality of care provided by individual health care professionals in their particular fields, but on other factors as well. Good-quality care also requires care to be well-organised and patient-centred and it requires sufficient co-ordination between health care providers and, if necessary, a person to serve as the locus of care co-ordination for the entire care process. If co-operation and co-ordination are not up to par, this may lead to undesirable situations. Examples include patients receiving conflicting advices, patients being prescribed the wrong (combination of) medicines and patients having to repeat their story again and again.

Quality of integrated care relates to the degree to which the different components on the pathway through health care are aligned as well as to the level of responsiveness of health care, support or services. The quality of integrated care is becoming increasingly important when more health care providers are involved in the care of the patients. That's why many of the indicators relate to the care for chronically ill people.

### Indicators

- First experiences of care groups with bundled payment
- Extent to which patients have to repeat their story to different health care providers
- Patient experiences with health care providers giving contradictory information
- Percentage of chronically ill people who experienced co-ordination problems with medical tests

- Supply of support and information at hospital discharge
- Number of health care providers connected to the National Exchange Point of Electronic Health Records
- Percentage of hospitals where information on medication prescribed in hospital and elsewhere is electronically accessible on hospital wards and elsewhere

## The current state of affairs

### **Bundled payment of diabetes care has not yet led to demonstrably better outcomes; the various health care providers were positive about the co-operation though**

January 2010 a bundle payment scheme was introduced for care for diabetes patients. Bundled payment denotes funding on the basis of integrated care for a patient with a specific condition. An integrated care package consists of a combination of medical services, examinations and check-ups in line with the current standard of care. An example is the Diabetes Care Standard established by the Dutch Diabetes Federation (NDF) (NDF, 2007). Instead of paying (each health care provider) separately for each service, the health insurers and care groups reach an agreement on one rate for the entire integrated care package. A care group is an organisation that unites health care providers and serves as a general contractor. This general contractor bears responsibility for the entire care pathway. The care may be provided by health care providers affiliated with the care group, but the care group may also contract other health care providers. GPs usually serve as the care co-ordinators (Struijs et al., 2009).

Diabetes is the first disease for which bundled payment was introduced. COPD, heart failure and cardiovascular risk management are to follow suit. The premise of this new funding scheme is that it will lead to more patient-centred care. A higher level of care integration would result in a better quality of care as well as in more efficient care (VWS, 2008b).

Although bundled payment is of a recent date, a large number of care groups has already been established in the Netherlands. September 2009 there were 101 groups (LVG, 2009). In anticipation of this development, the Diabetes Integrated Care Programme was launched several years earlier. In the framework of this programme ten care groups started working with a bundled payment scheme. In 2009 RIVM presented an evaluation report on the first results of this new method (Struijs et al., 2009). No significant improvements in clinical outcomes were observed in this study. Nor does this study allow for statements to be made on improvements on process indicators. It may take more time for such improvements to occur. Patient surveys revealed that they were generally positive about the collaboration between health care providers. However, that had also been the case prior to the introduction of bundled payment. At baseline, 95% rated it as 'good' or 'excellent', and at the 12-month assessment the percentage was similar: 93%.

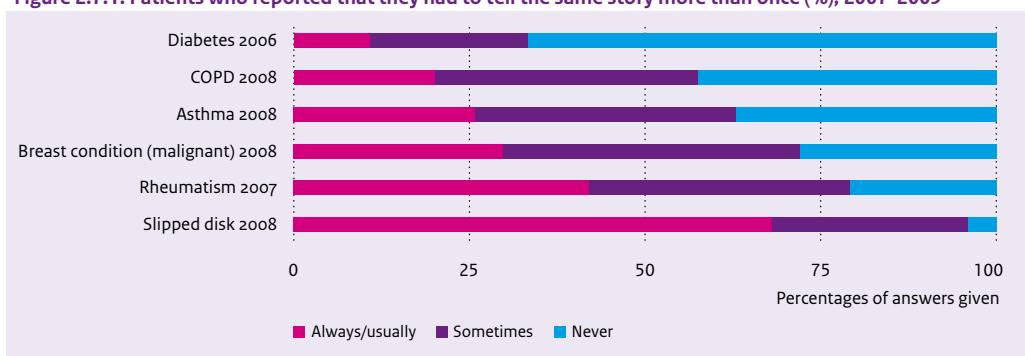
### **Four out of ten patients with rheumatoid arthritis had to tell the same story several times to different health care providers, compared to one out of ten patients with diabetes**

Patients having to repeat the same story to different health care providers may indicate poor care co-ordination. Particularly chronically ill people are vulnerable in this respect. Four out of ten patients with rheumatoid arthritis reported having to tell the same story several times to different health care providers, as compared to just 10% of patients with diabetes.

A study by the Court of Audit (Algemene Rekenkamer), carried out in 2005, showed that about half of the chronically ill people often had to repeat the same story (VWS, 2006b). More recent figures (see Figure 2.7.1) indicated somewhat lower numbers, and showed that this varied considerably across patient groups.

The differences between patient groups can be explained to a significant extent by differences in the primary process of care. For example, diabetes is a chronic disease for which patients receive care during a prolonged period of time. Less than 11% of the patients with diabetes said that they 'always or usually' had to tell their story several times. In time, all care providers get to know the details of the situation and condition of the patient. The same applies to patients suffering from asthma or COPD, who also showed relatively low rates. Remarkably, patients with rheumatoid arthritis - which is also a chronic disease - indicated that they often had to tell the same story all over again. Almost seven out of ten patients with a slipped disk indicated that they often had to repeat their story.

**Figure 2.7.1: Patients who reported that they had to tell the same story more than once (%), 2007-2009**

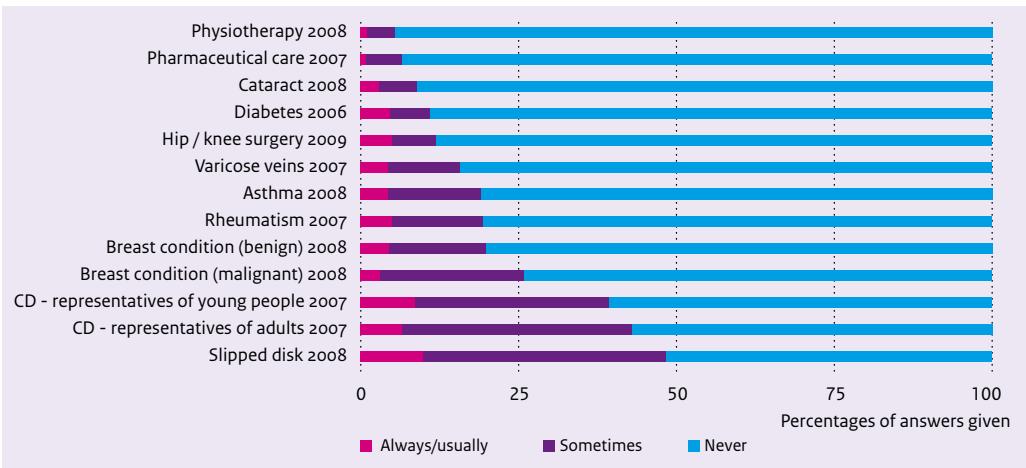


(Source: CKZ / NIVEL, 2010)

### **Just a small minority of patients received conflicting advice from different health care providers**

Although patients quite often have to repeat their story to different health care providers, it happens far less often that patients get conflicting advice from different care providers. Figure 2.7.2 shows for various conditions, the extent to which patients indicated that they received conflicting information. For all conditions, less than 10% of patients 'usually or always' got conflicting information. When looking at the percentage of patients that 'sometimes' got contradictory information, slightly more variation can be observed across patient groups. In particular disabled people and patients with a slipped disk more often received contradictory information.

**Figure 2.7.2: Care users who reported that they were given contradictory advices by care providers (%), 2006-2009**



(Source: CKZ / NIVEL, 2010)

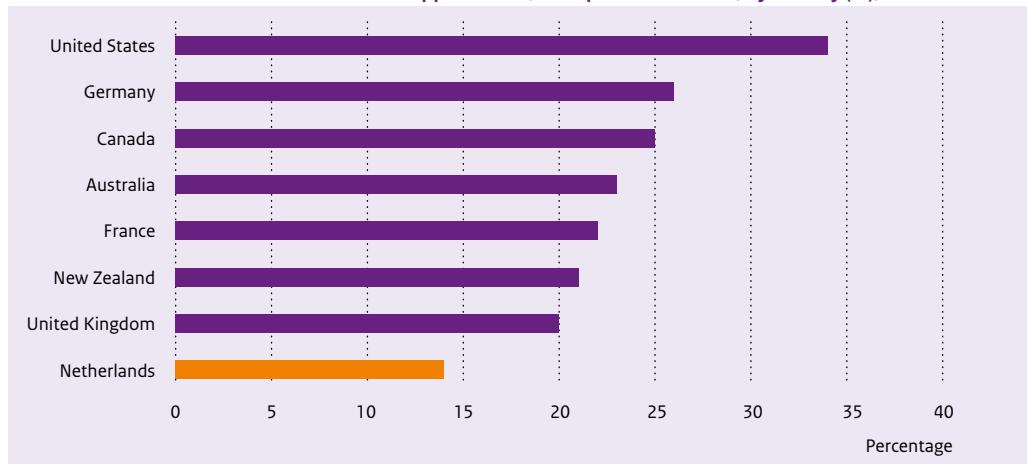
CD = care for the disabled

### About 14% of chronically ill people experienced co-ordination problems with medical tests in the past two years; this percentage was low compared with Germany, France and the Commonwealth countries

Many people are usually involved in ordering and carrying out medical tests. A lot can go wrong because of poor co-operation or co-ordination. Examples include test results or information from patient files not being available on time and unnecessary duplication of tests. An international survey performed by the Commonwealth Fund (CMWF) showed that 4% of the Dutch chronically ill respondents experienced unnecessary duplication of tests in the past two years (Schoen et al., 2008). This percentage is low compared with other countries in the survey; in Germany it was 18% and in France 10%. The Commonwealth countries also showed higher rates than the Netherlands. The United States was an outlier at 20%. In addition, in the Netherlands test results and information from patient files were relatively less often unavailable; in 11% of chronically ill over the past two years. In France, Germany and the United Kingdom this figure was slightly higher but the difference was not statistically significant. The other Commonwealth countries reported significantly higher rates.

Figure 2.7.3 shows the percentage of chronically ill people that encountered one of these problems in the past two years. At 14%, the Netherlands showed the most favourable score.

**Figure 2.7.3: Chronically ill people who reported that they experienced problems with the coordination of care: test results not available at time of doctor's appointment, or duplication of tests, by country (%), 2008**



(Source: Schoen et al., 2008)

### The information patients received at discharge from hospital varied widely between conditions

Hospital discharge is an important point on the care pathway. Ending a stay in hospital does not necessarily mean that care ends altogether. It is important that patients know where to go with questions and that follow-up care is provided for. A study by the CMWF compared the experiences of chronically ill people with the supply of information and support at hospital discharge in eight countries. The results are shown in Table 2.7.1. The chronically ill patients in the survey had been admitted to the hospital in the two years prior to the survey.

**Table 2.7.1: Chronically ill people who reported that they received information about follow-up care at hospital discharge (%), by country, 2008**

Adults with a chronic condition	NI	Aus	Fr	Can	Ger	NZ	UK	US
• who knew whom to contact for questions about their condition or treatment	87	85	84	89	89	86	83	92
• who received clear instructions about symptoms to watch for and when to seek further care	76	75	63 <sup>1</sup>	80	71	72	74	88 <sup>1</sup>
• for whom the hospital had provided a written plan for the care after discharge	63	57	61	71 <sup>1</sup>	60	69	68	91 <sup>1</sup>
• for whom the hospital made arrangements for follow-up visits with doctor or other care professional	79	62 <sup>1</sup>	60 <sup>1</sup>	68 <sup>1</sup>	65 <sup>1</sup>	68 <sup>1</sup>	73	72
Total score (% that said 'yes' four times)	49	39	29 <sup>1</sup>	50	39 <sup>1</sup>	47	50	62 <sup>1</sup>

(Source: Schoen et al., 2008)

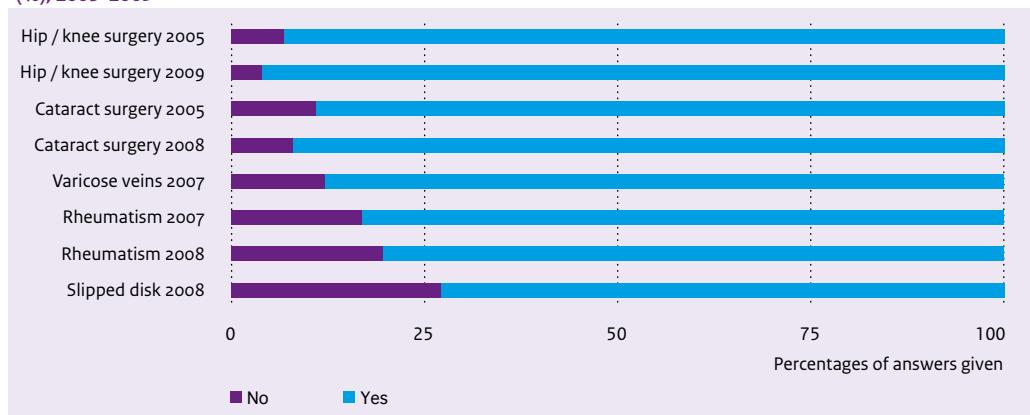
<sup>1</sup> deviates significantly from the Netherlands p<0.05

Aus = Australia; Can = Canada; Ger = Germany; Fr = France; NI = the Netherlands; NZ = New-Zealand; UK = United Kingdom; US = United States

Forty nine percent of respondents said that the four conditions for good-quality discharge information, presented to them in the survey, had been met. The Netherlands scored much better than France and Germany. In those countries, for example, an appointment for a follow-up consultation was made far less often. The positive score for the United States is quite remarkable. In the United States it was apparently much more common than in the Netherlands (and many other countries) for patients to be given written information about follow-up care.

The extent to which people get information at discharge varies across conditions in all countries including the Netherlands. Figure 2.7.4 shows how many people said to have been given information about what to do or not do at home after discharge from hospital. The vast majority of patients received such information irrespective of the condition. The proportion of patients indicating not to have received this information ranged from 6.8% (hip or knee surgery) to 27% (slipped disk). For rheumatoid arthritis, cataract surgery and hip or knee surgery, there were data available for two years. The differences between the years were limited.

**Figure 2.7.4: Patients who reported that they received information about follow-up care at hospital discharge (%), 2005-2009**



(Source: CKZ / NIVEL, 2010)

### **Early 2010, the number of health care providers connected to the National Exchange Point of Electronic Health Records had increased to 575 of a total of about 6500 providers**

The National Exchange Point of Electronic Health Records is a potentially effective tool for improving the co-ordination between health care providers. Because different providers have access to the same patient file, they have the same information at their disposal. The number of connections to the National Exchange Point of Electronic Health Records strongly increased in recent years, from 58 in 2008 to 575 in 2010 (see Section 4.3 for a more detailed description of this indicator).

**In 2007, 43% of hospital pharmacies had on-line access to information on medication prescribed outside the hospital**

In the process of prescribing, preparing, dispensing and administering medication there are many moments of risk, even more so when this process takes place both within and outside the hospital. On-line availability and exchange of data on patient medication can help to prevent medication errors. To have access in hospitals to information on medicines prescribed outside hospitals is important because over 80% of all medicines is prescribed by GPs outside hospitals (Vandermeulen et al., 1999).

The Health Care Inspectorate (2009) examined on-line access to medication data at the hospital pharmacy, hospital wards and outpatient clinics (see Table 2.7.2). The availability of data appeared to be limited considering the technical possibilities. Information on medication prescribed outside the hospital was on-line accessible in 43% of hospital pharmacies. In the rest of the hospital, on-line access was even more limited; 25% of wards and 19% of outpatient clinics had access.

**Table 2.7.2: Hospitals where information on medication prescribed at outpatient clinics, hospital wards, and outside the hospital is on line accessible at outpatient clinics, hospital wards, the hospital pharmacy and outside the hospital (%), 2004-2008**

Electronically accessible at	Medication prescribed at hospital wards %					Medication prescribed at outpatient clinics %				
	2004 (n=105)	2005 (n=97)	2006 (n=99)	2007 (n=99)	2008 (n=102)	2004 (n=105)	2005 (n=97)	2006 (n=99)	2007 (n=99)	2008 (n=102)
Hospital pharmacy	83	93	96	97	89	22	34	36	53	39
Hospital wards	35	34	50	63	67	3	8	12	20	25
Outpatient clinics	24	30	44	54	63	6	6	13	15	24
Outside hospital	8	14	16	19		17	33	26	35	

Electronically accessible at	Medication prescribed outside the hospital (%)				
	2004 (n=105)	2005 (n=97)	2006 (n=99)	2007 (n=99)	2008 (n=102)
Hospital pharmacy	21	39	44	55	43
Hospital wards	5	5	3	6	25
Outpatient clinics	4	1	3	4	19
Outside hospital	1	1	1	1	1

(Source: IGZ, 2006-2009)

<sup>1</sup> 100% by definition

## Conclusion

Reliable and valid indicators for co-ordination and co-operation within health care are scarce. Collecting relevant, good-quality data is complex. Co-ordination and co-operation occur between health care providers and institutions, which makes it hard to infer relevant conclusions from data obtained from separate health care providers. As was said earlier, in particular health care users are experiencing the consequences of poor co-ordination and co-ordination. For example, they were given conflicting advice or tests were duplicated unnecessarily.

The data we reported in this section provide some insight into the state of affairs of co-ordination and co-operation for some patient groups, but the picture is still highly fragmented.

Questionnaire surveys showed that the degree to which patients have to deal with problems due to poor co-ordination varied widely across different patient groups. This can partly be explained by the nature of the disease and the care offered. Thus, patients with a slipped disk or representatives of clients of care for the disabled were given contradictory advices far more often than, for example, people who had cataract surgery or people with diabetes. It may well be that for the latter two conditions, treatment lends itself more to protocolisation and standardisation, and that there is a higher degree of consensus about recommended treatment. Another factor that is of note is the number of health care providers involved in the care of a patient. For, the more health care providers there are involved, the more likely it is that co-ordination problems will arise.

The logistics surrounding medical tests and test results seemed to run quite smoothly in the Netherlands compared to other countries that participated in the CMWF study. In a period of two years, approximately 14% of chronically ill people experienced problems in this respect. Hospital discharge is an important moment in the health care process. Appointments need to be made about follow-up care and the patient needs to know when it is wise to seek contact and with whom. An international comparative study showed that in this area the Netherlands seemed to be doing better than Germany and France, but is also showed that, for example, providing written discharge information was by no means a matter of course.

In recent years, increasing attention has been paid to co-operation and co-ordination. Quality of the care pathway is a common concern. Ways to improve the pathway quality have to go beyond the level of individual care providers. The most striking developments in this area include the introduction of the National Exchange Point of Electronic Health Records and the introduction of bundled payment. Connecting health care providers to the National Exchange Point has proceeded much slower than expected. Nevertheless, progress is evident. Early 2010, the number of connected health care providers had increased from 129 to 575. About 20% of pharmacies is presently connected and just 3% of GP practices. The first experiences of health care providers with bundled payment are positive. In the recent future, this payment system will be implemented on a much wider scale. Future evaluations will have to demonstrate to what extent bundled payment also leads to more integrated care.

## 2.8 Palliative care

### Key findings

- At present, the information available does not allow to make statements about the quality of palliative care
- In 2007, about 72,000 people died who were potentially eligible for palliative care
- The Netherlands is in the vanguard in Europe as to the availability of palliative care services and developments in this field
- A set of indicators has been developed that is most likely to provide valuable information about the quality of palliative care in the near future
- Less than 5% of chronically ill patients is estimated to die in a facility for palliative care; most people die at home, in a hospital or a nursing home

### What is palliative care?

The World Health Organization (2010) defines palliative care as ‘an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual’.

This definition of the WHO implies that palliative care is a generic term that involves various types of care offered by different providers at different locations. These various types of care have in common that they are provided in the final stage of a patient’s life. For that stage to conclude may take several weeks to several months. As cure is not possible, palliative care focuses on making this period as bearable as possible for both the patients and their relatives. Martin-Moreno et al. (2008) distinguished as the three main goals of palliative care:

1. to attend to physical, psychological, social, spiritual and practical expectations and needs;
2. to provide support to the family to help them cope with loss, grief and bereavement;
3. to prepare for, and provide support during the dying process.

What specific types of care are actually needed to achieve these goals? Attending to physical needs will primarily imply offering pain relief and managing other symptoms. ‘Other’ symptoms may include nausea, vomiting and constipation. The need for support in physical care is another important type of care needed. Social needs may include contacts that tend to be considered very important in the final stage of life with, for example, family and friends. To be able to cater to those needs, it is essential for many patients in the palliative phase to have their own room and to live close to their family. Social needs also relate to contacts patients and their families have with health care providers. Psychological support goes a bit further than that and focuses on emotional support. Practical needs can often be met by the use of aids and equipment such as support bars in the bathroom or wheelchairs. The spiritual needs relate to philosophical and existential issues. This is primarily the concern of spiritual counsellors. But, other health care providers (doctors, nurses) should also pay attention to spiritual needs, which may

reflect in questions like ‘why is this happening to me?’ and ‘how do I come to terms with what is going on in my life’ or ‘how do I end my life well?’.

For families to come to terms with loss and grief may need emotional support, which can be provided by health care professionals, but also by volunteers. Indirectly, this is also in the interest of the patient, because most informal carers are family members. Preparing for and managing the dying process may involve decisions about the end of life, about (possible) life-shortening treatment, discontinuation of life-prolonging treatment, resuscitation and ventilation, euthanasia or other special needs.

The focus on palliative care as a specific form of care is of a recent date. In the 1970s, the first facilities designated for the provision of palliative care emerged in Western Europe. In the Netherlands, the first hospice opened its doors as recent as 1991. At present, the Netherlands has a wide range of hospices and other palliative care services.

## Who use palliative care?

The target group for palliative care are people suffering from a life-limiting disease and their families. These patients are expected to die within a limited period of time. How long this period will be cannot be expressed in numbers. It could be weeks or months, sometimes even years.

Exactly how many people use palliative care is unknown. Because palliative care is not a clearly defined type of care, but is associated with a wide variety of health care services and hence with an array of health care providers, it is not registered as a type of care in itself. Still it is possible to estimate how many people are potentially entitled to palliative care.

In 2007, over 133,000 people died in the Netherlands. About 54% of them, some 72,000 people, died of non-acute diseases. An unknown part of this group used palliative care. Of these 72,000 people, nearly 41,000 died of a form of cancer. Thus cancer patients make up the largest category of patients eligible for palliative care. Other (non-acute) diseases with a high mortality rate are dementia (over 9000 people) and COPD (approximately 6350 people) (CBS Statline, 2009).

Table 2.8.1 indicates the places of death of people who died of a chronic disease. About three out of ten patients died at home, 28% in a hospital, 25% in a nursing home and 11% in a residential home. Only 5% died somewhere else, for example, in a hospice (Van der Velden et al., 2009).

**Table 2.8.1: Place of death of people who died from a chronic disease (%), 2006**

	Men	Women	Total
Hospital	31	25	28
Nursing home	20	30	25
Residential home	7	14	11
At home	37	26	31
Other	5	5	5

(Source: Van der Velden et al., 2009)

## Who provide palliative care?

Table 2.8.2 presents an overview of the institutions specialising in palliative care in the Netherlands. The table shows the situation in January 2010. There is a wide variety of palliative care services, ranging from independent hospices to palliative units in nursing homes or residential homes. Some are run primarily by volunteers, for example, near-home houses, while others have their own nursing staff. There are also institutions that provide palliative care, but no residential services, for example, home care organisations. Some hospices offer day care in addition to residential services.

In 2009, nearly 265 palliative care services offered palliative and residential care. The majority of these services were hospices, homes from home or palliative units. With a combined capacity of 1062 beds, only a small proportion of terminal patients could be admitted to such facilities. In addition, there were about 177 organisations for volunteers who visit patients at home and 53 consultation teams who give support and advice to health care providers. Evidently, a great deal of palliative care is provided outside specialised facilities, for example, by GPs and home care workers. The GP is often the central health care provider and co-ordinator of care for people who die at home (Linden et al., 2003).

**Table 2.8.2: Palliative care services, 1-1-2010**

	Number of services	Number of places
Hospice with its own nursing staff	48	278
Hospice with mainly volunteers	54	180
Hospice attached to nursing home or residential home	141	499
Childrens hospice	6	56
Service including hospital admission	16	49
Palliative day care service - day care	18	NA
Palliative day care service - outpatient clinic	2	NA
Palliative day care service - psychosocial care	7	NA
Consultation team for professionals	53	NA
Team for patient education and advice	9	NA
Volunteer organisation	177	NA
Home care organisation offering palliative care	19	34
Other	82	
<b>Total</b>	<b>632</b>	<b>1096</b>

(Source: <http://www.palliatief.nl>)

NA = not applicable

## How is the quality of palliative care?

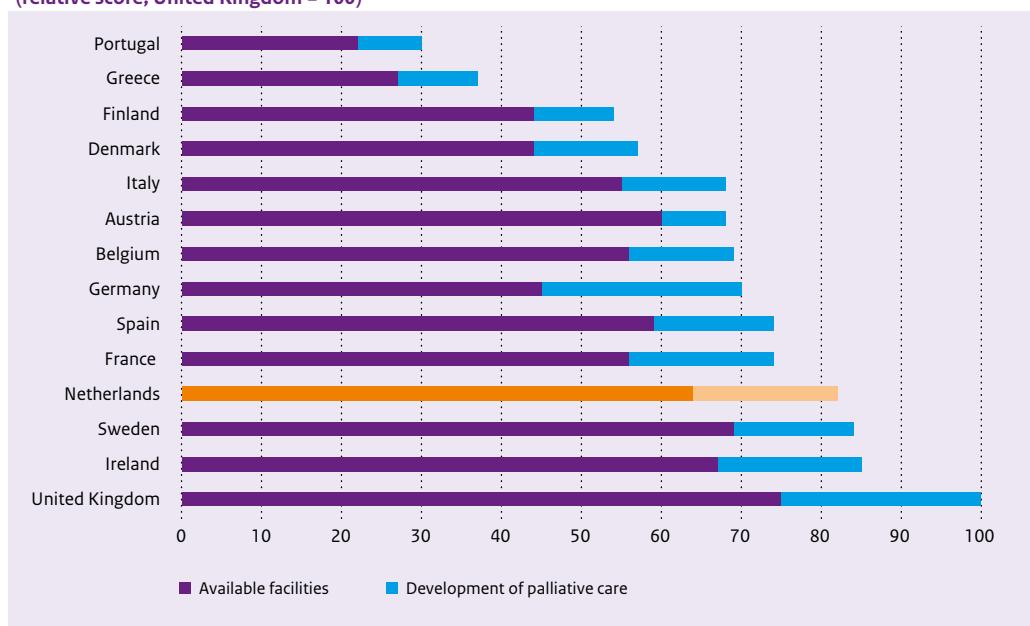
At present, it is not yet possible to formulate general statements about the quality of palliative care in the Netherlands. Measuring quality in this area is still in its infancy, although it is developing rapidly.

Within most health care systems the attention and recognition of palliative care as a form of care that requires special attention and specific expertise is of a recent date. Martin-Moreno and colleagues (2008) described the current state of palliative care in the European Union. They concluded that the field of palliative care in most European countries is in a state of flux. Specialised facilities are being set up everywhere and initiatives are being taken to develop a better and more coherent palliative care system. On the basis of earlier studies, Martin-Moreno and colleagues compiled a ranking of countries based on the availability of palliative care services combined with the stage of development of the field. The latter implies that there is a critical group of professionals that take initiatives that are likely to lead to a further development of an adequate capacity of palliative care services (Wright et al., 2008).

The ranking of Martin-Moreno and colleagues is shown in Figure 2.8.1. The figure illustrates that the United Kingdom is the frontrunner in Europe. The index was set at 100% for the United Kingdom. In the ranking the Netherlands takes fourth place with a score of 85%. The ranking does not express the actual quality of palliative care, but it does give an indication of the development of palliative care within a country.

Several studies have been conducted in the Netherlands, suggesting that patients and their families are satisfied with palliative care. Particularly the attention paid to and approach taken towards the physical aspects (pain and other symptoms) by doctors and nurses scored fair to good. The main shortcomings revealed by the studies were related to the subjective, psychosocial and spiritual domains (Van den Akker and Luijckx, 2005; Brandt, 2007; Groot, 2007).

**Figure 2.8.1: Ranking of countries according to the capacity and development of palliative care services (relative score; United Kingdom = 100)**



(Source: Martin-Moreno et al., 2008)

The considerable amount of attention focusing on the quality of palliative care is also evident from the fact that, commissioned by the Ministry of Health, a set of quality indicators has recently been developed (Brandt et al., 2009; Claessen et al., 2009). This indicator set is based on a detailed review of the literature (Pasman et al., 2009). In the next DHCPR this indicator set will be used to describe the quality of palliative care. As yet, results are not available, but below we list the indicators that could be used in the future. The DHCPR will not use all of the indicators, since they are primarily designed for internal quality improvement and not all of them are therefore suitable for describing palliative care at the system level.

## Indicators

Brandt and colleagues (2009) classified a set of indicators according to themes and in relation to patients or support of family and friends.

### Indicators of palliative care for patients and/or family and friends

	Patients	Family and friends
Pain and other symptoms	■	
Psychosocial wellbeing	■	■
Generic	■	■
Follow-up care		■

(Source: Brandt et al., 2009)

They made a distinction between spiritual wellbeing and psychosocial wellbeing. In the DHCPR this distinction will not be made; spiritual wellbeing will be classified under psychosocial wellbeing. Below we list the indicators that are relevant to the DHCPR. For a more detailed description of the operationalisation we refer to Brandt et al. (2009).

#### Managing pain and physical symptoms

- Percentage of patients suffering from:
  - moderate to severe pain
  - fatigue
  - breathlessness
  - constipation
- Level to which patients experience support with physical symptoms
- Level to which patients experience help with physical care

#### Care for psychosocial wellbeing of patients

- Level to which patients experience counselling for anxiety and depression
- Level to which patients experience attention of their health care providers
- Level to which patients and their relatives and friends indicate that the patient can consult a spiritual counsellor
- Level to which immediate relatives indicate that attention was being paid to the psychosocial wellbeing of the patient

#### Care for psychosocial wellbeing of relatives and friends

- Level to which immediate relatives and friends indicate that attention was being paid to their psychosocial wellbeing
- Level to which immediate relatives and friends were given the opportunity to be alone with the patient

#### Generic (patients)

- Level to which patients could spend their last month in their place of preference
- Percentage of patients who died in their place of preference
- Availability of information about desired end-of-life care and treatment
- Percentage of patients who get aids in a timely manner

#### *Follow-up care*

- Level to which relatives and friends felt to be offered support by health care providers immediately after the death of the patient
  - Level to which relatives and friends were informed about the possibilities of follow-up care
  - Level to which a farewell or evaluation interview was held about the care and treatment provided.
- Besides the indicators listed above, the set contains a number of indicators that may be discussed elsewhere in the DHCPR. These indicators relate to patient experiences of, for example, professionalism, continuity and interpersonal conduct.

## Conclusion

Palliative care includes many types of care that focus on physical as well as psychosocial issues terminal patients and their families are confronted with. Palliative care is provided in specialised centres, but more often outside these centres, for example, in nursing homes or at home. Compared with most other types of care the interest in the organisation and quality of palliative care is of a recent date. This is true for the Netherlands as well as for most other countries.

Although palliative care is still in its infancy, internationally the Netherlands appears to be in the vanguard. The international comparison reported on in this section cannot be regarded as a quality indicator, because it is about the framework for the development of palliative care and its quality rather than about quality of care itself. A comparison at the level of process or outcome indicators does not exist as yet. However, that hard work is being done is evidenced by the quality indicators that were developed on the basis of a thorough literature review commissioned by the Dutch Ministry of Health. These indicators will allow us to say more about the benefits of palliative care in the Netherlands in the next Dutch Health Care Performance Report.

# 3

## Access to care

The central theme of this chapter is access to health care. Without proper access, high quality and effectiveness are of a limited value. This makes accessibility an essential prerequisite for a fully functioning health system. The chapter explores various aspects of accessibility of health care, to conclude with two topics that are closely related to accessibility: personnel availability in health care and freedom of choice.

### 3.1 What is access to care?

Accessible care implies that 'people, who need care, can access care in a timely manner and without great barriers' (Smits et al., 2002). A number of aspects keep recurring in the literature that together determine accessibility of care and may limit it, namely costs, travel distance, waiting time and the extent to which the supply of care is responsive to the needs and demands of people. The order in which and the extent to which these aspects are dealt with, differ between studies. The structure adopted often depends on the country or the subject matter covered by the study. The expected or found magnitude of the adverse effects of the various barriers may also play a role. The present *Dutch Health Care Performance Report* (DHCPR) adopted a systematic structure that is in line with recent European Union (EU) publications (Busse et al., 2006; Tamsma, 2008) and does not express beforehand any judgement on the significance of each of the four aspects.

Besides the four factors mentioned-above, this chapter addresses two more topics, namely personnel availability in health care and freedom of choice. A shortage of staff can affect all aspects of accessibility and cause all kinds of problems, such as higher costs, gaps in geographical coverage, long waiting times or less diversity in supply. The availability of sufficient personnel is a *prerequisite* for accessibility.

Freedom of choice is closely related to access to available care. Freedom of choice implies that people themselves can choose a health insurer and insurance coverage as well as how and by whom care is provided. Conditional to freedom of choice is that statutory and financial schemes are in place that allow people to make choices. Care should also be sufficiently diverse to enable people to weigh quality of care against 'costs'. Finally, freedom of choice is also one of the conditions for the current health system of regulated competition to succeed (see Chapter 5).

### **Outline of the chapter**

- Financial access (affordability) (Section 3.2)
- Geographical access (reachability) (Section 3.3)
- Timely access to acute care (timeliness) (Section 3.4)
- Timely access to regular care (timeliness) (Section 3.5)
- Access according to needs (responsiveness) (Section 3.6)
- Personnel availability (Section 3.7)
- Freedom of choice (Section 3.8)

## **3.2 Financial access**

### **Key findings**

- The number of people without health insurance remained stable at 150,000
- The number of people who failed to pay their health insurance premium rose considerably
- The percentage of GPs who reported that their patients experienced problems with out-of-pocket payments was rising
- The percentage of chronically ill people who forewent care because of costs was small
- The additional health-related expenses of chronically ill or disabled people remained at the same level
- The out-of-pocket payments and complementary health insurance premiums decreased slightly
- People in the highest income category spent 1.5% of their income on out-of-pocket payments; people in the lowest income category spent 6.5%
- The share of household income spent on out-of-pocket payments was smallest in the Netherlands compared to other EU-countries

## How we determine financial access

Financial access is a basic condition for a functional health care system. Foregoing necessary treatment because of its cost can be detrimental to a person's health. High out-of-pocket payments that affect other necessary expenses are also considered undesirable (Murray et al., 2003). Guaranteeing financial access to care has been an important goal of Dutch government policy for many years. Differences in income should not create unacceptable differences in access to care. At the same time, the cost of health care should not be too heavy a burden on the economy or on people's purchasing power. In recent years, the government has increasingly urged people to limit their demand for health care in order to curb the rising costs. A measure to achieve this is the introduction or increase of out-of-pocket payments. An undesirable side effect of such a measure may be that it creates financial barriers to the use of care, thereby increasing the need for monitoring financial accessibility. According to international definitions, care is generally considered financially inaccessible when people limit or postpone the use of necessary care because of (excessively) high costs, or when they have to relinquish other basic necessities because they need care (Schoen et al., 2005; Salganicoff et al., 2005).

The first two indicators are related to health insurance. The next indicator concerns the opinion of GPs on the affordability of care for their patients. Then, two indicators address the affordability of care for chronically ill and disabled people. Finally, three indicators have been included that relate to out-of-pocket payments. Section 3.6 elaborates on the (financial) accessibility of care for people without a legal residence status.

### Indicators

- Percentage of people who do not have health insurance
- Percentage of people who fail to pay their health insurance premium for at least six months
- Judgement of GPs as to the affordability of medicines and non-reimbursable costs for their patients
- Percentage of chronically ill people who forego care because of costs
- Additional health-related expenses of chronically ill or disabled people
- Out-of-pocket payments for health care
- Distribution of out-of-pocket payments across income groups
- International comparison of out-of-pocket payments

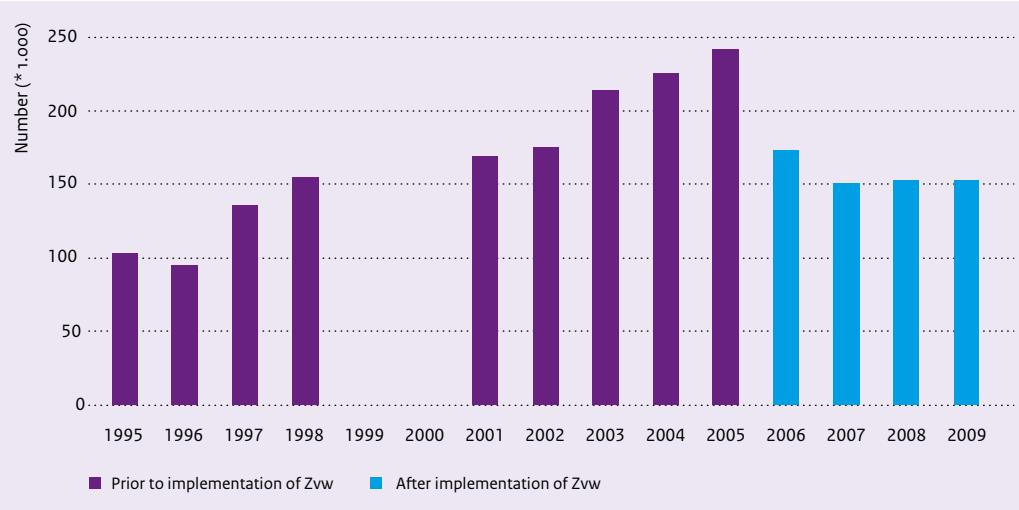
## The current state of affairs

### **The number of people without health insurance remained stable at 150,000**

On 1 May 2009, over 152,000 people in the Netherlands had no health insurance. That is over 1% of the population. Figure 3.2.1 shows the trend in the number of uninsured in the Netherlands. In 2006 the new Health Insurance Act (*Zorgverzekeringswet (Zvw)*) was introduced, rendering the figures prior to 2006 incomparable to the figures after 2006. Hence, the graph shows a break in the trend in 2006. In any case, in 2006 the upward trend came to an end. This may well be due to the Health Insurance Act coming into force in 2006, as before the introduction of this act private insurance was not mandatory.

A breakdown by ethnic origin shows that over 64,000 Western ethnic minority people made up the largest group of uninsured, followed by people of non-Western ethnic minority (50,000 uninsured). It is estimated that 37,000 ethnic Dutch people were uninsured. Over half of the number of uninsured (85,000) was between 20 and 40 years old.

**Figure 3.2.1: Number of uninsured, 1995-2009**



(Source: CBS Statline, 2010b)

Zvw (Zorgverzekeringswet) = Health Insurance Act

### The number of people who failed to pay their health insurance premium rose considerably

Alongside the people without health insurance, there are also people who have health insurance but who failed to pay their premium for at least six months, the so-called defaulters. Since the Health Insurance Act came into force, data on defaulters has been collected. Trend figures are available for the period 2006-2009. Table 3.2.1 shows a considerable increase in the number of defaulters.

**Table 3.2.1: Number of defaulters and rise in number of defaulters, 2006-2009**

Year	Number of defaulters	Rise (%)
31 December 2006	190,210	-
31 December 2007	240,250	26.3
31 December 2008	256,690	6.8
31 December 2009	318,460	24.1

(Source: CBS Statline, 2010b)

In 2006, it was agreed that health insurers would not expel defaulters but that they would continue to make collections. In support of this agreement it was enacted in December 2007 that people with payment arrears could not terminate the insurance, thereby making it impossible for them to thwart the insurers' collection efforts. To curb the increase in the number of defaulters, the Structural Measures Defaulters Act (*Wet structurele maatregelen wanbetalers* (Wsmw)) was introduced on 1 September 2009. That date a baseline study was performed, which would allow the effects of the new act to be monitored. The number of defaulters then amounted to 304,100. During the last four months of 2009 the number increased with another 14,360 people.

**The percentage of GPs who reported that their patients experienced problems with out-of-pocket payments was rising**

In 2009, 33% of Dutch GPs reported that their patients often experience problems with paying for medication or other non-reimbursable expenses. This percentage is strikingly high in comparison to other countries (see Table 3.2.2) as well as to the results of the previous measurement in 2006.

**Table 3.2.2: GPs who reported that their patients had difficulty paying for medicines or other out-of-pocket costs (%), by country, 2009**

Country	%
United States	58
Italy	37
Netherlands	33
Germany	28
Canada	27
New Zealand	25
Australia	23
France	17
United Kingdom	14
Sweden	6
Norway	5

(Source: Schoen et al., 2009)

The survey will be repeated every three years. In 2006, only 12% of the GPs reported that they thought their patients often had problems with meeting health care expenses. The sharp increase from 12% to 33% can probably be partly explained by reimbursement restrictions for a number of commonly prescribed drugs, including benzodiazepines and statins, introduced on 1 January 2009.

In 2007 and 2008 health care clients and chronically ill people were asked a similar question about affordability. The results gave a very different picture. Up to 7% of them reported to experience problems with meeting health care costs. This lower figure can only be partly explained by differences in the questions asked. The Commonwealth Fund (CMWF) surveys of 2010 and 2011 will tell how people currently think about the affordability of non-reimbursed medical care and whether those percentages are also rising.

### **The percentage of chronically ill people who forewent care because of costs was small**

About 3% of the Dutch population with a chronic illness indicated that they forewent a visit to the doctor because of cost during the past two years. The chronically ill population included those people who in the past two years have had or had a chronic illness, had surgery and/or were hospitalised. This percentage was significantly lower than in seven other countries surveyed. With 4%, only the United Kingdom was at a comparable level. The percentage was highest in the United States, i.e. 36%. At 15%, was in the middle bracket. For other aspects of care, again a strikingly small proportion of the chronically ill people in the Netherlands regarded affordability as a problem (see Table 3.2.3).

**Table 3.2.3: Adults with a chronic condition who reported that they could not (always) afford medical care (%), by country, 2008**

	NI	Aus	Can	Fr	Ger	NZ	UK	US
Adults with a chronic condition who because of cost in the past 2 years:								
• did not visit a doctor								
• did not get recommended test, treatment or follow-up care	3	21	9	11	15	22	4	36
• did not fill a prescription or skipped doses	3	25	11	13	13	18	6	38
Adults with a chronic condition who could not / hardly afford medical care in the past 2 years								
	7	36	25	23	26	31	13	54

(Source: Faber et al., 2008)

Aus = Australia; Can = Canada; Fr = France; Ger = Germany; NI = the Netherlands; NZ = New Zealand; UK = United Kingdom; US = United States

### **The additional health-related expenses of chronically ill and disabled people remained at the same level**

For all people with a chronic illness or disability (including those without additional expenses), additional health expenses averaged € 74 per month in 2007. Table 3.2.4 presents an overview of these expenses in recent years. They include all health-related expenses that people make themselves and that are not in any way compensated for under, for example, the Health Insurance Act, the Exceptional Medical Expenses Act (*Algemene wet bijzondere ziektekosten* (Awbz)) and the Social Support Act (*Wet maatschappelijke ondersteuning* (Wmo)), or by the employer or an awarding authority.

**Table 3.2.4: Additional health-related expenses of people with a chronic illness or disability, per month, 2004-2007**

Year	People with a chronic illness or disability with health-related expenses (%)	Health-related expenses per month (€)
2004	88	72
2005	87	73
2006	87	81
2007	86	74

(Source: Van den Brink-Muinen et al., 2009)

The more severe the disability the higher health-related expenses tend to be. In 2007, the average monthly expenses of people with a severe disability amounted to € 149 (CI: 135-164) versus € 81 (CI: 71-92) for people with a moderate disability. Since 2004, the differences in expenses between people with a severe disability and people with a moderate disability have remained more or less the same (Van den Brink-Muinen et al., 2009).

All costs considered, 86% of people with a chronic illness or disability appeared to have additional health-related expenses in 2007. This percentage remained unchanged over the period 2004-2007, although a clear effect of the introduction of the Health Insurance Act in 2006 can be seen. Since 2006, less chronically ill and disabled people have had expenses for GP, dentist, specialist, physiotherapist and prescription drugs, while a higher percentage of them had expenses for aids and home adaptations (Van den Brink-Muinen et al., 2009).

#### **The out-of-pocket payments and complementary health insurance premiums decreased slightly**

Financial accessibility of care is partly determined by the share of disposable household income that goes towards health care. Disposable income equals gross income minus income transfers, income insurance premiums, health insurance premiums and taxes on income and wealth. So the health insurance premium has already been discounted in disposable income.

In addition, out-of-pocket payments are also important for an acceptable development in public expenditure and purchasing power. In the CBS Budget Survey a representative sample of the population is asked how much they spend on out-of-pocket payments and premiums. These include complementary health insurance, self-medication and other non-reimbursable health care expenses.

Table 3.2.5 presents the sum of out-of-pocket payments and complementary health insurance premiums for medical care. Until 2006, these payments rose both in absolute figures and in percentages, to be followed by a slight decrease. This break in the trend coincides with the introduction of the Health Insurance Act.

**Table 3.2.5: Out-of-pocket payments for health care (absolute and as share of disposable income), per household, 2000-2008**

Year	Amount (€)	Share of disposable income (%)
2000	344	1.4
2003	493	1.7
2004	663	2.3
2005	830	2.8
2006	734	2.4
2007	727	2.3
2008 <sup>1</sup>	712	2.1

(Source: CBS Statline, 2009f; g; h)

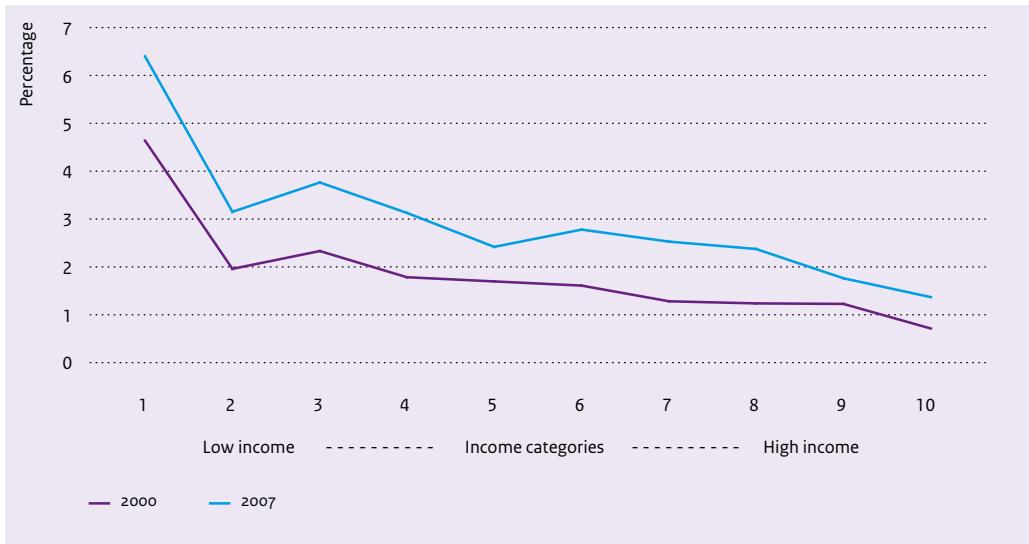
<sup>1</sup> provisional figures

**People in the highest income category spent 1.5% of their income on out-of-pocket payments; people in the lowest income category spent 6.5%**

In Figure 3.2.2, out-of-pocket payments and complementary health insurance premiums as share of disposable income are plotted against ten income classes. Each class comprises 10% of the households. The first class consists of the 10% of households with the lowest disposable income. The last class consists of the 10% of households with the highest disposable income. In absolute figures the latter group spends most on health care (on average almost € 1,100 per household) and the first group least (almost € 500 per household). However, percentage-wise the situation is just the other way around.

Figure 3.2.2 shows the situation in 2000 and again in 2007. It appears that the graphs for both years run more or less parallel and that the differences between the income groups have not fundamentally changed. The share of out-of-pocket payments increased for all of the income groups. The increases ranged from half a percentage point to almost 2 percentage points. In both years, the share of disposable income spent on out-of-pocket payments was highest for people in the lowest income group.

**Figure 3.2.2: Share of disposable income spent on out-of-pocket payments for health care, per household, per income decile, 2000 and 2007**



(Source: CBS, data analysis RIVM)

**The share of household income spent on out-of-pocket payments was smallest in the Netherlands compared to other EU-countries**

From an international perspective, the Netherlands had the lowest share of out-of-pocket payments (OECD, 2009). Out-of-pocket payments as share of total health expenditure ranged from 1.2% in the Netherlands to 5.9% in Switzerland (see Figure 3.2.3).

The OECD percentage for the Netherlands differs from the percentage as presented in the longitudinal comparison (1.2% versus 2.1%). An important part of the difference is explained by the exclusion of the cost of complementary insurance in the international comparison. The remaining difference is due to health expenditure being considered as a percentage of total expenditure in the international comparison and as a percentage of disposable income in the longitudinal comparison.

**Figure 3.2.3: Share of disposable income spent on out-of-pocket payments for health care, by country, 2007**



(Source: OECD Health Data)

## Conclusion

Financial accessibility of the Dutch health system is overall good. Important contributing factors are an obligatory basic health insurance, low out-of-pocket payments and a health care allowance that partly compensates for the cost of the health insurance premium. The percentage of disposable income spent on out-of-pocket payments was lowest in the Netherlands compared to all other OECD-countries and also showed a slightly downward trend. It should be noted, though, that the nominal premium is regarded as part of public funding. The number of uninsured remained stable at 150,000. However, the number of insured that failed to pay their premium has increased quite strongly in recent years. To counter this increase new legislation was introduced in 2009.

Additional health-related payments of chronically ill and disabled people have remained the same in the past year. However, there has been a shift in expenditure items following the introduction of the Health Insurance Act in 2006. Fewer people spent additional resources on the GP, dentist, specialist, physiotherapist and prescription drugs, while more people spent additional resources on aids and home adaptations.

Out-of-pocket payments are unevenly distributed over the population. In absolute terms, the highest income category pays most and the lowest income category least. However, out-of-pocket payments impose a greater burden on the disposable income of the lowest income group than on that of the highest income group. Out-of-pocket payments of the lowest income group constituted 6.5% of their disposable income versus 1.5% of the highest income group.

## 3.3 Geographical access

### Key findings

- Less than 1% of the Dutch population had to drive more than 10 minutes by car to the nearest GP, physiotherapist or pharmacy
- The average driving time by car to the nearest GP was 1.3 minutes; the average driving time to the nearest hospital was 7.7 minutes
- The average driving time by car to the nearest GP or hospital remained stable
- The accessibility of hospitals, nursing homes and residential homes was a problem to only a small proportion of the population

### How we determine geographical access

In order for care to be accessible, care services must be within a reasonable distance. This applies in particular to acute care (see Section 3.4), but also to other care services. Care services that are most often used must be within a shorter distance than care services that are used less often. GPs form a tighter network than clinical hospitals, and tertiary clinical care (highly specialised care, such as cardiac surgery, in vitro fertilisation, etc.) facilities have a larger catchment area and are preferably located centrally in relation to the patients they serve. The more a person's transport options are limited or his/her health deteriorates, the more troublesome the travel distance becomes. This is not only true for the patients themselves, but also for their visitors. Too great a distance can have negative effects and be perceived by the patient as an inconvenience or even result in the patient postponing or foregoing care.

There are social developments that make distance less of an issue in certain cases. ICT and communication applications, for example, enable specific types of care to be carried out remotely. Such care could, for example, enable patients with heart failure to send daily information regarding their health status to the hospital or GP from home via the Internet. Still, face to face contact with the care professional and thereby geographical accessibility remains of great importance.

The geographical distance was determined for four primary and two secondary care services:

- GPs
- physiotherapists
- pharmacies (including dispensing GPs)
- primary care midwives
- hospitals (excluding peripheral outpatient clinics)
- nursing homes and residential homes (excluding home care services).

These care services do not provide a complete picture, but they do provide a good overview of the distribution of a number of important care services. The average driving time by car for every Dutch

person to the nearest care service was calculated for each of these services. In addition, proximity maps have been included that show the location of each service.

The analyses are based solely on proximity measured in minutes. Questions as to whether the nearest care service has sufficient capacity or the desired opening times, or meets any of the patients' other potential preferences are not addressed. The distance was calculated based on the assumption that every patient goes to the nearest care service. However, the nearest GP may have stopped accepting new patients, who are then forced to use a service that is further away. Moreover, the nearest hospital may not always have the required specialty. The calculations for pharmacies include public pharmacies and dispensing GPs. Areas with few public pharmacies have more dispensing GPs. The average driving time to nursing homes and residential homes is less of an issue for patients, because they are intramural care services. Still, the average driving time to the nearest nursing home or residential home is given, because it can also be considered a distribution measure. An average short driving time implies that nursing and residential homes are distributed quite evenly across the population. It increases the chance that residents of such homes live near to where they used to live and near to their family and friends.

Some care services target a specific group of patients. The calculations for the average driving times to those services include only these target groups. Midwives help pregnant women (or broader: women of fertile age) and nursing and residential homes are mainly intended for people aged 75 years and over.

Next to the above-mentioned quantitative analyses, patients' experiences of the proximity of care services are an important access-related indicator. In the DHCPR 2008 the proximity of hospitals was also compared with other European countries. It appeared that the percentage of Dutch people who can reach a hospital within 20 minutes exceeded by far the EU-25 average (Busse et al., 2006). Since 2006, the international comparison of hospital proximity has not been given a follow-up.

### **Indicators**

- Percentage of people who have to drive by car more than 20 minutes to a physiotherapist, pharmacy, primary care midwife, or GP
- Percentage of people who have to drive by car more than 30 minutes to the nearest hospital and more than 10 minutes to the nearest nursing home or residential home
- Average driving time by car for every inhabitant of the Netherlands to the nearest specific care service
- Trends in of average driving time to the nearest GP and the nearest hospital

## The current state of affairs

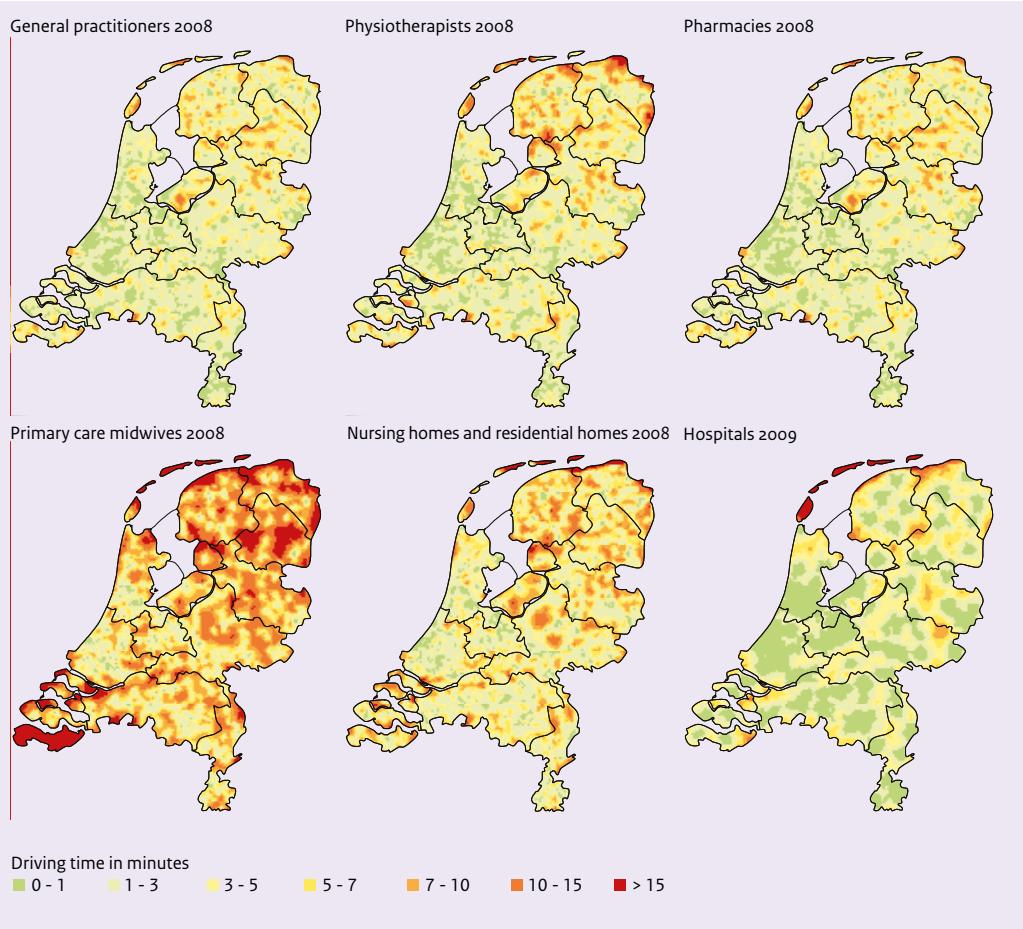
### **Less than 1% of the Dutch population had to drive more than 10 minutes by car to the nearest GP, physiotherapist or pharmacy**

Geographical access to primary care (GPs, pharmacists, physiotherapists and midwives) was not an issue for the majority of the Dutch population. Less than 1% of the population had to drive more than 10 minutes by car to the nearest GP (0.1%), physiotherapist (0.5%) or pharmacy (0.1%). The percentage of women of childbearing age that had to travel more than 10 minutes to a primary care midwife was 7.4% and thereby higher than for other primary care facilities. Figure 3.3.1 shows that the access to primary care midwives was worse in the northern provinces and Zeeland than in the Randstad. Within non-urban communities the low population density and the on average elderly population make it hard for midwives to build a profitable practice (NIVEL, 2008). Access to a midwife practice is of importance in the period prior to and after the delivery. Immediately prior to the delivery the distance a midwife has to travel to a patient is a concern. However, relevant data is lacking.

### **The accessibility of hospitals and nursing homes and residential homes was a concern for only a small proportion of the population**

Approximately 0.3% of the Dutch population has to drive more than 30 minutes to the nearest hospital. For about 1% the nearest nursing and care home is over a 10 minutes car drive away. Figure 3.3.1 shows the driving times to the nearest facility or practice by type of care service. These maps show that the people who have to drive more than 15 minutes are located mainly in the upper north and the lower south west of the Netherlands.

**Figure 3.3.1: Average driving times to the nearest care service of a certain kind, 2008/2009**



(Source: NIVEL, 2008; KNMP, 2008; RIVM, 2009; Actiz, 2008)

### **The average driving time by car to the nearest GP was 1.3 minutes; the average driving time to the nearest hospital was 7.7 minutes**

Table 3.3.1 shows the average driving time per type of care service. The average driving time to the nearest GP was 1.3 minutes. With exception of the primary care midwife, other primary care services investigated were less than a 1.5 minutes drive away. The average driving time to the nearest primary care midwife was 4.0 minutes. The average driving time to the nearest hospital was 7.7 minutes and to the nearest nursing and residential home 1.8 minutes.

**Table 3.3.1: Average driving time in minutes to the nearest care service, 2008**

	Driving time in minutes
Primary care	
• GPs <sup>1</sup>	1.3
• physiotherapists <sup>1</sup>	1.4
• pharmacies <sup>2</sup>	1.2
• midwives <sup>1</sup>	4.0
Secondary care	
• hospitals <sup>3</sup>	7.7
• nursing homes and residential homes <sup>4</sup>	1.8

(Source: <sup>1</sup>NIVEL, 2008; <sup>2</sup>KNMP, 2008; <sup>3</sup>RIVM, 2009; <sup>4</sup>Actiz, 2008)**The average driving time by car to the nearest GP or hospital remained stable**

Data on the distribution of GPs and hospitals was available for the years 1998, 2006 and 2008, and 2001, 2007 and 2009 respectively. The average driving time to the nearest GP was more or less stable in the period 1998-2008. The same is true for the geographical access to hospitals (see Table 3.3.2 and Table 3.3.3). The number of hospitals decreased by about 3% in the period 2001-2009, but the number of peripheral outpatient clinics doubled. If the latter was included in the analysis, the geographical distribution and access would improve considerably.

**Table 3.3.2: Average driving time in minutes to the nearest GP practice, 1998, 2006 and 2008**

	1998	2006	2008
Average driving time in minutes	1.2	1.2	1.3

(Source: NIVEL, 1998; 2006; 2008; RIVM, 1998; 2006; 2008; AND, 2007)

**Table 3.3.3: Average driving time in minutes to the nearest hospital, 2001, 2007 and 2009**

	2001	2007	2009
Average driving time in minutes	7.7	7.7	7.7

(Source: RIVM, 2001; 2007; 2009; AND, 2007)

## Conclusion

We may conclude that geographical access to primary and secondary health care services in the Netherlands is good to very good. The latest European analysis of geographical accessibility of health care (2006) showed that the percentage of people in the Netherlands who can reach a hospital within 20 minutes was far above the European average. Obviously, the driving times to care services that are used less frequently were longer than the driving times to primary care services, such as GPs and pharmacies. It is not so much the difference between primary and secondary care that explains the difference in

driving times, but rather the difference in frequency of use. This also explains why the driving times to primary care midwives exceeded the driving times to other primary care services.

The driving times analysed are net driving times. The actual driving time will be higher, because for matters like the time required for parking were not taken into account. Still, the net driving time reflects quite well the distribution and proximity of care services. In the Randstad and the urban areas care services are in closer proximity to their clients than in the rest of the Netherlands. Comparing the distribution of GPs and hospitals today with that in the past, it appears that the distance to both services has remained the same.

## 3.4 Timeliness of acute care

### Key findings

- In 2008, 92% of the ambulances was on site within the 15-minute norm
- In 2008, mobile medical teams were able to reach 98.2% of the population within 30 minutes during the day
- In 2009, 0.7% of the population lived further than a 30-minute drive from the nearest emergency service
- About 30,000 people had to travel more than 30 minutes to the nearest GP cooperative
- 37% of the emergency calls to GP practices was not answered within the 30-second norm
- Of the people who needed acute medical attention, 7% did not get the care they needed and 11% did not get the care as quickly as they wanted to

### How we determine timeliness of acute care

Delayed access to acute care can have immediate adverse effects on the patient. Potentially adverse effects include prolonged rehabilitation, permanent disability and in the worst case, even death. Hence, the policy of the Ministry of Health is aimed at ensuring that patients in need of acute care get the right care, at the right time and in the right place (AZN, 2007).

This DHCPR looks at the timeliness of four basic acute care services: ambulance services, mobile medical teams (MMT), emergency services and GP cooperatives. Together, they provide a good insight into acute care. Most of the people who need acute care are served by these services. Next to the quantitative analysis of the timeliness of acute care, we will also look at the experiences of people.

There are response-time norms for different areas of acute care:

- Policy rules dictate that an ambulance should be on an emergency site within 15 minutes of notification. The calculations are based on a 3-minute response and call-out time and a 12 minute net driving time (RIVM, Dutch National Atlas of Public Health, 2007). The generally accepted norm is that 95% of emergency rides has to be within the norm.

- In its policy vision on trauma care, the Ministry of Health indicated that a trauma team (MMT) only has added value if it can be on site within 30 minutes (VWS, 2005a).
- For emergency services, a norm time of 30 minutes by car is used. This is not an official norm.
- The Dutch Health Care Inspectorate (IGZ) uses two field norms for the time it takes to reach a GP cooperative: 15 and 30 (car) minutes (IGZ, 2006c). Those field norms have been established by the care providers themselves. In addition, the Inspectorate also indicates that telephone access to GP cooperatives is important; an emergency call must be answered within 30 seconds (IGZ, 2006c).

## **Indicators**

- Percentage of emergency ambulance rides that exceed the 15-minute norm
- Percentage of people who can be reached by a mobile medical team within 30 minutes
- Number of people who can reach the nearest emergency service by car within 30 minutes
- Number of people who can reach the nearest GP cooperative by car within 30 minutes
- Telephone access to GPs for emergency calls
- Percentage of people with a need for acute care who did not get the care they needed or wanted

## The current state of affairs

### **In 2008, 92% of the ambulances was on site within the 15-minute norm**

Eight percent of the emergency ambulance rides (A1-rides) in 2008 was not on site within the specified 15-minute norm. This means that the sector is still 3 percentage points away from the generally accepted norm. This norm states that for A1-rides, 95% of the ambulances must reach the patient within 15 minutes (AZN, 2009). This norm is made up of 2 minutes for the ambulance control room to handle the call, 1 minute for dispatch, and 12 minutes driving time. In 2006, the sector was 4 percentage points away from the norm.

An ambulance ride is defined as an A1-ride if the situation is life threatening (RIVM, National Public Health Compass, 2008). A combination of factors such as insufficient availability, insufficient spread of ambulance stations and force majeure can cause norm times to be exceeded (RIVM, National Public Health Compass, 2008).

When applying the 15-minute norm, the quality and efficiency of care should also be considered. The 3-minute norm for handling the call and ambulance dispatch will contribute to the timeliness of care, but research has shown that many A1-rides are issued unnecessarily (Van Duin et al., 2009). This is because dispatchers have too little time to assess the call properly. If they had more time, they would have assessed the urgency differently in a number of cases.

### **In 2008, mobile medical teams were able to reach 98.2% of the population within 30 minutes during the day**

In 2008, RIVM conducted a study into the proportion of people that can be reached within 30 minutes by a MMT. A MMT is affiliated with a trauma centre and provides specialised acute medical care at the scene of an accident. The study showed that 98.2% of the population could be reached by a MMT within 30 minutes during the day. Although more recent research findings are lacking, it can be assumed that the

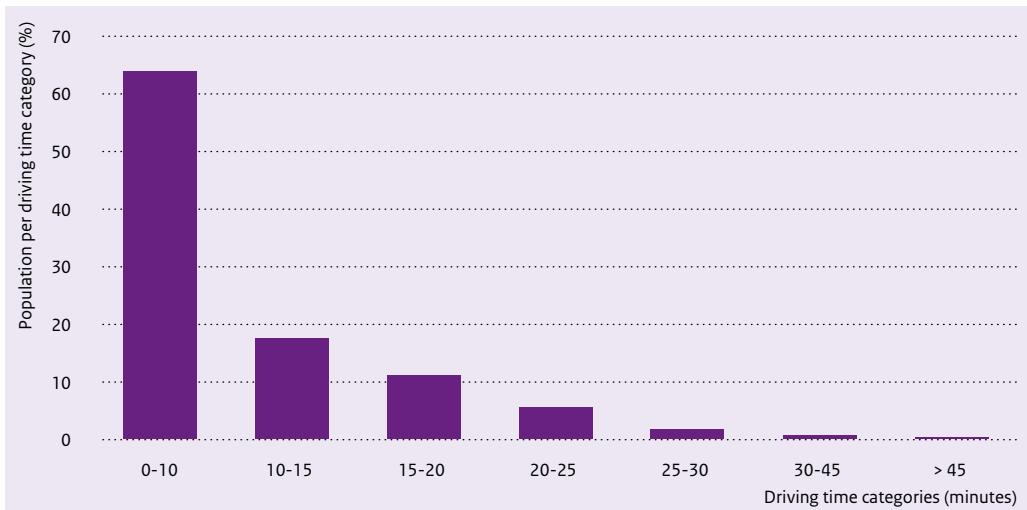
percentage of people that can be reached has remained stable. The number of trauma centres has not increased or decreased and the location of the ten trauma centres has not changed. In addition, it can also be assumed that the geographical distribution of the population has also remained the same. In 2006, a pilot study was conducted into the night flights of the trauma helicopter of the Radboud Hospital in Nijmegen. On the basis of this pilot study, it was decided to extend the service of the four trauma helicopters from Amsterdam, Rotterdam, Groningen and Nijmegen and to have them on standby 24/7 as of January 2009. Currently, it is being investigated whether environmental legislation would allow further extension of the service on the respective airports.

The effective range of the helicopters is less at night than during the day, due to the lower average speed at night. Hence, the population that can be reached within 30 minutes at night is 30% to 45% lower than during the day, depending on the location of the helicopter stations (Zwakhals et al., 2008).

**In 2009, 0.7% of the population lived further than a 30-minutes drive from the nearest emergency service**

January 2009, there were 103 emergency services versus 107 in 2006. Most people go to the emergency service by themselves. Some 0.7% of the Dutch population (106,905 people) lived further than a 30-minute drive from an emergency service (see Table 3.4.1 and Figure 3.4.1). The areas concerned are located in the upper north and the lower south west of the Netherlands and in the North-East Polder. Table 3.4.1 shows that between 2001 and 2008 access to the emergency services remained the same. By closing the emergency service in the city of Vlissingen (in the south west of the Netherlands), access decreased slightly in 2009 compared to previous years.

**Figure 3.4.1: Population living within driving distance from an emergency service, by driving time category (%), 2008**



(Source: Deuning, 2009)

**Table 3.4.1: Population living further than a 30-minute car drive from an emergency service (%), 2001-2009**

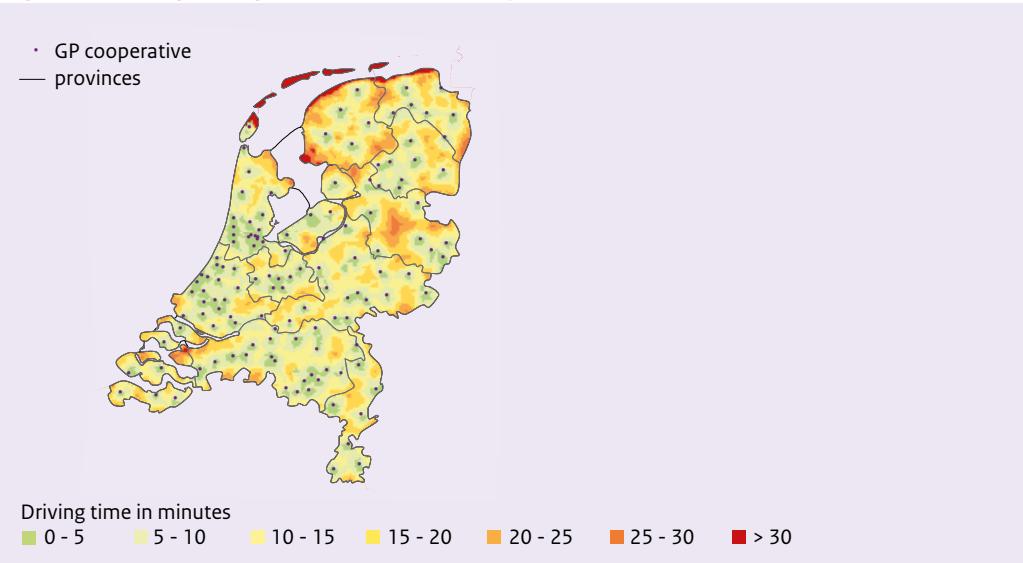
	2001	2005	2006	2008	2009
Number of emergency services	107	106	105	104	103
Population (%)	0.5	0.6	0.6	0.6	0.7
Population (number)	77,690	94,640	94,800	95,560	106,905

(Source: Deuning, 2009)

### About 30,000 people had to travel more than 30 minutes to the nearest GP cooperative

Some 14.7 million people could reach a GP cooperative within 15 minutes. About 30,000 people had to travel more than 30 minutes to the nearest GP cooperative (RIVM, Nationale Atlas Volksgezondheid, 2009). People having to travel more than 30 minutes generally lived in areas in the north of the Netherlands (see Figure 3.4.2). A number of people are not allowed to go to the nearest GP cooperative, because people have to visit the cooperative their GP is affiliated with. As recent data on the catchment areas of GP cooperatives is lacking, these figures could not be adjusted for this. About 98% of the GPs are affiliated with a GP service structure (Huisartsendienstenstructuur (HDS)). A GP service structure is an umbrella organisation which manages the administration of one or more GP cooperatives. Patients of a GP who is not affiliated with a GP service structure are not allowed to make use of the services of a GP cooperative. Those GPs organise the out-of-office-hours services themselves (VHN, 2007).

**Figure 3.4.2: Average driving time to the nearest GP cooperative, 2008**



### **37% of the emergency calls to GP practices was not answered within the 30-second norm**

GP practices need to be accessible for emergency calls without barriers within 30 seconds. In 2008, the Health Care Inspectorate conducted a study into the telephone access to GP practices for normal (non-emergency) calls and emergency calls. It showed that it took more than 30 seconds for 37% of the emergency calls to be answered by a person. Over 25% of the callers did not get anybody on the phone within 90 seconds (the time the telephone company automatically cuts off the connection).

Telephone access for emergency calls is better in group practices than in solo or duo practices and is worst at the end of the day. During office hours GPs are obliged to ensure continuity of care. If they fail to do so, people tend to call the emergency telephone number 112 also for non life-threatening situations (IGZ, 2008b).

### **Of the people who needed acute medical attention, 7% did not get the care they needed and 11 % did not get the care as quickly as they wanted to**

The 2008 Jaarrapportage Klantenervaringen in de zorg (Annual report Customer Experience in Care), asking patients about their actual experiences with care, showed that 7% of people who required immediate help for an illness, injury or disease did not get the help they needed, and that 93% received usually (24%) or always (69%) the help they needed. Of the people who needed acute care on one or more occasions, 10.9% indicated that they never or sometimes received the help as quickly as they wanted to (CKZ / NIVEL, 2010).

## Conclusion

Compared to 2006, access to acute care has remained stable. Accessibility of acute care scores well on several points. However, a few critical remarks are due. The response time norm for ambulances was being met by less than 95% of emergencies, although there had been a slight increase compared to 2006. Nationwide, the geographical distribution of emergency services is good. In most areas there were often several hospitals with an emergency department. However, there were rural areas with just one hospital with an emergency room near the site of the accident. Hospital mergers can put pressure on the existing distribution of hospitals, thereby potentially putting emergency services at risk. This is particularly important in rural areas.

In 2008, a study by the Health Care Inspectorate showed that the telephone access to GP practices for emergency calls needed considerable improvements to meet the requirements of responsible care.

## 3.5 Timeliness of regular care

### Key Findings

- For 22.3% of care users, waiting for care was a problem
- In GP practices, 48% of telephone calls was not answered within the 2-minute norm
- The number of people waiting for mental health care increased by 7% in the period 2008-2009
- A quarter of hospital departments indicated that the waiting time for outpatient care exceeded the Trekk norm
- An estimated 4475 problematic cases were on the waiting list for long-term care at the beginning of 2008
- The number of people waiting for a donor organ has decreased since 2004

### How we determine timeliness of regular care

People who turn to a doctor or care facility for help often have to wait for treatment. Long waiting lists indicate shortages, less freedom of choice and decreased accessibility. Long waiting times can prevent appropriate care from being provided and sometimes even seriously endanger the health or wellbeing of patients. They can also adversely affect the patients' and citizens' satisfaction with care. Still, waiting times do not have to pose a problem as long as they remain within certain limits, and they can even be beneficial for patients (time to think) and logistics (efficient use of resources). However, there is nothing beneficial about too long a waiting time.

In this DHCPR, the timeliness of regular care is determined first on the basis of data from surveys conducted among citizens. The data tells us something about how people experience waiting for care. In addition, registration data is presented for waiting lists and waiting times for mental health care, hospital care and long-term care. One of the measures against which registered waiting times are evaluated is the

so-called Trekk norm. During the Trekk debate in January 2000, consensus was reached on the target norms and the maximum waiting times for non-acute care (ZN, 2000). A second measure is the length of the waiting lists for problematic patients. Due to a lack of data in other sectors, this DHCPR discusses these waiting lists only for long-term care. With regard to waiting times in hospital care, a particular focus is on waiting times for donor organs.

### Indicators

- Percentage of care users who are of the opinion that waiting times for care are long or short
- Telephone access to GP practices
- Number of people waiting for mental health care (the length of the waiting list)
- Number of hospitals with waiting times that exceed the Trekk norm
- Number of problematic cases waiting for long-term care
- Number of people waiting for a donor organ

### The current state of affairs

#### For 22.3% of care users, waiting for care was a problem

Approximately 22.3% of those receiving care indicated that they experienced waiting for care as either a small or a big problem (CKZ / NIVEL, 2010). When asked to what extent it was a problem to wait for care, examination or treatment, 4.4% of respondents answered that they experienced waiting as a big problem. Nearly 18% indicated that they experienced waiting for care as a small problem. For more than three quarters of respondents waiting for care was no problem (CKZ / NIVEL, 2010).

#### In GP practices, 48% of telephone calls was not answered within the 2-minute norm

In 2008, the Health Care Inspectorate, in cooperation with the Dutch Patients/Consumers Federation (NPCF), investigated telephone access to GP practices during office hours. In this study, the norm for non-acute calls to be answered by a person was two minutes (IGZ, 2008b). It appeared that 48% of the calls failed to meet this norm. Against expectation, telephone access proved best on Monday morning. The accessibility of GP practices in less urban areas was better than in urban areas. There appeared to be less of a difference between the different forms of practice, although group practices scored slightly higher than solo and duo practices. To date, no robust analysis has been performed on the causes of poor access. Poor telephone access may be due to GP assistant capacity issues as well as to other organisational issues or a limited use of technical aids. GPs should set right telephone access within one year of the Health Care Inspectorate study. The Health Care Inspectorate and Patients/Consumers Federation will repeat the survey in 2010 (IGZ, 2008b). The Health Care Inspectorate study did not investigate patient experiences of telephone access. When patients have to wait more than two minutes, it does not necessarily imply that they experience telephone access as being bad. Section 3.6 elaborates on patient experiences.

### **The number of people waiting for mental health care increased by 7% in the period 2008-2009**

The number of people waiting for registration, assessment or treatment by juvenile, adult or elderly mental health care services increased by 6400 persons in the period 2008-2009. The number of people waiting on 1 January 2009 was 7% higher than on 1 January 2008. This increase is more or less in step with the increase in the number of clients (4%).

Although the number of people waiting for mental health care has risen strongly in recent years, the average waiting time of those who eventually received care increased less strongly in the period 2007-2009 (GGZ Nederland, 2009b). Table 3.5.1 also shows that the rise in the number of people on the waiting list was less steep in 2009 than in 2008.

Three quarters of adults and older people that started treatment in 2008 did not actually wait longer for the three phases of care than the agreed norm. The actual waiting time for treatment was highest with six weeks; at the time the next phase of care started, 25-33% had waited longer than the Trekk norm (see Table 3.5.1). The cumulated waiting time for the three phases together is not known.

**Table 3.5.1: Waiting list data for mental health care, reference date 1 January, 2006-2009**

	2006	2007	2008	2009	Mutation 2008-2009
Number of people waiting					
• registration phase	-	26,000	40,400	38,600	- 5%
• intake phase	-	32,100	31,300	42,000	+ 25%
• treatment phase	-	20,100	20,500	18,000	- 13%
Total	-	78,200	92,200	98,600	+ 7%
Actual waiting times of people who were eventually treated in the corresponding year (in weeks)					
• registration phase	3	3	3	-	
• intake phase	4	4	5	-	
• treatment phase	4	6	6	-	
Percentage of clients who actually waited longer than the Trekk norm					
• registration phase	-	-	28	-	
• intake phase	-	-	33	-	
• treatment phase	-	-	25	-	

(Source: GGZ Nederland, 2009b)

## A quarter of hospital departments indicated that the waiting time for outpatient care exceeded the Trekk norm

To determine the timeliness of hospital care, we used hospital registration data. Under the Dutch Healthcare Authority's (NZa) directive *Regeling verplichte publicatie wachttijden somatische zorg* (Regulation compulsory publication waiting times for somatic care), each hospital location is obliged to publish waiting times on its website as of 1 January, 2010. The waiting times for 2005, 2006 and 2007 were based on the Dutch Healthcare Authority's directive *Regeling verplichte aanlevering minimale dataset somatische zorg* (Regulation compulsory delivery minimum dataset somatic care (MDS)). The major change compared to previous years is that the distinction between waiting times for multiple day hospital stays and outpatient care has been abolished, to be replaced by a single waiting time for treatment. In addition, the waiting time for diagnostics has been added.

On 1 December 2009, 27.5% of hospital departments (specialties) indicated that patients must expect to wait longer than the Trekk norm when visiting the outpatient clinic. This is a decrease of three percentage points compared to 2005 (see Table 3.5.2). It is not clear whether this decrease is due to an actual reduction in waiting times or to changes in definition and registration.

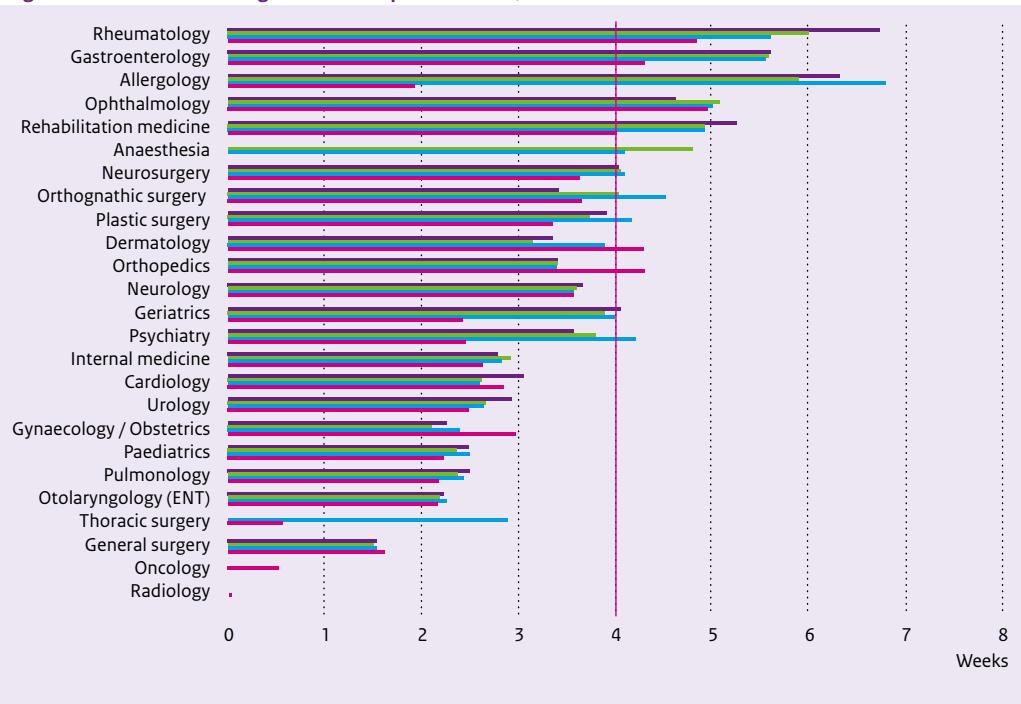
**Table 3.5.2: Hospital departments with expected waiting times exceeding the Trekk norm (%), 2005-2007**

	2005	2006	2007
Outpatient clinics	27.1	21.2	22.1
Wards	19.6	16.6	18.5
Day care	17.2	22.3	14.8

(Source: DIS, 2005-2007)

Similar to previous years, there were big discrepancies between specialties in waiting times exceeding the Trekk norm on the reference date 1 January 2009. It appeared that in more than 60% of the gastroenterology outpatient clinics the waiting time exceeded the Trekk norm as against 7.6% of pulmonary outpatient clinics. The Healthcare Authority's monitor showed a reduction in waiting times for most specialties in 2009 (see Figure 3.5.1). The waiting times for dermatology and orthopaedics are notable in that they exceeded the Trekk norm in that year. Rheumatology, gastrointestinal diseases and ophthalmology departments showed a reduction in waiting times, but they were still higher than the Trekk norm (NZa, 2010a).

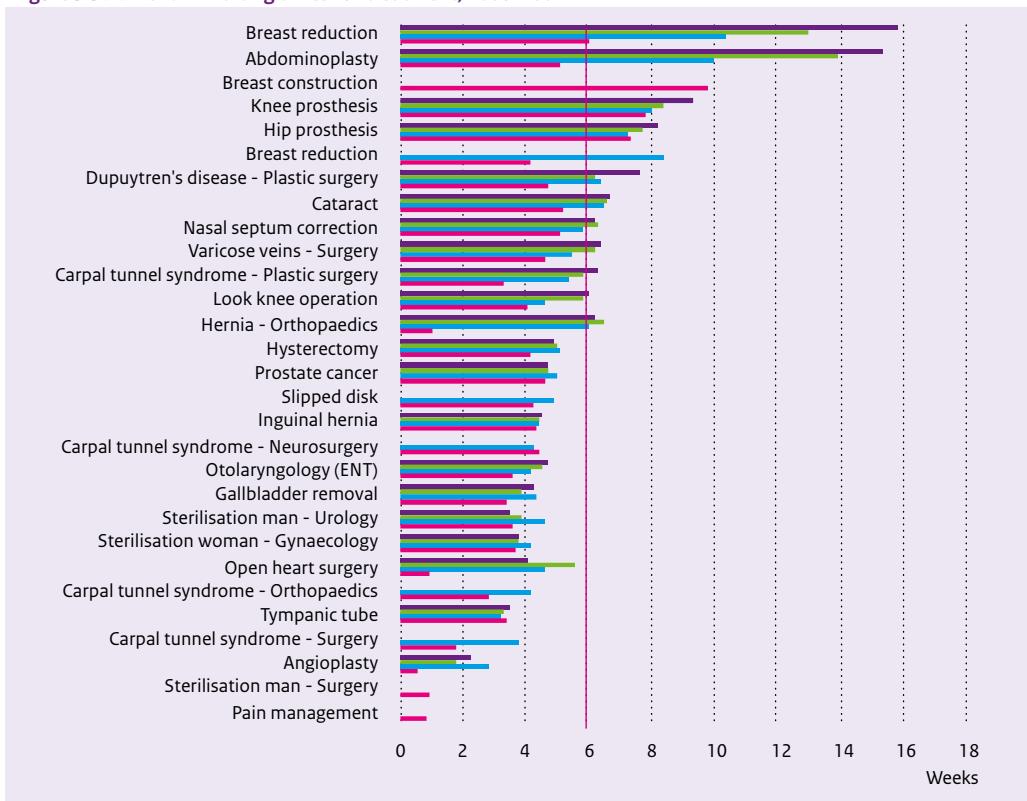
**Figure 3.5.1: Trend in waiting times for outpatient clinics, 2006-2009**



(Source: NZa, 2010a)

On 1 December 2009, waiting times for diagnosis and treatment exceeded the Trekk norm in 18.7% and 14.8% of hospital departments respectively. Little can be said about the trends in the overall waiting time for treatment and diagnosis compared with 2007 and earlier years, because of changes in registration. Still, it is known that in 2009 the waiting times for common procedures for varicose veins, inguinal hernia, slipped disk and cataract were below the Trekk norm, and that waiting times for breast reconstruction, knee replacement and hip replacement exceeded the norm by far (NZa, 2010a). In addition, the Healthcare Authority's monitor showed that waiting times (after adjustment to allow for maximum comparability with previous years) for almost all treatments included in the minimum dataset somatic care, decreased in comparison to 2006 (see Figure 3.5.2). The waiting time for diagnostics decreased in all types of facilities in 2009 compared to 2008, with the exception of waiting time for gastroscopy in general hospitals, which showed an increase. It is also notable that in particular university medical centres achieved a large decrease in waiting times (NZa, 2010a).

**Figure 3.5.2: Trend in waiting times for treatment, 2006-2009**



(Bron: NZa, 2010a)

In 2009, waiting times for outpatient clinics increased (see Table 3.5.3). On 1 January 2009, 24.1% of outpatient clinics exceeded the Trekk norm, to have increased to 27.5% on 1 December 2009. In contrast, the percentage of hospital departments exceeding the Trekk norm for treatment and diagnostics decreased (NZa, 2010a).

**Table 3.5.3: Hospital departments with expected waiting times exceeding the Trekk norm (%), 2009**

	January 2009	July 2009	December 2009
Outpatient clinics	24.1	25.5	27.5
Treatment	23.6	23.7	18.7
Diagnostics	20.4	21.1	14.8

(Source: MediQuest, 2009; data analysis by RIVM)

## An estimated 4475 problematic cases were on the waiting list for long-term care at the beginning of 2008

'Problematic waiting' refers to people waiting for long-term care, who need an indication from a Care Office to get care and who cannot get appropriate care within a reasonable period of time. In the period 2007-2008 the number of problematic cases on the waiting list remained the same, although a shift occurred between problem categories. Almost all problematic cases involved clients with multiple problems and/or specific client groups. According to the Care Offices, the main groups of problematic people on the waiting list for nursing and care were psychogeriatric patients waiting for a place in a nursing home and young, slightly mentally disabled clients with or without behavioural problems. The number of psychogeriatric patients waiting decreased from 2750 to 1600 in 2008 (see Table 3.5.4). For the young, mentally disabled the demand grew faster than the supply, especially for secure facilities.

**Table 3.5.4: Number of problematic cases waiting for long-term care, reference date 1 January, 2007-2008**

	2007	2008
Psychogeriatric patients	2,750	1,600
Young people who are slightly mentally disabled (with or without behavioural problems)	1,100	2,125
Elderly people with special care needs	750	750
Total	4,600	4,475

(Source: HHM, 2009)

## The number of people waiting for a donor organ has decreased since 2004

Between 31 December 2004 and 31 December 2009, the number of people waiting for a transplant decreased from 1443 to 1288. A subdivision by organ shows that between 2004 and 2009 the number of patients waiting for a lung rose from 79 to 183 and the number of people waiting for a kidney decreased from 1166 to 926. The number of people waiting for a liver donation also decreased substantially from 151 to 107 people (see Table 3.5.5).

**Table 3.5.5: Number of patients waiting for a donor organ, by organ, reference date 31 December, 2004-2009**

	2004	2005	2006	2007	2008	2009
Kidney <sup>1</sup>	1,166	1,088	1,084	937	952	926
Liver	151	162	157	131	117	107
Heart <sup>2</sup>	45	54	46	47	54	60
Lung	79	108	141	158	177	183
Total	1,443	1,425	1,440	1,284	1,316	1,288

(Source: NTS, 2008-2009)

<sup>1</sup> Including kidney plus pancreas and kidney plus liver

<sup>2</sup> Including heart plus lung

The average waiting time (time registered on the waiting list) in days varied considerably by organ in 2009. At 1150 days (3.2 years), the average registration time for a kidney transplant is longest. At 266 days, the average registration time for liver transplantation is shortest. Compared to 2004, the period people are waiting for a kidney transplant alone decreased. The registration times for other organs increased compared to 2004 (see Table 3.5.6).

**Table 3.5.6: Registration time in days for patients who received a post-mortem organ, 2004-2008**

	2004	2005	2006	2007	2008
Kidney	1,291	1,171	1,235	1,166	1,150
Heart	214	361	337	263	325
Lung	332	356	449	570	410
Liver	262	336	329	308	266

(Source: NTS, 2009)

In 2009, the number of effectuated post-mortem donations, at 215, was still 14% below the target of 250 for 2008 (Rijksbegroting, 2007). In 2008 this was 20% (see Table 3.5.7).

Effectuated donors include those organ donors who at least donated one organ for transplantation and those tissue donors from whom at least one organ has been removed for transplantation. Given the annual numbers from 2002 onwards, at 257 donors, 2007 seems to have been a positive exception.

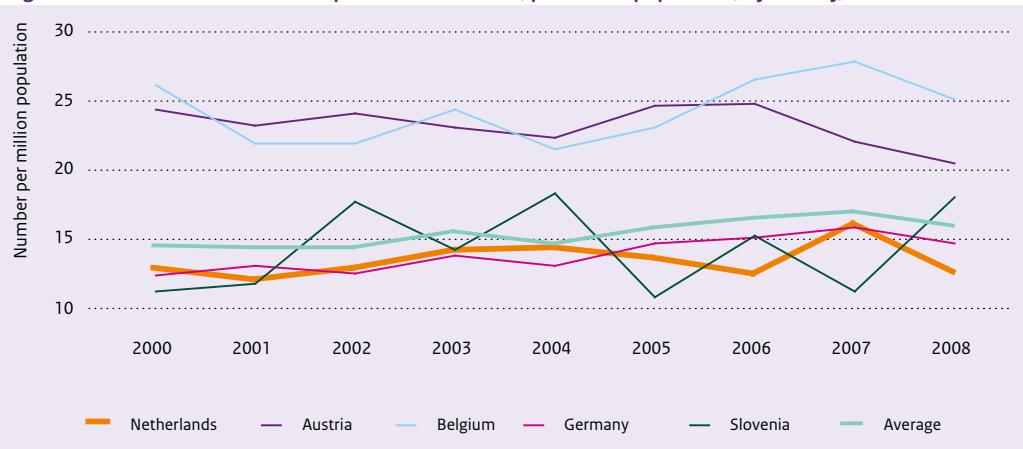
**Table 3.5.7: Effectuated post-mortem organ donations, 2002-2009**

	2002	2003	2004	2005	2006	2007	2008	2009
Organ donors	202	223	228	217	200	257	201	215
Increase or decrease	-	+10,4%	+2,2%	-4,8%	-7,8%	+28,5%	-21,8%	+7%

(Source: NTS, 2009)

Compared with other European countries (that participate in Eurotransplant), the number of effectuated post-mortem organ donations in the Netherlands, at 12.3 per million inhabitants, was below the average of 15.6 in 2008 (see Figure 3.5.3). Between 2000 and 2008, Austria and Belgium had the highest number of effectuated post-mortem organ donations per million people. The low number of fatal road accidents in the Netherlands is one of the causes of the low Dutch transplant rates (Westert and Verkleij, 2006). The Netherlands, Sweden and the United Kingdom top the table as the countries with the highest traffic safety levels of all EU-27 countries (WHO-HFA, 2009). As a consequence, the number of available organ donors is relatively low.

**Figure 3.5.3: Number of effectuated post mortem donors, per million population, by country, 2000–2008**



(Source: Eurotransplant, 2001-2009)

## Conclusion

Waiting for regular care has shown little change in recent years. Some sectors improved slightly, while others took a slight turn for the worse. Over 22% of patients experienced waiting for care as a problem. The indicators used do not give an exhaustive overview of the bottlenecks, but they do give some signals. The number of people waiting for mental health care has increased significantly. The main groups of problematic patients on the waiting list are people with dementia waiting for a place in a nursing home and young people with a slight mental disability.

Most waiting lists and waiting time data in regular care are not entirely adequate. However, improvements have been made. Under the Dutch Healthcare Authority's directive *Nadere Regeling Minimale Dataset* (Regulation minimum dataset) each hospital site is obliged as of 1 September 2008 to publish its monthly waiting times in accordance with the Healthcare Authority's definition on its website. The renewed registration requires the waiting times data to be up to date and current rather than retrospective. The changes in registration make it more or less impossible to say something about trends in general waiting times for outpatient clinics, treatment and diagnosis, as calculated for this DHCPR. The Healthcare Authority's monitor revealed that most specialties showed a reduction in waiting times and that the waiting times for almost all common treatments declined in the year 2009.

## 3.6 Access according to needs

### Key findings

- Ninety percent of people indicated that they (almost) always received the help they needed
- Over 30% of the population experienced problems with telephone access to regular care during office hours
- Nearly 95% of the population reported that they were usually or always treated well in health care
- Health care was equally accessible to people with a high or a low educational level
- Long hospital stays and readmission rates were about 10% higher among non-Western ethnic minority people than among ethnic Dutch people
- Actual access to basic medical care - except the dentist – was reasonable for homeless people; subjective thresholds, however, were a major issue
- Access to primary care for people without legal residence status has improved over the past decade, but access to secondary care remains a concern

### How we determine access according to needs

This section focuses on access according to needs from an equity point of view. Whitehead (1991) describes equal accessibility as equal access to available care for equal need, equal utilisation of care for equal need, and equal quality of care for all. Equal quality of care implies that it may not vary because of personal characteristics such as age, gender, ethnicity or socio-economic status (Whitehead, 1992; AHRQ, 2004). Good quality care means that the care has been adapted to the patient's circumstances and capacities. As a consequence, some patients may require more care contacts and more explanation to achieve the same goal as other patients with similar care demands. In this context, responsiveness of care is an important issue. Section 2.6 deals extensively with this issue.

Against this background it is difficult to formulate indicators that are not somehow related to patient experiences. That is why this section sets out with three indicators related to patient experiences. In addition, it is investigated whether latent care demands of clients or patients are transformed into care needs. For, a lot of potential health gains may get lost if effective medical treatments are not used by people they could benefit. That is why this section addresses differences in care utilisation between various groups adjusted for differences in health status. This is an indicator for potential underutilisation and thereby for the underutilisation of potentially beneficial medical treatments. We distinguish groups with a low and a high educational level and various ethnic groups. In addition, we address access to care for two groups of people living at the edge of society; that is, homeless people and people without legal residence status.

## Indicators

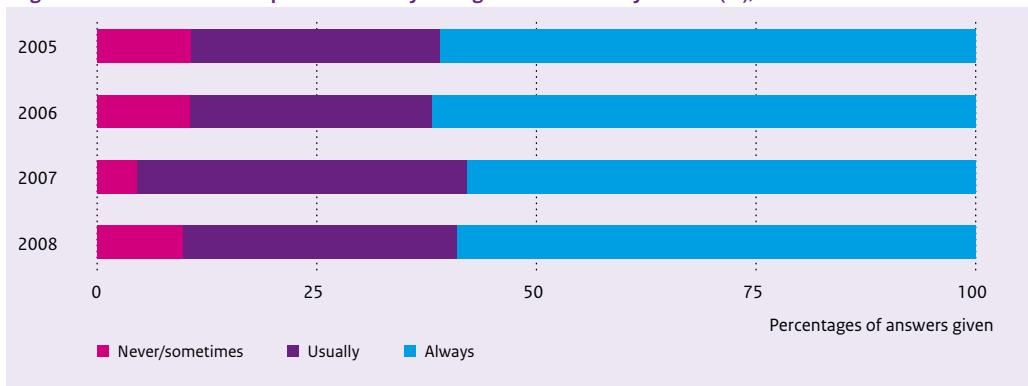
- Adaptation of care, assessment and treatment to needs
- Telephone access to regular care during office hours
- Interpersonal behaviour of care professionals
- Disparities in care utilisation between people with a high and a low educational level
- Differences in hospital readmission rates between various ethnic groups
- Access to health care for homeless people
- Access to health care for people without legal residence status

## The current state of affairs

### Ninety percent of people indicated that they (almost) always received the help they needed

Figure 3.6.1 shows to what extent people felt that they received the help they needed in health care. The figures are derived from questions about the speed and adequacy of the help given following a telephone call, in emergencies and during consultations. About 60% of respondents indicated that they always received the care they needed and about 30% indicated that they usually received the help they needed. The percentage of respondents who indicated that they never or sometimes received the help they needed was about 10%, with exception of the year 2007, when it was about 5%. Overall, the figures are reasonably stable.

**Figure 3.6.1: Patients who reported that they were given the care they needed (%), 2005-2008**



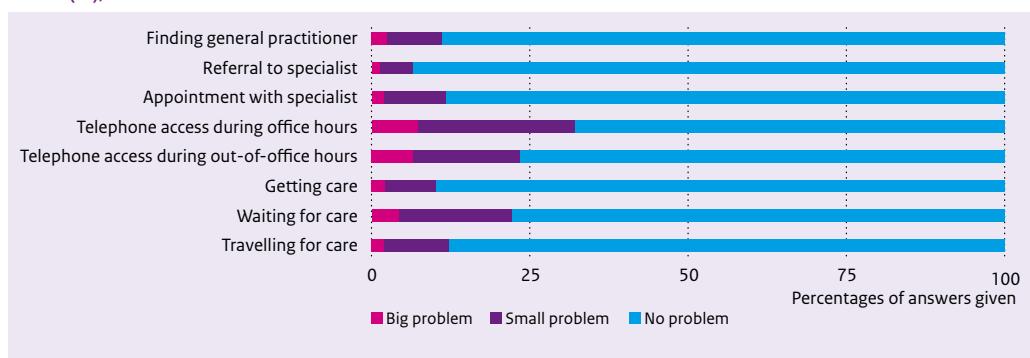
(Source: CKZ / NIVEL, 2010)

### Over 30% of the population experienced problems with telephone access to regular care during office hours

Patient surveys show that about one third of the population experienced problems with telephone access to care professionals during office hours. 7.5% of the respondents indicated to have experienced big problems and 25% small problems. These percentages are high in comparison to other indicators related

to experienced access to care providers (see Figure 3.6.2). Telephone access during office hours scored worst. Remarkably, telephone access during out-of-office hours scored better than telephone access during office hours. In 2008, the Health Care Inspectorate conducted a study into telephone access of GP practices. This study was reported on in the Sections 3.4 and 3.5. The percentages presented here concern patient experiences and indicate to what extent the patients' needs were met. In the Health Care Inspectorate study, telephone waiting times were compared to a norm, thus testing the timeliness of responses to telephone calls.

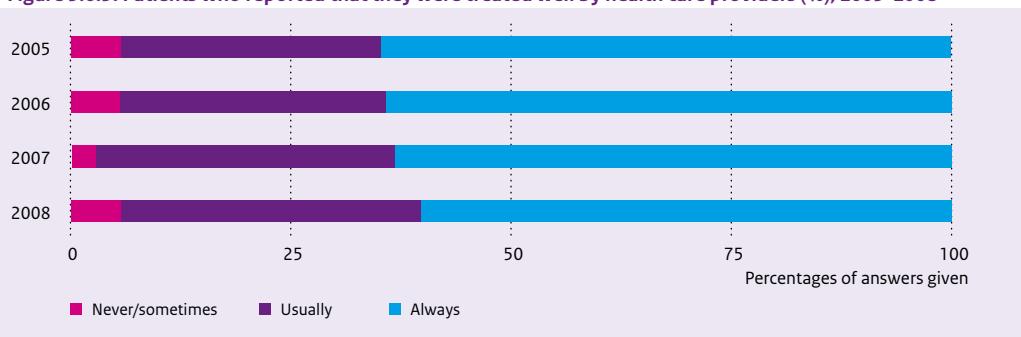
**Figure 3.6.2: Patients who reported that they experienced problems with access to health care in eight areas (%), 2008**



(Source: CKZ / NIVEL, 2010)

**Nearly 95% of the population reported that they were usually or always treated well in health care**  
 Nearly 95% of the population reported that they were usually or always treated well in health care. The figures are based on Consumer Quality (CQ)-questions about the extent to which care providers are polite and respectful, take patient seriously, listen attentively, take enough time and explain things understandably. This percentage is high, and more or less stable over the years. However, four consecutive years do not yet allow a conclusion as to within what margins differences in trends can be identified. Figure 3.6.3 shows a small decline in the percentage of people that reported that they were always treated well. In addition, the group of people that indicated that they were never treated well was more or less stable. As yet it is not clear whether or not 2007 is to be regarded as a positive outlier.

**Figure 3.6.3: Patients who reported that they were treated well by health care providers (%), 2005-2008**

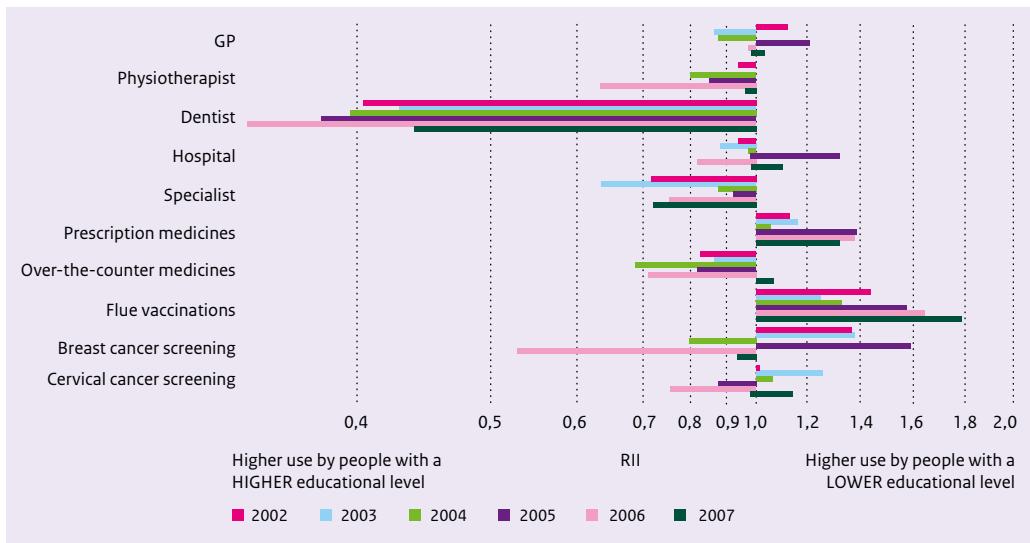


(Source: CKZ / NIVEL, 2010)

### **Health care was equally accessible to people with a high or a low educational level**

On average, people with a low educational level are less healthy than people with a high educational level (Van der Lucht and Polder, 2010). Worse access to care may be one of its causes. Worse access may show in a lower level of, or differences in health care utilisation. Figure 3.6.4 presents an overview of the disparities in the use of ten types of care services, adjusted for differences in health, for the period 2002-2007. With the exception of visits to the dentist, differences in care utilisation between people with a low or a high educational level were not significant in all six years. Still, a few non-significant differences are worth mentioning. In each of the six years, the influenza vaccination rate was somewhat higher for people with a low educational level than for those with a high educational level. The same is true for the consumption of prescription medicines. This seems to be countered by the underuse of over-the-counter medicines by the people with a low educational level compared to those with a high educational level. People with a high educational level received more specialist and physiotherapist care than those with a low educational level. Participation rates in breast cancer and cervical cancer screening programs differed between years; one year the rate was higher for people with a low educational level, the next year the rate was higher for people with a high educational level.

**Figure 3.6.4: Health care utilisation (visits and prescriptions) by educational level, measured by means of the Relative Index of Inequality (RII), adjusted for differences in health, 2002-2007**



(Source: CBS, *Pols-Gezondheid en Arbeid*, 2002-2007; data analysis RIVM)

Next to analysing the extent of the disparities in care utilisation, the development in disparities between 1990 and 2007 was also analysed. This was done by calculating the RII trend. For the use of over-the-counter medicines and influenza vaccination, the disparities showed an upward trend over time, while they showed a downward trend for cervical cancer screening. For the other types of care the disparities remained more or less stable.

#### **Long hospital stays and readmission rates were about 10% higher among non-Western ethnic minority people than among ethnic Dutch people**

Readmissions and long hospital stays were more frequent among non-Western ethnic minority people than was to be expected on the basis of their age, diagnosis or treatment. The differences with ethnic Dutch people were in the region of 10%. These findings can be an indication of increased patient safety risks for non-Western ethnic minority people in Dutch hospitals.

Disparities were also found between ethnic minority groups. People from Surinam and the Dutch West-Indies seemed to run a higher risk than people from Morocco and Turkey. Underlying mechanisms that might explain the elevated risk for safety events involving patients of ethnic minority groups include: care providers and patients not understanding one another because of patients' poor command of the Dutch language, care providers' lack of knowledge about genetic characteristics of patients, misunderstandings between patients and care providers because of differences in illness perceptions and, finally, inappropriate care because of providers' prejudices (Essink-Bot et al., 2009).

Differences in readmission rates or in the length of hospital stay for the same condition may indicate differences in quality of care between ethnic groups. It could also be the case that an extended hospital stay suits a specific group better, for instance, because care is more complicated due to language and communication problems. Still, it may be an indication of disparities in access and reduced patient safety.

**Actual access to basic medical care - except the dentist – was reasonable for homeless people; subjective thresholds, however, were a major issue**

Homeless people tend to be in poorer health. Life expectancy of homeless people living in Amsterdam is a mean 25 years shorter than that of the average Dutch population (Van Laere, 2009). The question is whether this can be attributed (partly) to a reduced access to health care. Financial constraints, the presence of facilities, geographical distance or waiting lists are just as relevant to homeless people as they are to the rest of the population. Financial accessibility is most likely to pose the biggest problem for homeless people. Health insurers, however, are obliged to take on every applicant for basic health insurance. Although many homeless people have no health insurance, the moment they need care, they are often assisted in concluding health insurance (Akkermans, 2008). Problems with financial access to health care are predominantly related to care services not covered by the basic insurance, like the dentist. When it comes to accessibility of care, perceived barriers are a major issue for homeless people.

Homeless people foregoing medical care is not so much due to a lack of knowledge or information, but rather to their perception that there is no need to visit a doctor. For this perception to change, a bond of trust between the care provider and a homeless person is of great importance (Akkermans, 2008).

**Access to primary care for people without legal residence status has improved over the past decade, but access to secondary care remains a concern**

At the end of 2008, access to primary care for people without legal residence status seemed to have improved in comparison to 10 years earlier. Improved accessibility was mainly due to care providers being more aware of special compensation schemes and being more willing to provide care. At the same time, a significant proportion of GPs appeared to be unfamiliar with such schemes. Hence GP care for illegal residents is increasingly concentrated in a limited number of GP practices. It shows again and again that caregivers need to be informed about the compensation schemes (Veenema et al., 2009).

Referral from primary care to secondary care is often an issue because of the financial demands that go with it. Especially administrative hospital staff are often poorly informed about the specific rules and procedures concerning patients without legal residence status. In over one quarter of GP practices where illegal residents were treated, it appeared that referring such patients to secondary care had been considered, but not followed up. With mental disorders, which are highly prevalent in this group, a referral was considered in only one third of cases. In two thirds of the emergency departments fees must be paid in cash on the spot.

The Linking Act (*Koppelingswet*) was introduced in 1998 to provide for the funding of care for people without legal residence status. However, with the introduction of the Health Insurance Act in 2006, the financial barriers for this group increased again. Hence, 1 January 2009 the Health Insurance Act was amended. To what extent the amendment has improved accessibility of care for illegal residents is as yet not clear (Veenema et al., 2009).

## Conclusion

Responsiveness of care to the needs of the clients is on average up to standards. Interpersonal behaviour of care providers is also good. However, specific elements of care scored less well. In particular, telephone access to GP practices during office hours was experienced by a substantial group as problematic. People with a low educational level did not use less care than people with a high educational level. However, readmission rates were found to be higher and hospital stays longer among non-Western ethnic minority groups. This may be an indication of a lack of responsiveness to the specific needs of these patients and hence of a problem with access to care for ethnic minority groups. It is recommended to properly analyse whether these differences point to a reduced access to care for ethnic minority groups or, contrariwise, that they are an indication of an increased responsiveness to the needs of the target group.

For homeless people, access to care is primarily a matter of subjective barriers that need a bond of trust between client and care provider to be overcome. For people without legal residence status, access to primary care has improved over the past decade. However, only a few GPs are familiar with the special compensation schemes. Access to secondary care is still an issue for this group.

## 3.7 Personnel availability

### Key findings

- The number of vacancies per 1000 jobs showed a downward trend
- The percentage of vacancies that are difficult to fill increased steadily
- Between 3% and 7.2% of the health care workers left the health sector; these percentages showed a slight downward trend
- Since 2006, the percentage of working hours lost due to sickness has been fairly stable in the health sector
- Care users' experiences with personnel availability were better in home care than in nursing home care and residential home care
- Compared with other countries, the number of doctors and nurses was average in the Netherlands

## How we determine personnel availability

Personnel availability is a prerequisite for providing good health care. Shortages can give rise to quality and access problems, such as longer waiting times or care providers having too little time to provide good quality care.

Employment in the health care sector will continue to grow in the coming years. In the long term, the care sector will take up a growing proportion of the labour market. Apart from a growing health care sector, this is also caused by a labour market that, according to Netherlands Bureau for Economic Policy Analysis (CPB), will stabilise as of 2012 and even shrink from 2019 onwards (Van der Windt et al., 2009a).

Compared to the entire labour market, labour productivity in the health care sector is lagging behind (Boer and Croon, 2009). It is very much in the nature of the work; health care is a labour intensive ‘industry’ where it is difficult to mechanize or automate labour processes. This is expected to lead to an increase in the percentage of workers in the health care sector (see also Chapter 4).

The availability of personnel can be viewed from various perspectives. These can broadly be divided into three groups:

- macro-level labour market indicators, such as number of vacancies, turnover and absenteeism, but also trends in labour productivity. These data tell something about the trends in the actual availability of personnel. The figures are strongly objective in nature, but they tell little about the extent to which the shortages are experienced;
- the users’ perspective - that is, the degree to which care users experience a shortage of personnel;
- the employers’ perspective - that is, the degree to which employers succeed in attracting sufficient personnel to deliver good quality care.

Obviously, a connection between these perspectives can be expected, but they also complement each other to a large extent.

### Indicators

- Number of vacancies per 1000 jobs in health care
- Percentage of vacancies that are difficult to fill
- Percentage of nursing and care personnel that are leaving the sector (net turnover)
- Percentage of work hours lost (absenteeism)
- Percentage of care users who believe sufficient personnel is available during a stay in hospital or nursing home
- Number of doctors and nurses per 1000 population

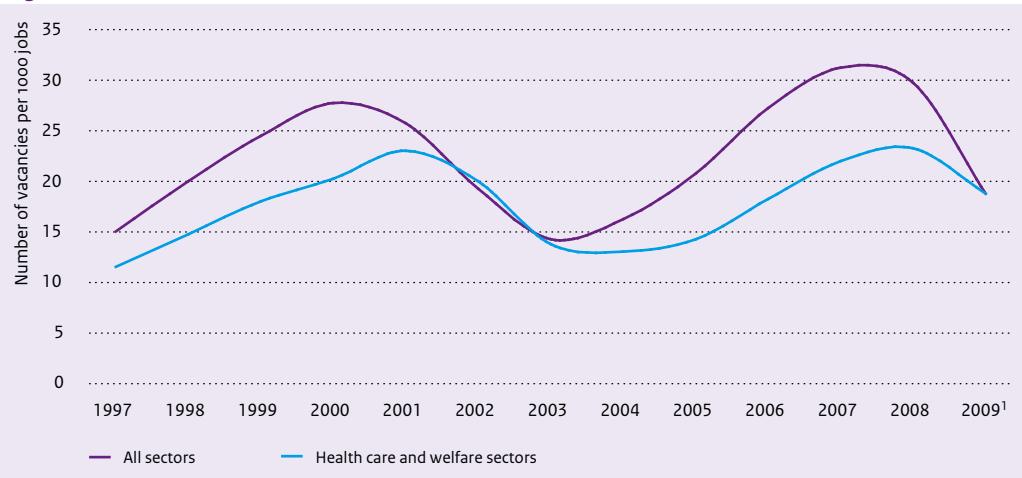
## The current state of affairs

### The number of vacancies per 1000 jobs showed a downward trend

The number of vacancies per 1000 jobs (vacancy rate) is cyclic in nature and the health care sector tends to be lagging behind somewhat compared to the overall labour market. In 2007, a decrease in the total number of vacancies set in, to occur a year later in health care. In the Netherlands, the entire labour market as well as the health sector showed a marked decline in the number of vacancies in 2009. For the entire labour market this was the biggest decrease since 1997 (10.5 percentage points). In health care the decrease was bigger only in 2003. A decline in the vacancy rate indicates a less tight labour market; it is easier to find personnel for available jobs.

In general, the vacancy rate is lower in the health care sector compared to the overall labour market. As Figure 3.7.1 shows, only in the period 2002-2003, with a declining vacancy rate, vacancy rates were at the same level in the overall labour market and the health care sector.

**Figure 3.7.1: Vacancies in the health care sector and in all sectors combined, 1997-2009**



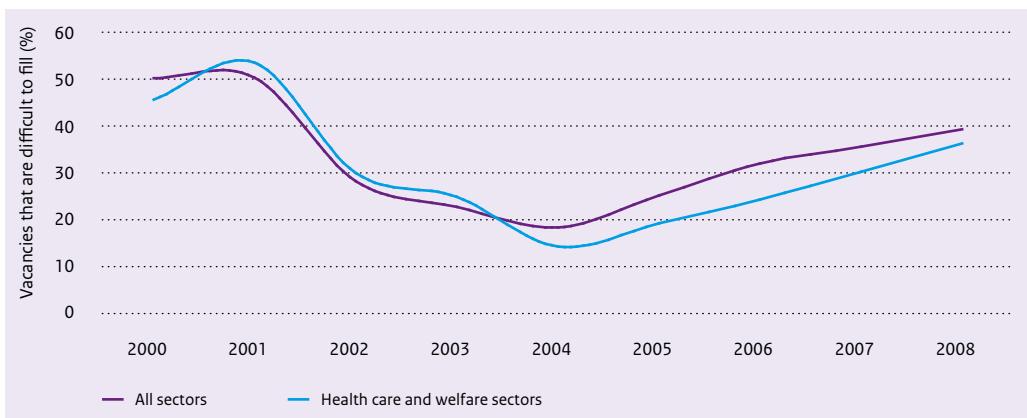
(Source: CBS Kwartalenquête vacatures, 2009)

<sup>1</sup> 2009 data are from the first half of the year

### The percentage of vacancies that are difficult to fill increased steadily

Notwithstanding a drop in the vacancy rate (see above), the proportion of vacancies that are difficult to fill continued to rise. This implies that the demand for personnel with specific qualifications remains, despite a declining labour market. As figure 3.7.2 shows, the curve of vacancies that are difficult to fill in health care and welfare more or less coincides with the curve of the overall labour market.

**Figure 3.7.2: Vacancies that are difficult to fill as a share of the total number of vacancies in the health care and welfare sectors and in all sectors combined (%), 2000-2008**



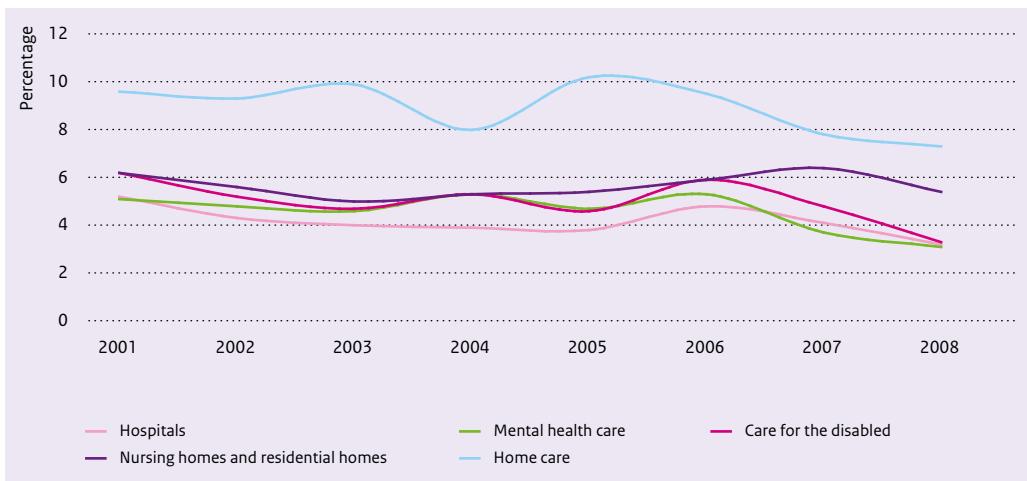
(Source: CBS Statline, 2009i)

### **Between 3% and 7.2% of the health care workers left the health sector; these percentages showed a slight downward trend**

The net turnover equals the number of employees in an industry that leaves the sector in one year as a proportion of the total workforce in that industry (Van der Windt et al., 2009b). In 2008, the net turnover ranged from 3% to 7.2% depending on the sub-sector. The turnover was highest in home care and lowest in hospitals and mental health care.

This decrease in net turnover can probably be explained by a shrinking economy. Because of a falling number of vacancies in other sectors, the net turnover also dropped. However, this explanation is tentative and needs further investigation. In 2007, for example, the net turnover dropped, while the overall economy did not show a downward trend.

**Figure 3.7.3: Net turnover of nurses, carers and social-pedagogic personnel in the health care and welfare sectors, 2001-2008**



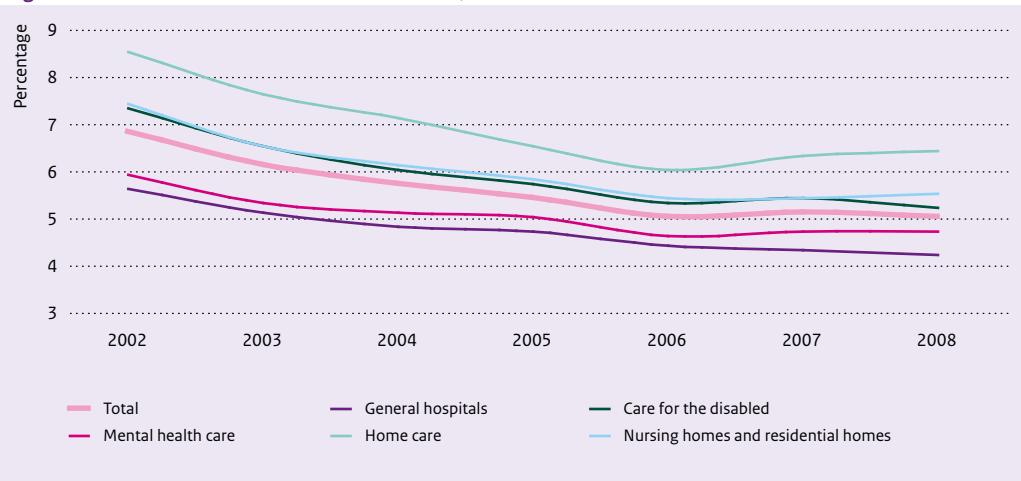
(Source: Van der Windt et al., 2009b; Van Essen et al., 2006)

### Since 2006, the percentage of working hours lost due to sickness has been fairly stable in the health sector

For the first time since 2000, the 3<sup>rd</sup> and 4<sup>th</sup> quarter of 2007 showed a structural rise in absenteeism in health care. This rise was mainly due to long-term absenteeism. The frequency of reporting also rose for the first time in the 4<sup>th</sup> quarter of 2007 (Vernet, 2008). In 2008, however, the absenteeism figures stabilised again. In nursing and care as well as in home care, the absenteeism figures rose with 0.1% compared to 2007. In contrast, the figures fell with 0.1% in care for the disabled and hospitals.

Absenteeism in the overall health care sector was 5%. It was lowest in hospitals with 4.2%, and highest in home care with 6.4%.

**Figure 3.7.4: Absenteeism in the health care sector, 2002-2008**



(Source: Vernet, 2008)

### Care users' experiences with personnel availability were better in home care than in nursing home care and residential home care

From a users' perspective, the experienced availability of personnel is an important indicator. Table 3.7.1 shows an overview of the experiences as well as a breakdown into residents of nursing homes and residential homes, home care clients, and representatives of psychogeriatric patients.

**Table 3.7.1: Average experience scores of residents of nursing homes and residential homes, home care clients and representatives of psychogeriatric clients for the issue 'availability of staff', 2007-2008**

Sector	Average score 2007	Average score 2008
Residents of nursing homes and residential homes	2.94	2.98
Home care clients	3.31	3.29
Representatives of psychogeriatric patients	2.99	2.99

(Source: CKZ / NIVEL, 2010)

1 = never, 2 = sometimes, 3 = usually, 4 = always good experiences

Home care clients were generally more positive about the availability of personnel than residents of nursing homes and residential homes, and representatives of psychogeriatric patients. The experiences of residents of nursing homes and residential homes improved slightly since the last measurement, but the score was still relatively low.

The distribution of the responses is quite narrow, as is illustrated in Table 3.7.2. This table shows the average scores of the 25% of respondents who were most negative and of the 25% of respondents who were most positive, in 2008.

**Table 3.7.2: Most negative, most positive and average experience scores of residents of nursing homes and residential homes, home care clients and representatives of psychogeriatric patients for the issue ‘availability of staff’, 2008**

Sector	Most negative score (25%)	Average score	Most positive score (25%)
Residents of nursing homes and residential homes	2.78	2.98	3.19
Home care clients	3.17	3.29	3.43
Representatives of psychogeriatric patients	2.86	2.99	3.17

(Source: CKZ / NIVEL, 2010)

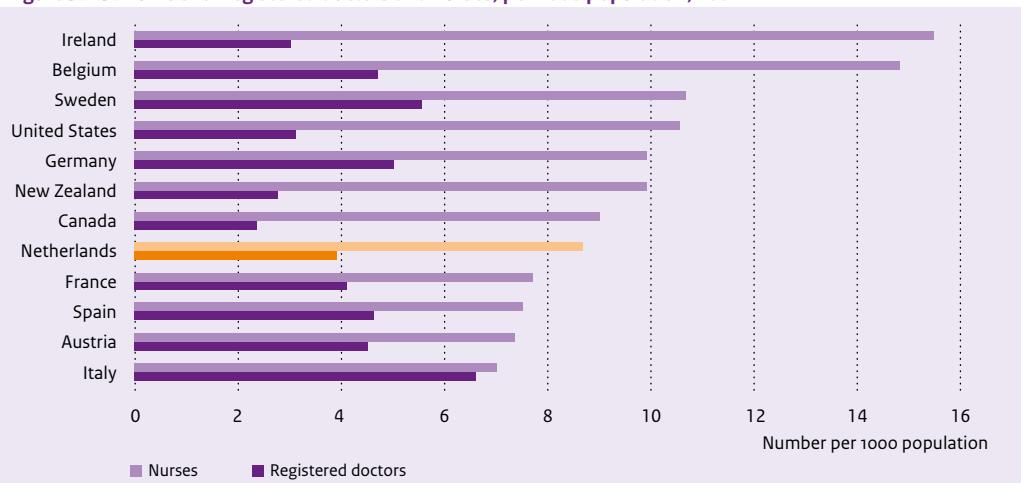
1 = never, 2 = sometimes, 3 = usually, 4 = always good experiences

### **Compared with other countries, the number of doctors and nurses was average in the Netherlands**

In 2007 there were 3.9 doctors registered under the Health Care Professions Act (*Wet beroepen individuele gezondheidszorg* (BIG)) per 1000 population and 8.7 active nurses per 1000 population. It is not known how many doctors actually carry out their profession. Internationally, the number of registered doctors per 1000 population varied between 2.4 in Canada and 6.6 in Italy. The number of active nurses was lowest in Italy, over 7 per 1000 population, and highest in Ireland with 15.5 per 1000 population. The Dutch figures were somewhere in the middle bracket for both professions.

The figures for the active nurses are not comparable with those in the previous DHCPR, because the currently available source presents data on active nurses rather than registered nurses.

**Figure 3.7.5: Number of registered doctors and nurses, per 1000 population, 2007**



(Source: OECD Health Data, data analysis RIVM)

Number of registered doctors in France for 2005; Number of nurses in Belgium and Sweden for 2005

## Conclusion

The number of vacancies in the health care sector is falling. In contrast to other sectors, it can be assumed that the demand for care will not drop in a stagnating economy. So from a decrease in the number of vacancies it can be concluded that the demand for health care workers continues to be met. This may also explain why the decline in the number of vacancies in the health sector occurs somewhat later than the decline in the overall economy. The number of people leaving health care was falling, while the percentage of vacancies that are difficult to fill continued to rise. Apparently, specific expertise was not readily available, not even in a more relaxed labour market. Absenteeism in the health sector stabilised after years of decline. In home care absenteeism and personnel turnover exceeded by far those in other health care sub-sectors.

Next to these rather abstract indicators, there is the consumer's experience of shortages. 89% of people did not experience any problems with finding a GP (see Section 3.8). In nursing and care and in home care, client experiences with the availability of personnel were on average reasonable. A more detailed picture of this sector is presented in Section 2.4. Responsiveness is extensively discussed in Section 2.6. Compared with other European countries the number of nurses and doctors in the Netherlands was average.

## 3.8 Freedom of choice

### Key findings

- Over 11% of people who wanted to register with a GP had trouble finding one; this percentage was lower than in 2006
- The number of people with a personal health budget under the Exceptional Medical Expenses Act continued to increase
- About 3.5% of policyholders changed health insurer in 2009
- Up to 5% of policyholders reported that their freedom of choice was severely hampered by their health insurer
- There were still barriers to the effective use of information on quality and choice on the Internet

### How we determine freedom of choice

Freedom of choice means that people have free access to the health insurer and health care provider they want and that they can choose from different options. Freedom of choice also relates to the individual's ability to make conscious choices. To exercise this ability, people have to know what care and insurance policy best meet their needs. The availability of adequate 'choice information' is important to be able to use the available options meaningfully.

Over the last twenty years, increasing freedom of choice in care has been a major policy goal in order to strengthen the position of care users. Freedom of choice is first and foremost seen as intrinsically valuable because of the right to self-determination (Stüssgen, 1997). In 2004, almost all Dutch citizens (95%) wanted to choose their practitioner themselves and wanted the practitioner to discuss the different therapies with them (90%) (Westert and Verkleij, 2006). Second, freedom of choice is seen as a requirement to create a system of regulated competition. This can only be done if the care user can take on the role of 'choosing consumer'. Finally, freedom of choice is seen as a means to improve quality. It has been shown that health care providers are stimulated to improve the quality of their performance when their performance is publicly compared to that of other health care providers (Groenewoud et al., 2006; Lugtenberg and Westert, 2007).

The current state of affairs is gauged according to the following questions:

- To which extent do people experience limitations in their freedom of choice, particularly when looking for a GP or changing health insurer?
- How many people use the current choice options, in particular the personal health budget (persoonsgebonden budget (PGB)) in long-term care and the extended health insurance options since the acceptance obligation for the basic insurance package was enforced in 2006?
- How many people are (successfully) finding information on care, since the new health system was introduced in 2006?

## **Indicators**

- Number of people who experienced problems finding a GP
- Number of people with a personal health budget
- Percentage of policyholders who switched health insurer
- Percentage of policyholders who did not experience any limitations to their freedom to choose health insurance
- Percentage of the Dutch population that looked for information on health care

## **The current state of affairs**

### **Over 11% of people who wanted to register with a GP had trouble finding one; this percentage was lower than in 2006**

In a 2008 survey among care consumers, 11.2% indicated that they had problems finding a GP they could register with. These were all people who had been registered with their current GP for less than two years. Over 20% of this group qualified registration as a ‘big problem’, the other 80% referred to it as a ‘small problem’. In 2006, it was a mere 14.5% that indicated to have had trouble finding a GP (De Boer et al., 2007). Although it is not always easy to find a GP, almost everyone is registered with one.

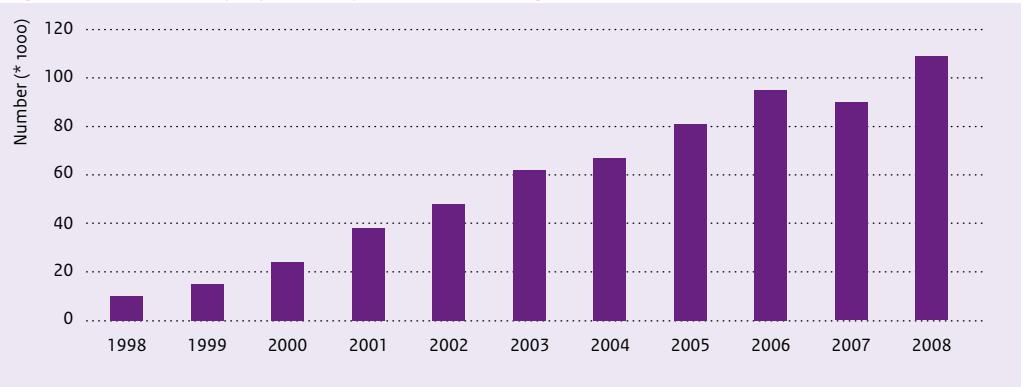
### **The number of people with a personal health budget under the Exceptional Medical Expenses Act continued to increase**

Any person who is receiving care under the Exceptional Medical Expenses Act because of an illness, disability or age is eligible for a personal health budget under this act. This personal health budget enables clients to contract the carer of their choice and to get care at the moment of their choice. It also allows them to purchase any Exceptional Medical Expenses Act function, independent of whether this function is indicated or not.

As of 1 January 2007, the coverage of the Exceptional Medical Expenses Act has been reduced. Among other things, the funding for household help was transferred from the Exceptional Medical Expenses Act to the Social Support Act.

Between its introduction in 1998 and July 2006, the number of personal health budget recipients for care under the Exceptional Medical Expenses Act rose from 10,000 to almost 95,000. In 2007, this number (excluding personal health budget for household help) shrunk to almost 90,000. When, however, the budget owners who were transferred to the Social Support Act are taken into account, this number would be about 30,000 higher. Until 31 December 2008, the number of new budget recipients rose again to 109,000 (see Figure 3.8.1).

**Figure 3.8.1: Number of people with a personal health budget, 1998-2008**



(Source: VWS, 2007d; CVZ data, 2008; VWS, 2009a)

One in every three personal health budget recipients purchased care exclusively from informal caregivers. An equal proportion of personal health budget recipients purchased care from informal caregivers as well as care professionals or care organisations. The remaining third bought care exclusively from care organisations. The percentage of children up to 17 years of age receiving a personal health budget increased from 16% in 2003 to 27% in 2006. In the first quarter of 2007, the share of young budget recipients was 4% of the total number of budget recipients. About 25% of them was of primary school age. An informal caregiver who is being paid out of a personal health budget provided about eight hours paid care per week over and above fourteen hours of unpaid care. In 2009, the overall personal health budget subsidy ceiling was set at 2.281 million euro.

#### About 3.5% of policyholders changed health insurer in 2009

In 2009, the percentage of policyholders that switched health insurer was 3.5%, thereby equalling the percentage in 2008 (see Figure 3.8.2). In 2006, the year the new health system was introduced, 18% of the policyholders changed insurer. This percentage was high compared to both the previous and the following years.

Vektis suggests three explanations for the low mobility rates in recent years. First, low mobility can be due to most people being satisfied with their present insurer (although people seem to be more critical about complementary health insurance). The question arises whether it really is a matter of satisfaction. According to Vektis, health insurance appears to have become a low involvement product again. Second, collective contracts with health insurers are likely to result in a decrease in individual mobility. Finally, most policyholders perceive little difference between health insurers both in terms of product and price (the difference between nominal premiums is 183 euro per year at maximum) (Vektis, 2009).

It is expected that in the future policyholders will become more critical again of their insurance package. The trend that a growing number of individual policyholders does not take out complementary insurance (or complementary insurance with limited coverage) seems to persist. After the health system reforms, health insurers have competed fiercely on premiums. However, earlier Vektis studies showed the price elasticity of health insurances to be limited. At the same time, there is little room left for a further

reduction of premiums without loosing out on the basic health insurance (Vektis, 2009). According to the latest estimates, 4% to 5% of the Dutch population will switch health insurers in 2010 (Vektis, 2009). There is no consensus as to a preferred rate of insurance mobility.

**Figure 3.8.2: Policyholders who switched health insurer (%), 2001, 2003, 2005-2009**



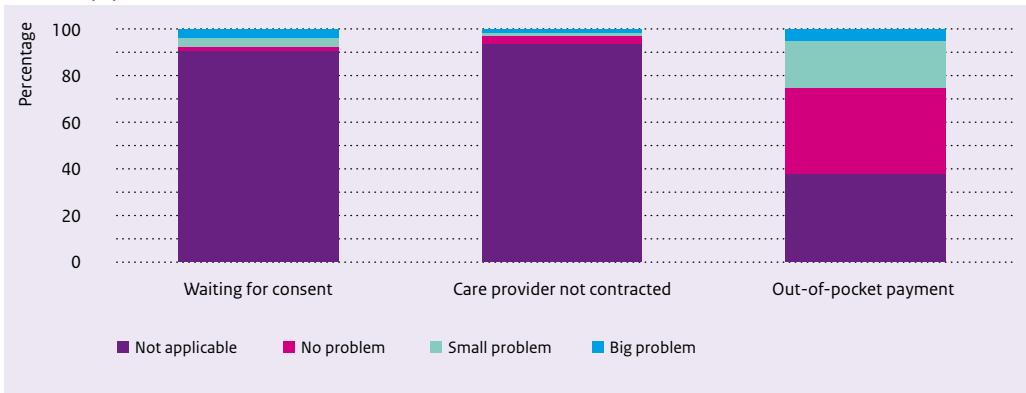
(Source: Laske-Aldershof and Schut, 2005; NZa, 2006; NZa, 2007a; Vektis, 2009)

### **Up to 5% of policyholders reported that their freedom of choice was severely hampered by their health insurer**

Secondary analyses of data collected by means of the CQ-index Zorg en zorgverzekering (Care and Health insurance) reveal that 9.3% of respondents had to wait at least once for their insurer's consent for a specific health care service (Zwijnenberg et al., 2009). Approximately 39% of respondents who had to wait indicated to consider this as a big problem. So, 3.6% of all respondents actually experienced waiting for consent as a big problem.

Another 6.1% of respondents indicated to have visited a care provider who was not contracted by their health insurer. Twenty percent of them, that is 1.2% of all respondents, experienced this as a big problem. Finally, 61.9% indicated that in the previous year they had to pay out-of-pocket payments for the care they had received. Of these people, 8% experienced this as a big problem, that is 5% of all respondents.

**Figure 3.8.3: Policyholders who reported that they were limited in their freedom of choice by health insurers (%), 2008**



(Source: CKZ / NIVEL, 2010)

### There were still barriers to the effective use of information on quality and choice on the Internet

Some time or another, 79% of the Dutch population looked on the Internet for information on health, medicines, health complaints, specific diseases or treatments. Approximately 90% of the population was positive about looking themselves for such information on the Internet. A third to half of the population would actually use that information in choosing a care provider or care facility. 95% considered it important that they can visit the care provider of their own choice. These figures come from a TNS NIPO study commissioned by kiesBeter.nl (Van Wensveen and Brouwer, 2010).

In 2006, the Internet was still little used for choosing a hospital (10% sometimes, 1% usually) or a medical specialist (12% sometimes, 1% usually) (SCP, 2006). Although the results, because of different study designs, are not entirely comparable, the percentages in 2010 were considerably higher: 67% uses the Internet to find information about a hospital and 63% to find information on specialists. The use of the Internet as a source of information about health and health care issues appears to have increased substantially.

The websites that offer information on quality and choice regarding health insurance and health care providers do not as yet seem to offer quite what they intend to. The information and possibilities to make comparisons are extensive, but the sheer quantity of the information often appears to be a barrier for users. Also, the interpretation of the detailed information available appears to pose a problem (Damman et al., 2009).

## Conclusion

The extended freedom of choice within the new health insurance system (along with competition among health insurers) led to an increased mobility of policyholders in 2006. Thereafter, however, mobility of the insured decreased again. Policyholders generally experienced few restrictions on their freedom of choice in terms of health insurer and health insurance. The number of people opting for a personal health budget continued to grow. One in six Dutch people who need long-term care now opts for a personal health budget. The Internet has become an increasingly important source in the quest for information on quality and choice of health care providers. However, the accessibility of this information is still an issue, with the quantity and diversity of the information constituting major barriers.

Since the previous DHCPR, there have been a number of positive developments in the area of freedom of choice. But little is known about what different populations would consider to be an optimal mix of on the one hand choice options and related choice information and on the other hand the size of the insurance premiums.



# 4

## Health expenditure and efficiency

### 4.1 Health expenditure and efficiency

The level of health expenditure has been a major theme in the health care debate for years. The current economic downturn and worsening public finances have made health spending even more of an issue. Yet, measuring whether health expenditure is too high or too low is by no means a straightforward matter, particularly as there are no objective standards. Every year the total health care budget is set at the political level. Important deliberations in setting the budget are preferences regarding the level of public expenditure, the importance of other public sectors, and the degree of solidarity. To what extent are we willing to finance health care collectively? Several indicators may help in the assessment of health care expenditure and in making choices.

In this chapter we first outline the trends in health care expenditure at the national level. The following questions are addressed: How does the growth rate compare to previous years?, Is this in line with neighbouring countries?, and How does this compare to the gross domestic product? In addition, we report on developments in various health care sectors and on determinants of health expenditure, such as price and volume.

Then we focus on health care affordability at the macro-level. Affordability reflects the relationship between costs and available resources. Three indicators are studied. First, affordability is explored in line with Chernew and colleagues (Chernew et al., 2003; Chernew et al., 2009). They used the following definition of affordability: the growth in health care spending is affordable 'as long as there would never be a downward trend in non-health spending' (or, total income - health care expenditure). Central to their analysis is the proportion of income growth spent on health care. Second, we focus on the relationship between health care and other public sectors, such as education. Expenditures on these sectors are

largely funded through taxes and premiums. In general, the government is reluctant to raise taxes and premiums, partly because of a potential loss of purchasing power. As a result, a strong expenditure growth in one public sector is likely to affect the expenditure growth in other public sectors.

The third indicator for macro-level affordability reflects the public health expenditure per working person, from an international perspective. Premiums for that part of health care that is publicly financed are levied on labour income. Hence, the level of public health expenditure impacts the cost of labour and the cost levels in the economy. This impact also depends on the number of people working as they have to carry the burden of public health expenditure.

Affordability is not just an issue at the macro-level but also at the individual household level. When there are sufficient resources at the macro-level, it does not necessarily imply that health care is affordable to every household. This solidarity aspect is addressed in Section 3.2 on financial access.

Regardless of the outcome in terms of affordability, an increase or decrease in health expenditure may be considered (un)desirable. This mainly depends on the benefits generated by health care spending, such as health gains, and the value attached to these gains. Hence, to analyse health care expenditure merely in relation to other countries, gross domestic product (GDP), or previous years would be too limited an approach. Section 4.3 therefore focuses on the efficiency of the health system. Efficiency denotes the ratio between the means invested in health care and the benefits created with these means. Efficiency is different from cost containment, the latter having the sole aim of reducing cost, even if this has a negative effect on the cost-benefit ratio.

The increasing attention on efficiency shows both in research and in public policy. Thus, one of the main goals of the recent health system reforms in the Netherlands was to improve the price-quality ratio, or the efficiency of the system. In addition, the financial crisis has led to an increased focus on efficiency. ‘Efficiency is needed more than ever’, the 2010 government budget stated (Rijksbegroting, 2009).

## **Outline of the chapter**

Health expenditure and efficiency in health care are at the core of this chapter. The chapter concludes with a section on the financial results of health care organisations and health insurers. Information on (labour) productivity in health care is incorporated in the sections on expenditure and efficiency.

### **Chapter outline**

- Health expenditure (Section 4.2)
- Efficiency (Section 4.3)
- Financial position of health insurers and health care organisations (Section 4.4)

## 4.2 Trends in health expenditure

### Key findings

- In 2008, health expenditure amounted to €56 billion according to the Health Care Budgetary Framework and to €79 billion according to the Dutch Health Accounts
- The growth in health expenditure between 2007 and 2009 exceeded the growth in previous years
- The share of GDP devoted to health care was 9% in 2007; this share was average compared to other countries. In 2009, this percentage increased substantially
- Between 2000 and 2008, the expenditure growth in various health care sectors showed a similar pattern. In 2008, the growth was largest in mental health care, care for the disabled, allied health care and hospital care
- Since 2004, the volume growth has been the main driver of expenditure growth
- In the past decades, health expenditure grew at a faster rate than the national income. Still, the income growth was sufficient to allow growth in expenditure on other goods and services
- Between 2000 and 2008, health expenditure as a percentage of total public expenditure increased from 13% to 19%
- In 2007, public health expenditure per working person more or less averaged that in other Western OECD countries

### How we determine trends in health expenditure

Health expenditure is compared across countries as well as over time, using the national definitions of the Dutch Health Accounts and the Health Care Budgetary Framework (Budgettair Kader Zorg (BKZ)) and the international definition of OECD's System of Health Accounts (SHA). The Dutch Health Accounts definition (CBS, 2006) covers all health expenditure, including the publicly funded share, complementary health insurance and out-of-pocket payments. The Dutch Health Accounts include services the Ministry of Health considers as welfare and social support, such as day nurseries. The Health Accounts are insensitive to changes in the basic health insurance package and are very useful for analysing trends. The Health Care Budgetary Framework is used when the focus is on the publicly funded share of health expenditure. It is the expenditure framework the Minister of Health is responsible for and includes premium-financed health care. The international comparisons are based on the internationally accepted definitions of health care and health expenditure, as employed in the OECD's System of Health Accounts (SHA) (OECD, 2000; OECD Health Data). The main difference between the SHA and the Dutch definitions is that the SHA definition does not include facilities and services like nursing homes and care for the disabled. Using the above definitions, health expenditure is further explored relative to GDP and in relation to other sectors. Drivers of expenditure growth, like price and volume, are also investigated. Health Care Budgetary Framework and Health Accounts data is available through 2009; 2008 and 2009 data is not yet definitive and needs to be interpreted with caution. The same is true for the difference between the Budgetary Framework expenditure and the Dutch Health Accounts. For most countries, the

most recent SHA data is 2007 data. Most trends, depending on the availability of data, span a 5- to 10-year period. In some cases, trends go back even further because of the importance of the historical context.

### **Indicators**

- Health expenditure (total and per sector)
- Growth in health expenditure (total and per sector)
- Health expenditure as a share of GDP
- Drivers of health expenditure (price and volume)
- Health expenditure compared to expenditure on other sectors
- Health expenditure compared to expenditure on other public sectors
- Public health expenditure per working person

## The current state of affairs

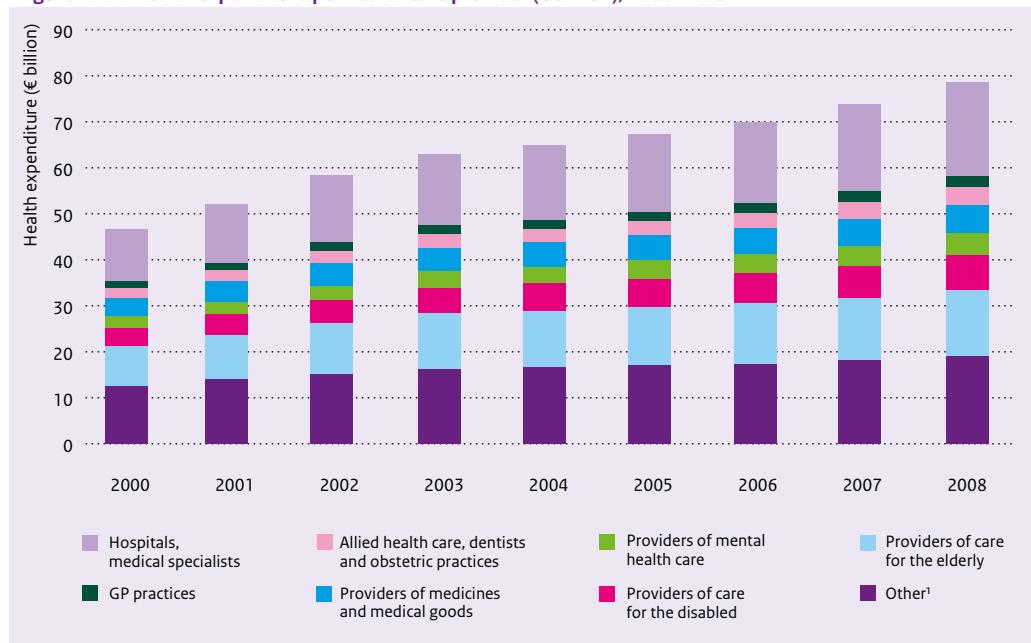
### **In 2008, health expenditure amounted to €56 billion according to the Health Care Budgetary Framework and to €79 billion according to the Dutch Health Accounts**

In 2008, health expenditure amounted to about €56 billion according to the Health Care Budgetary Framework (BKZ) (VWS, 2010a). Over 80% of Health Care Budgetary Framework expenditure was funded through health care premiums (Exceptional Medical Expenses Act (Awbz)) premium, nominal Health Insurance Act (Zvw) premium and income-related Health Insurance Act contribution). Other sources of funding were government contributions and out-of-pocket payments. The government contributions, at the expense of the National Budget, included amongst others contributions to day nurseries (about €2 billion) and to care under the Exceptional Medical Expenses Act (some €5 billion). The care allowance also comprised a considerable part of the National Budget (€3.5 billion).

According to the Dutch Health Accounts about €79 billion was spent in 2008 on health care (CBS Statline, 2009j). In Figure 4.2.1 this amount is broken down by health care provider. Over the years, the shares of the various providers in overall expenditure have remained more or less the same. The largest shares went to hospital care (€20 billion) and care for the elderly (€14.8 billion). The other shares were considerably smaller: GP practices €2.4 billion, mental health care €5.6 billion, suppliers of pharmaceuticals €6.1 billion and care for the disabled €7.2 billion.

Provisional health expenditure figures for 2009 are €84 billion according to the Dutch Health Accounts (CBS Statline, 2009j) and €59 billion according to the Health Care Budgetary Framework (VWS, 2010a).

**Figure 4.2.1: Health expenditure per health care provider (€ billion), 2000-2008**



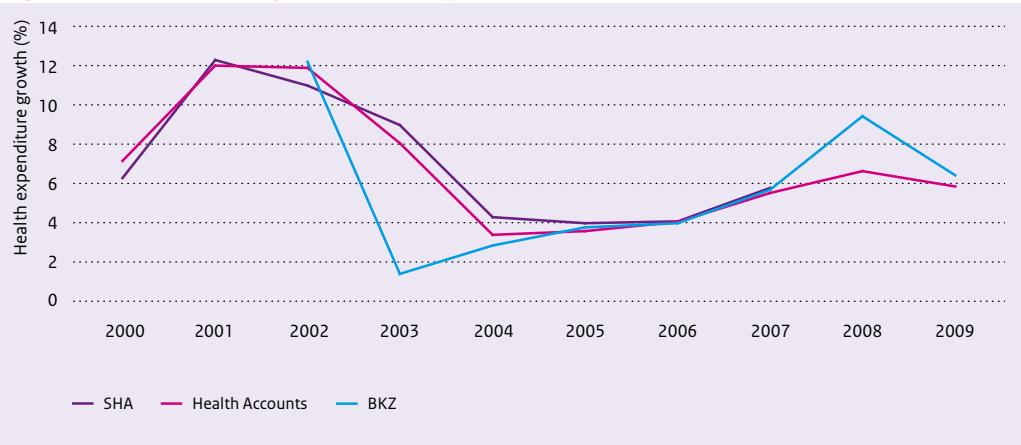
(Source: CBS Statline, 2009j)

<sup>1</sup> Other includes municipal health services, occupational medicine and reintegration companies, suppliers of therapeutic agents, providers of support services, other health care providers, day nursery, providers of child welfare services, boarding schools, social cultural work, other providers of welfare services, and administration and management

### The growth in health expenditure between 2007 and 2009 exceeded the growth in previous years

The nominal (total) growth in health expenditure in the period 2007-2009 exceeded the growth in earlier years, irrespective of the definition used (see Figure 4.2.2). In that period the average growth was 6% according to the Dutch Health Accounts and 7% according to the Health Care Budgetary Framework (CBS Statline, 2009j; VWS, 2010a). In the last decade, there has been considerable volatility in growth rates. Health expenditure rose sharply between 2001 and 2003, to be followed by a fall in growth, and to rise again in recent years. The previous DHCPR reported that between 2003 and 2007 the real health expenditure was higher than budgeted for; the same is true for 2008.

**Figure 4.2.2: Annual nominal growth in health expenditure (%), 2000-2009**



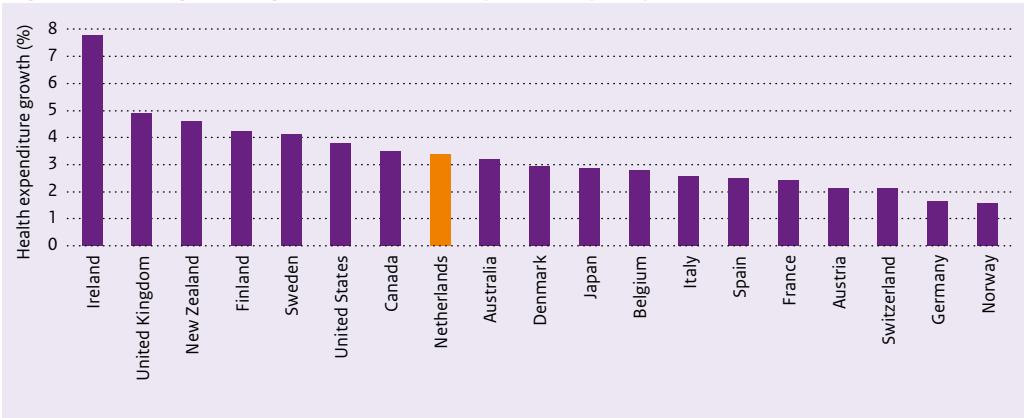
(Source: VWS, 2009b; VWS, 2010a; CBS, 2009b; OECD Health Data)

BKZ (Budgettair Kader Zorg) = Health Care Budgetary Framework (= gross BKZ = net BKZ + co-payments); SHA = System of Health Accounts

Figure 4.2.3 shows the health expenditure growth from an international perspective. For reasons of comparability, figures have been adjusted for inflation and population growth. Between 2000 and 2007, the real expenditure growth in the Netherlands was average compared to other countries (see Figure 4.2.3). The growth was above average in the years 2001-2003 and in 2007. The majority of Western OECD countries saw a relatively strong growth between 2001 and 2003 (OECD, 2009).

Unfortunately, it is not possible to account in detail for the ageing of the population and its effects in various countries, as internationally differentiated data (as expenditure by age) is lacking. Yet, earlier studies indicated that ageing has very little impact on the cross-national variation in health expenditure and expenditure growth (see e.g. Richardson and Richardson, 1999; Reinhardt, 2003). In the past decade, Ireland and the United Kingdom, the countries with the largest growth, made the political decision to increase their investments in health care.

**Figure 4.2.3: Average annual growth in real health expenditure<sup>1</sup>, per capita (%), 2000-2007**



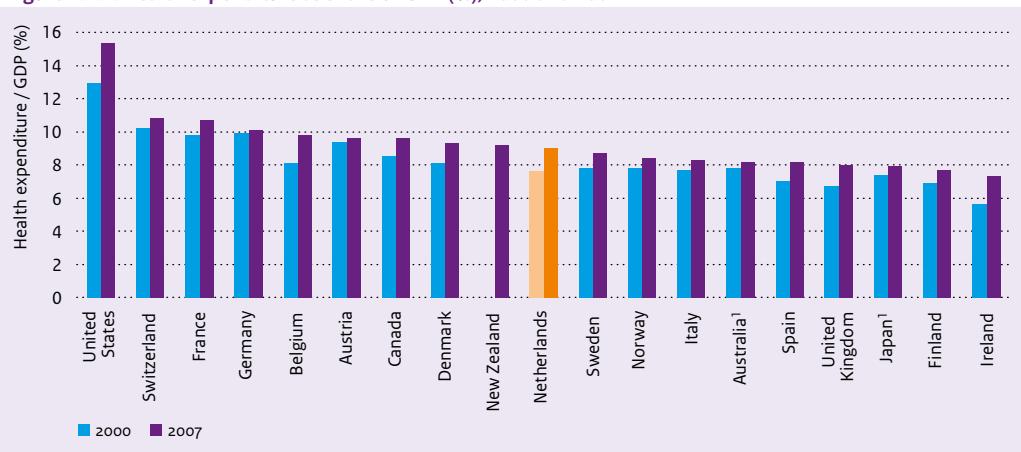
(Source: OECD Health Data)

<sup>1</sup> Expenditure on residential homes for the elderly, care for the disabled and home care are not included in the international definition

### The share of GDP devoted to health care was 9% in 2007; this share was average compared to other countries. In 2009, this percentage increased substantially

According to the international SHA definition, health expenditure accounted for 9% of GDP in 2007. This is at the average level for Western OECD countries (see Figure 4.2.4). Over time the percentages rose in all these countries. In the Netherlands the rise was above average. For some years now, health expenditure as share of GDP has been relatively highest in the United States, Switzerland, France and Germany, with the United States as an obvious outlier.

**Figure 4.2.4: Health expenditure as share of GDP (%), 2000 and 2007**



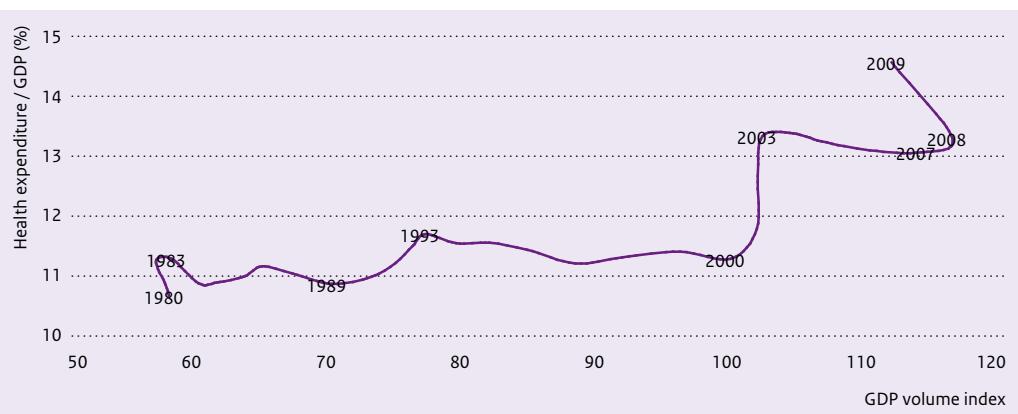
(source: OECD Health Data, 2009)

<sup>1</sup> 2006, no 2007 data available; GDP = gross domestic product

According to the Dutch Health Accounts health expenditure as a share of GDP was 13% in 2008 (see Figure 4.2.5; note that this figure cannot be compared with Figure 4.2.4). The Netherlands Bureau for Economic Policy Analysis (CPB) calculated a 4% drop in GDP in 2009 (CPB, 2010), while preliminary health expenditure estimates amounted to a 9% increase in 2009 (Rijksbegroting, 2009; CBS Statline, 2009j). On the basis of these 2009 growth figures, health expenditure as a share of GDP would have increased in 2009 to over 10% according to the OECD definition and to over 14% according to the Health Accounts. In many countries, health spending as a share of GDP will have increased at a faster or slower rate depending on factors such as current policy choices.

Figure 4.2.5 presents health expenditure as a share of GDP relative to GDP. To illustrate that in times of limited economic growth (expressed in GDP) health expenditure is not likely to follow suit, figures are presented over a longer time span. In times of slow economic growth, a larger share of GDP is spent on health care (e.g. in the beginning of the 1980s, in 2000-2003 and in 2009).

**Figure 4.2.5: Health expenditure as share of GDP against volume of GDP (2000=100) (%), 1980-2009<sup>1</sup>**



(Source: CBS Statline, 2010c; CBS Statline, 2009j; OECD Health Data, data analysis RIVM)

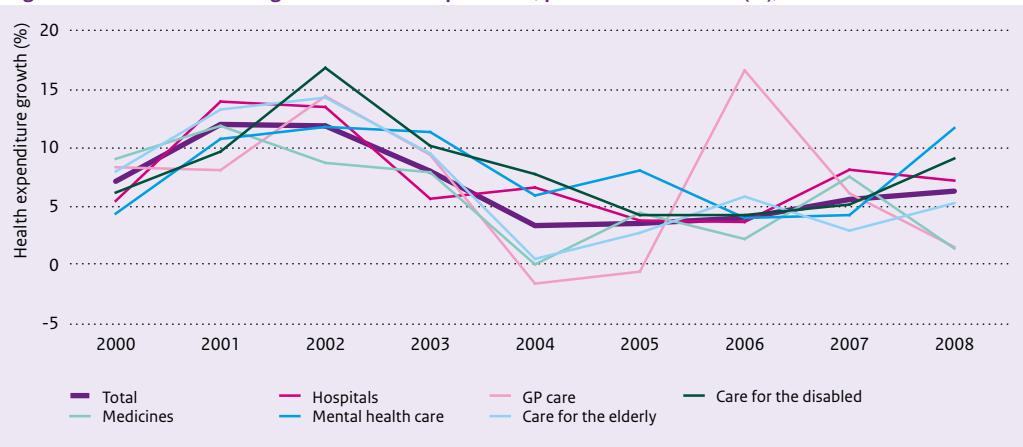
<sup>1</sup> 2009 GDP volume has been assessed on the basis of the projected GDP growth and monthly inflation till May 2010 (CPB, 2010; CBS Statline, 2010c)

GDP = gross domestic product

**Between 2000 and 2008, the expenditure growth in various health care sectors showed a similar pattern. In 2008, the growth was largest in mental health care, care for the disabled, allied health care and hospital care**

Figure 4.2.6 shows the annual nominal expenditure growth across health care sectors between 2000 and 2008 (CBS Statline, 2009j). As can be seen, the expenditure growth showed a similar pattern in different sectors. Provisional Health Accounts figures for 2008 indicate that the growth in spending on pharmaceuticals and GP care was limited, while that growth was larger for mental health care, care for the disabled and hospitals.

**Figure 4.2.6: Annual nominal growth in health expenditure, per health care sector (%), 2000-2008**



(Source: CBS Statline, 2009j)

At some moments in time a higher expenditure growth coincided with the introduction of new forms of financing (price and volume effects are discussed later). The previous DHCPR reported on the increase in GP expenditure in 2006 subsequent to the introduction of a new funding system. In 2008 the financing of medical specialists was changed to a pay-for-performance system based on a diagnosis-treatment combination (DBC) linked standard rate, which could be negotiated within a bandwidth (NZa, 2009a). Later it appeared that the fees had been set at too high a level (about €375 million). From 2010, the rates will be adjusted to correct for this overspending (NZa, 2009a). The Health Care Insurance Board (CVZ) estimated the total increase in the costs of fees to be €600 million in 2008 (CVZ, 2009a). In mental health care, the strong increase in expenditures in 2008 followed the partitioning of mental health care into care under the Health Insurance Act (medical mental health care) and care under the Exceptional Medical Expenses Act (long-term mental health care). For care under the Health Insurance Act a diagnosis treatment combination scheme was implemented. The expenditure growth is over and above the one-time shift of costs (approximately €600 million) (CVZ, 2009a) caused by the introduction of the diagnosis treatment combination scheme and associated changes in accounting. The graph in Figure 4.2.6 has been adjusted for this.

The growth in care for the disabled in 2008 was largely due to capacity expansion (CVZ, 2009a). As in previous years, the personal health budget (persoonsgebonden budget (PGB)) long-term care expenditure increased sharply, by about 25% (CVZ, 2009a) (see also Section 3.8).

### Since 2004, the volume growth has been the main driver of expenditure growth

For analysis purposes, the growth in expenditure can be broken down into price effects and volume effects. Table 4.2.1 presents, at the macro-level, the total (nominal) growth and the contribution of various growth drivers. One of the drivers is the demographic trend. Due to a growing and ageing population total health expenditure rises annually by on average 1%. Inflation creates an increase in prices; between 2003 and 2008 this increase ranged from 1% to 2.5% (CBS Statline, 2010c). The remaining

growth concerns a residual group, which may consist of changes in health care supply (technological developments, more treatment options), increased demand for care (rising wealth, changing preferences) or a price rise on top of the average inflation rate.

**Table 4.2.1: Growth in health expenditure (Dutch Health Accounts) and determinants of growth (%), 2003-2009**

	2003	2004	2005	2006	2007	2008	2009
Nominal growth	8.0	3.3	3.5	4.0	5.4	6.6	5.8
Inflation	2.1	1.2	1.7	1.1	1.6	2.5	1.2
Demography <sup>1</sup>	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other	4.9	1.1	0.8	1.9	2.8	3.1	3.6

(Source: CBS Statline, 2010c; CBS Statline, 2009j; Poos et al., 2008; data analysis RIVM<sup>1</sup>)

<sup>1</sup> Effect of demography has been calculated for the years 1999, 2003, 2005 and 2007 using RIVM data (see also Poos et al., 2008); it is assumed that the effect was the same for the years 2004, 2006, 2008 and 2009

At the sector-level, the expenditure growth and in particular the volume growth can be explored in more detail. Table 4.2.2 shows the effect of volume and price changes on the expenditure growth by health care sector (CBS Statline, 2009j). The results for 2008 are provisional figures.

**Table 4.2.2: Annual price increase and volume growth, by sector (%), 2003-2008**

		2003	2004	2005	2006	2007	2008
Hospitals	price	1.7	0.1	-0.9	0.5	3.8	4.2
	volume	3.9	6.5	4.7	3.1	4.3	2.9
Mental health care	price	1.2	-2.5	2.7	0.2	-0.3	2.0
	volume	10.1	8.4	5.3	3.8	4.5	9.7
GP practices	price	9.8	-0.9	0.0	14.4	0.0	-0.9
	volume	-0.4	-0.7	-0.6	2.1	6.0	2.3
Care for the elderly	price	5.0	-2.0	0.0	0.3	0.9	2.4
	volume	4.4	2.5	2.7	5.5	2.0	2.8
Care for the disabled	price	4.5	0.8	1.4	1.2	4.8	3.3
	volume	5.6	6.9	2.8	2.9	0.3	5.7

(Source: CBS Statline, 2009j<sup>1</sup>)

Data for suppliers of medicines were not available

With exception of GP care, the growth figures presented in Table 4.2.2 were calculated by Statistics Netherlands on the basis of volume indicators. The share of expenditure growth that is not explained by volume growth constitutes the price component. Hence, volume growth can be explored further for

hospitals, mental health care, care for the elderly and care for the disabled. The volume growth rate for pharmaceuticals is described using Health Care Insurance Board data (CVZ, 2009b).

#### Hospitals

Since 2000, the volume of hospital care has grown substantially: the number of hospital admissions increased annually by on average 3% and the number of day admission by on average 10% (CBS Statline, 2009k). Demographic developments (the growth and ageing of the population) explain this growth to a small extent only (TNO, 2009). Analyses by National Institute of Public Health and the Environment (RIVM) showed the volume growth to be primarily related to a rise in the number of new patients (i.e. patients who have not been admitted during the past five years) and to an increase in readmissions (Poos et al., 2008; Slobbe and Polder, 2008). Patients admitted to a hospital are at an increased risk of being readmitted for another reason. In 2007 and 2008, the growth in hospital spending was slightly higher than in previous years (CBS, 2009b), while admission rates increased less strongly. Hence, there were other factors that caused a price effect, such as a further increase in the use of (expensive) drugs and devices and in 2007 and 2008 a rise in capital costs. The depreciation costs rose sharply, especially in 2007 (14%) (NVZ, 2009; Vandermeulen, 2009; Blank et al., 2009).

Internationally, the number of clinical admissions was still low in the Netherlands, and the daytime admission rate was relatively high (OECD, 2009). A cost aspect that stands out in the Netherlands compared to other countries is the remuneration of medical specialists. Research by the OECD showed that at least in the years 2003 and 2004 medical specialists in the Netherlands earned on average more than medical specialists in ten comparable OECD countries (OECD, 2008b). However, the effect of the high remuneration on total health expenditure is mitigated by the relatively low doctor-to-population ratio in the Netherlands.

#### Pharmaceuticals

In the pharmaceutical sector, the effects of price and volume have been diverging considerably in recent years. Due to the Drug Prices Act (*Wet geneesmiddelenprijzen* (Wgp)), covenants between government and industry, and in 2008 also by the preferential policy of health insurers, significant price reductions were achieved (CVZ, 2009b). At the same time, the number of users of out-of-hospital medicines increased substantially (CVZ, 2009b). Table 4.2.3 shows the price and volume components underlying the growth in spending on out-of-hospital medicines in the period 2004-2008.

**Table 4.2.3: Price component and volume component underlying the growth in expenditure on out-of-hospital medicines (€ million), 2004-2008**

	2004	2005	2006	2007	2008
Price	5	21	-37	136	-250
Volume	-84	143	175	160	342

(Source: CVZ, 2009b)

Table 4.2.4 shows the volume growth for a number of high volume pharmaceutical categories. In the period 2004-2008, cholesterol-lowering drugs and stomach drugs showed a remarkable volume growth, averaging 10% per annum. Notably, the growth in spending on expensive drugs more than doubled between 2004 and 2008 (SFK, 2009).

**Table 4.2.4: Number of users, average annual growth in number of users (%), for some ‘high-volume categories’ of medicines<sup>1</sup>, 2004 and 2008**

	Number of users		Annual volume growth
	2004	2008	(%)
Antidepressants	936,000	978,000	1.1
Statins	1,046,000	1,591,000	11.1
Asthma and COPD medicines	1,361,000	1,552,000	3.3
Stomach drugs	1,521,000	2,274,000	10.6
Diabetes medicines	605,000	749,000	5.5
Sedatives and tranquillizers	1,868,000	1,809,000	-0.8
Expensive medicines			
• Etanercept (rheumatism, psoriasis)	3,112	10,394	35.2
• Adalimumab (rheumatism, psoriasis, Crohn’s disease)	2,355	6,624	44.8

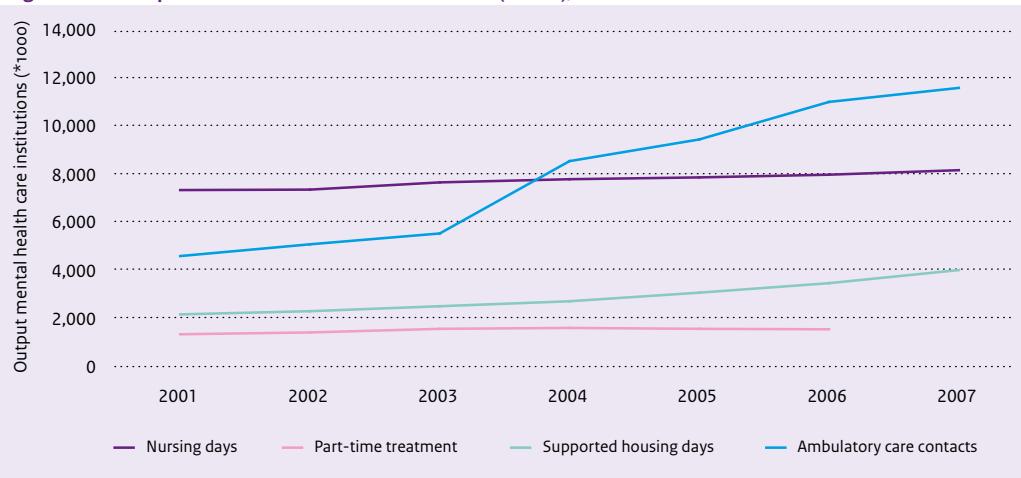
(Source: CVZ, 2009b; SFK, 2009)

<sup>1</sup>Antidepressants, statins, asthma and COPD medicines, stomach drugs, diabetes medicines, and sedatives and tranquillizers on the basis of CVZ (2009b); Expensive medicines on the basis of SFK (2009). According to the SFK definition, the price of an expensive medicine is over € 500 per prescription

### Mental Health Care

Mental health care expenditure increased by an average of 8% per annum in the period 2000-2007 and by nearly 12% in 2008 (CBS Statline, 2010c). The main reason for this growth was an increase in volume (see Table 4.2.2). When distinguishing between ambulatory contacts, clinical admission days and part-time treatment sessions, it appears that the growth in volume occurred primarily in the ambulatory contacts.

**Figure 4.2.7: Output of mental health care institutions (\*1000), 2001-2007**



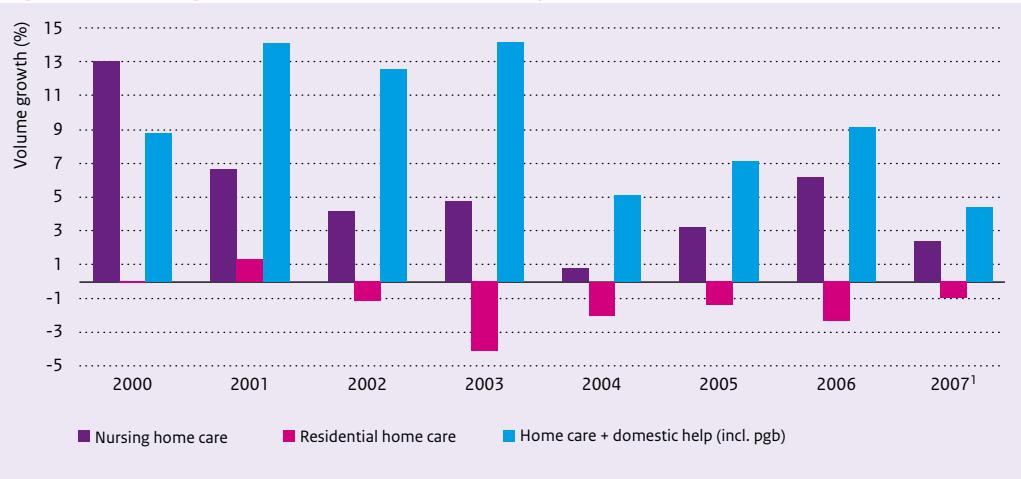
(Source: Hilderink and Van 't Land, 2009)

### Care for the elderly

In recent years, volume growth has been the main driver of expenditure growth in care for the elderly (see Table 4.2.2). A recent study of Statistics Netherlands (CBS) revealed an annual growth rate in the volume of elderly care of nearly 4% for the period 2000-2007 (CBS, 2009c). Figure 4.2.8 shows the volume growth by type of elderly care, i.e. nursing home care, residential home care and home care. The volume is calculated on the basis of the numbers of hours and (bed) days of care provided. Strikingly, the volume of residential home care has fallen, while the volume of nursing home care and especially the volume of outpatient care have grown considerably.

As the number of patients hardly increased (a good 1% annually), the volume growth was due to care intensification (CBS, 2009c). More hours of care per patient were delivered and more severe patients were treated.

**Figure 4.2.8: Annual growth in volume of care for the elderly (%), 2000-2007**



(Source: CBS data, data analysis RIVM)

<sup>1</sup> provisional figures

PGB (persoonsgebonden budget) = personal health budget

#### Care for the disabled

The average annual volume growth for care for the disabled was 6% in the period 2000-2007 (CBS, 2008). Volume was computed as a weighted average of three types of care for the disabled: care with residence and treatment (using the number of patient days by age and severity of disability), care with residence but without treatment (using the number of patient days by type of disability and facility) and care without residence (using e.g. number of days in day care and number of hours of treatment at home).

The total volume growth was primarily due to a growth in care without residence (ambulatory care). In the period 2000-2004, the growth rate for care with residence was 3% per year, while the growth rate for care without residence was over 15% per year. After 2004, the volume growth slowed down to a small 2% per year for care with residence and to 9% per year for care without residence.

#### In the past decades, health expenditure grew at a faster rate than the national income. Still, the income growth was sufficient to allow growth in expenditure on other goods and services

When the annual health expenditure growth outpaces the growth in national income, as was noted in Figure 4.2.4, this may come at the expense of other expenditure categories depending on what proportion of income growth does not go to health care, but is ‘retained’ for the consumption of non-health goods and services. The share of income growth devoted to health care is used as an indicator for macro-affordability. In a recent study by Chernew et al. (2009), it was estimated how long the USA health care system would be affordable using scenarios for income growth, growth in health expenditure and growth in non-health consumption. They used the following definition of macro-affordability: the growth in health care spending is affordable as long as there would never be a downward trend in

non-health spending.

We performed a similar analysis for the Netherlands. Table 4.2.5 shows that the average annual health expenditure growth in the Netherlands exceeded the GDP increase by 1% between 1975 and 2007. The table also shows that in all those years there remained room for growth in spending on non-health care goods. In the period 1975–2007, specifically between 2000 and 2007, the maximum share of GDP growth devoted to health care was 22%.

**Table 4.2.5: Average annual growth in GDP, in health expenditure (SHA) and in expenditure on other goods and services, and the growth in health expenditure as a share in growth in GDP (%), adjusted for inflation, 1975–2025**

	1975- 2007	1975- 1980	1980- 1985	1985- 1990	1990- 1995	1995- 2000	2000- 2007	2007- 2025
Growth in GDP	2.0	1.9	0.7	2.8	1.6	3.4	1.5	1.5
Growth in health expenditure	2.9	3.1	0.8	4.2	2.4	2.7	4.1	2.5
Growth in other expenditures	1.9	1.8	0.7	2.7	1.5	3.5	0.5	1.4
Growth in health expenditure as a share in growth in GDP	11.7	10.8	7.8	10.8	11.4	6.0	22.0	16.4

(Source: OECD Health Data, 2009, data analysis RIVM)

GDP = gross domestic product

The last column of Table 4.2.5 presents a forecast for the period 2007 to 2025. Predictions of future levels of GDP and health expenditure are surrounded with uncertainty. It is assumed that the annual economic growth will average 1.5% (conservative prediction; De Kam, 2009). If the future growth in health care expenditure exceeds the growth in GDP by on average 1% per annum, it would still allow a growth in non-health care expenditures through 2025 and over 16% of the income growth would go to health care. According to these projections, the growth in health expenditure would be sustainable for quite a number of years.

The Council for Public Health and Health Care (Raad voor de Volksgezondheid en Zorg (RVZ)) used a different scenario for their projections. RVZ considered health care expenditure sustainable if it would grow at less than twice the rate of the total economy (RVZ, 2008). Under this maximum scenario, health care would consume over 20% of the economic growth by 2025 (not in table). According to the definitions of Netherlands Bureau for Economic Policy Analysis, an increase in public spending is sustainable as long as the growth in health care spending will be relative to the growth in national income and not cause an increase in the collective burden (Van Ewijk et al., 2006). Given the history of health care spending, this is quite a challenge.

**Between 2000 and 2008, health expenditure as a percentage of total public expenditure increased from 13% to 19%**

In the Netherlands, a large part of health care is publicly funded (through taxes and premiums that are not related to the actual or anticipated use of care). So, the affordability of publicly funded health care is largely determined by the resources available through taxes and premiums. Since taxes and premiums are not easily raised, a stronger growth in one public sector will go hand in hand with a less strong growth in other public sectors. After 2000, the share of health care in total public expenditure has increased from 13% to just under 20%. Table 4.2.6 shows that this trend has been evident since the Sixties, while the share of education in GDP has varied little over these years.

**Table 4.2.6: Public expenditures in relation to GDP (%), 1960-2010**

	1960	1970	1980	1990	2000	2005	2010 <sup>1</sup>
Public expenditures	33	44	58	56	45	47	51
Public administration	8	11	12	12	12	12	13
Education	4	6	7	6	5	5	6
Social security	7	12	19	17	11	11	13
Health care	1	3	5	6	6	7	10
Other	13	12	15	15	11	12	9
Health care as a share of public expenditures (%)	3	6	8	10	13	16	19

(Source: De Kam, 2009; CPB, 2009)

<sup>1</sup> 2010 on the basis of estimates in Central Economic Plan 2009 (CPB, 2009)

GDP = gross domestic product

**In 2007, public health expenditure per working person more or less averaged that in other Western OECD countries**

Premiums for publicly funded health care are levied on labour income. Thus the level of public health expenditure impacts the costs of labour and the production cost of goods. Next to premiums, this impact also depends on the number of working persons that has to bear the burden of public health expenditure. Figure 4.2.9 shows that public health expenditure per working person in 2007 was about average compared to other Western OECD countries. The sharp rise in the Netherlands was caused by the introduction of the compulsory health insurance system in 2006 (from then on, everybody is publicly insured, including those people who used to be privately insured).

**Figure 4.2.9: Public health expenditure per working person (€), 2000 and 2007**



(Source: OECD Health Data, data analysis RIVM)

No data available for the United Kingdom and New Zealand

## Conclusion

Between 2007 and 2009, health expenditure grew at a faster rate than in previous years; on average 6% per annum according to the Dutch Health Accounts and 7% according to the Health Care Budgetary Framework. The growth in expenditure was strongest in care for the disabled, mental health care and hospitals. In mental health care the expenditure growth occurred subsequent to the introduction of the diagnosis treatment combination scheme and the partitioning of mental health care into care under the Health Insurance Act and care under the Exceptional Medical Expenses Act. In a number of other health care sectors, recent reforms in the payment of health care providers have also resulted in a (one-time) growth in expenditure. Cases in point are the new payment system of GPs in 2006 and the doing away with the lump-sum payment of medical specialists in 2008. The growth in expenditure for care for the disabled in 2008 was primarily due to a capacity expansion. The growth in spending on GP care and out-of-hospital medicines in 2008 was limited, despite a considerable volume growth. Looking back a little further, it can be concluded that since 2003 the (often considerable) volume growth in almost all sectors has been the most important driver of the expenditure growth.

Internationally, the Dutch health care system was still not out of line when it comes to health care spending. From the perspective of international competitiveness the level of expenditure was no problem either; public expenditure per working person was around the average of Western OECD countries. Notably, despite the fact that health care expenditure has been growing faster than the total economy for several years, there has always been room for increased spending on non-health care goods and services. Thus far, health care has been absorbing one quarter of the income growth at most. From the perspective of public finances, a tricky situation could arise. Since 1990, the share of health care in

total public expenditure has nearly doubled, from 10% to almost 20%. The question is whether the growth in health care spending will stand in the way of the growth in other public sectors. In addition, the premium level could increasingly affect purchasing power. In any case, if the growth in public expenditure needs to be contained and other sectors should be allowed to grow as well, the historical growth scenario of publicly financed health care can not be sustained for a very long time (see also De Kam, 2009; CPB, 2010). The economic crisis and the deterioration of public finances have rekindled the debate on health care spending.

Recent reports by the Netherlands Bureau for Economic Policy paint a bleak picture of the state of public finances (CPB, 2010). To what extent and in what sectors intervention is required is very much a political matter. Intervention options for the health care sector include reducing basic health insurance coverage or increasing out-of-pocket payments. These solutions may improve affordability in terms of collective resources, but they will make a greater demand on the population and potentially affect the financial accessibility of health care. Another option is to identify and eliminate inefficiencies within publicly financed health care. This would allow the level of expenditure to be adjusted without adverse effects on the accessibility or quality of care. In particular, waste in the system and care with little added value need to be identified. Section 4.3 on efficiency touches on this subject.

However, such, one-time, interventions would not solve the problem of health expenditure growth and its impact on the health system. The labour issue in health care (projected shortages), for example, is not simply resolved by shifting to more private financing. Hence the question remains relevant whether opportunities to reverse expenditure growth can be identified. The continuous growth in volume and the growth in spending relative to GDP indicate that health care has been experiencing an autonomous growth for years. Moreover the predefined macro budget for health care (Health Care Budgetary Framework) was exceeded in most years. The extensive USA body of research on effects of, for example, delivery system reform (integrated care) and pro-market strategies on expenditure growth indicate that 'an obvious painless solution does not exist' (Chernew et al., 2010).

As a matter of fact, expenditure growth and volume growth are not necessarily undesirable, as more health care may create more health and wealth. Section 4.3 deals with this matter, focussing on the efficiency of the care.

## 4.3 Efficiency

### Key findings

#### Macro-level

- Internationally, the Netherlands had a limited rise in life expectancy and an average growth in health expenditure between 1990 and 2003. Since 2004 the ratio has been more favourable
- The avoidable mortality rate fell strongly in the Netherlands between 2000 and 2007, while the growth in health expenditure was average
- The growth in health expenditure did not reduce health inequalities, which remained constant. As to the performance in the area of client experiences, the first impression seemed favourable. This was true to a lesser extent for the nursing and care sector
- At the macro-level, a comprehensive picture of the administrative burden in the health care system was lacking; from an international perspective, the operational costs for health insurance as a share of total expenditure were average

#### Meso-level

- The productivity of hospitals, measured by the number of admissions and resources spent, grew on average by 2.9% per annum between 2003 and 2008
- Without adjustment for case mix and quality, there was considerable variation between hospitals in the prices of freely negotiable health care services
- For 15 diagnoses studied, regional differences in admission rates and surgical procedures could not be explained by the patient characteristics age and income
- There was considerable variation in length of stay between hospitals; the length of stay in Dutch hospitals continued to decline, but it was still above the average internationally
- In 2008, the highest consultation fee of a GP cooperative was approximately five times higher than the lowest fee
- In the pharmaceutical sector, price measures resulted in substantial gains; still, the use of more expensive drug variants continued to grow
- The volume of mental health care provided between 2001 and 2007 increased at a slightly faster rate than the labour input
- The volume of elderly care provided between 2004 and 2007 increased at a considerably faster rate than the labour input; more hours of care were delivered with the same labour input
- The number of avoidable hospital admissions in the Netherlands was low by international standards
- Modernisation and Innovation procedures led to substitution of secondary care by primary care for some procedures

#### Dynamic efficiency (innovation rate)

- Internationally, the Netherlands scored average in the use of angioplasty, bypass surgery and catheterisation after a heart attack
- Internationally, the Netherlands had an above average position as to the use of day care treatments

- The adoption rate of new cancer drugs was average in the Netherlands
- The dissemination of new out-of-hospital medicines and the share of new medicines in the total pharmaceutical market have decreased in recent years
- New treatment methods do not always substitute existing medicines, as is evidenced by the use of old and new anticoagulant drugs
- In early 2010, the number of health care providers connected to the National Exchange Point Electronic Health Records rose to 575 of a total of about 6500 providers
- The use of e-health in the form of video communication and telecare stalled in 2008

## How we determine efficiency

Efficiency is usually defined as the relationship between means invested and the benefits created with these means. It expresses the relationship between the input and output of care. Essential elements for the assessment of efficiency are: performance in terms of the various health system goals, the value of these goals and the means invested.

### **Efficiency at the macro-level**

The raison d'être of the health system is the improvement of health, which is thereby one of the main goals of health care. Other health care goals relate to the care process and to inequality (WHO, 2003). A fair system pays attention not only to the average level of health, but also to the health distribution (health inequalities) (Sen, 2002). The care process itself also produces 'benefit', since clients value good communication, dignity during treatment, and a prompt response to their care demand (see also Section 2.6). Positive client experiences produce benefit, even if they do not directly contribute to the health outcome. In this context the degree of inequality in client experiences is also relevant. Other health care gains, such as labour participation and participation in society, are not addressed here.

In the previous DHCPR the relative values of various health system goals were analysed on the basis of a survey among a sample of the Dutch population (Franken, 2008). Of the total weight assigned to system goals, 34% went to the distribution of health and 29% to the average health (see Table 4.3.1). Client experiences were assigned less weight. These relative preferences may change over time. In addition, the absolute value of goals may also change. At the national level, an increase in income often coincides with an additional growth in health expenditure (Getzen, 2000). In other words: with a rising income we appear to be willing to spend a larger proportion of that income on health care.

**Table 4.3.1: Relative value of health system goals (%)**

	Level	Distribution
Health	29	34
Responsiveness	7	6
Fairness in financing <sup>1</sup>	-	24

(Source: Franken, 2008)

<sup>1</sup> Fairness in financing relates to the degree of solidarity in the funding of health care (WHO, 2003)

We analysed performance in terms of the health system goals presented in Table 4.3.1, using various indicators. Average health was assessed by (healthy) life expectancy amongst others. There are some disadvantages to using this indicator. Next to health care, it is also associated with a number of exogenous, non-health care factors. And, time-lags between health care, lifestyle and health outcomes further complicate the analysis. At the macro-level, it is often difficult or virtually impossible to adjust for all these effects. Hence, we also studied mortality rates for a selection of diseases where timely and effective health care could avoid mortality. This is referred to as avoidable mortality (Nolte and McKee, 2004). Next, we explored the performance of the health system regarding the other goals. For the distribution of health, we looked at the difference in (healthy) life expectancy between socioeconomic groups. The performance in the field of client experiences and financial fairness was determined on the basis of Section 2.6 on responsiveness and Section 3.2 on financial access.

One element picked up on for the first time in this DHCPR is the administrative burden in the health system. In studies on the American health care system, the level of administrative burden has been often described as a major source of waste and inefficiency (Reinhardt et al., 2004; Bentley et al., 2008). Administrative costs in health care may be related to contracting, regulating and monitoring, promotion/marketing and final transactions (actual use of care). Bentley and colleagues (2008) defined administrative costs as waste if they do not contribute to achieving the key goals of the health system. By looking at differences between countries, sectors and years, an attempt was made to assess the performance in this area.

### **Efficiency at the meso-level**

The relationship between means and gains was also analysed at the meso-level. Unfortunately, in many cases, there is still insufficient information about the quality of care and the health gains achieved at the sector-level. This seriously hinders making statements about efficiency at the meso-level. The meso-analysis focused on two main perspectives: the average development in a sector and, where possible, differences between institutions and regions. The following subjects have been addressed: the variation in rates of freely negotiable care between hospitals, the variation in consultation fees between GP cooperatives and the variation in care utilisation. The latter is consistent with the literature on variation in medical practice that is also relevant to efficiency research (Schut, 2009). It is known that there is considerable variation in medical practice (method of treatment or care intensity) between doctors, institutions and regions (Wennberg, 1996; De Jong, 2008a). This variation can be explained by several factors, at both the demand and the supply side. If the variation is not explainable by differences in intensity of care (case mix) and when more care does not effect better outcomes, the efficiency of care

becomes debatable (see e.g. Fisher et al., 2003). The key question in these investigations is: what is the added value of more care? (Fuchs, 2004).

Next, we discuss substitution possibilities between secondary and primary care. Treating people in the right place in the care system and avoiding unnecessary hospitalisation can be ways to improve efficiency. First, we explore avoidable hospital admissions. These are admissions that could have been avoided by more adequate primary care. Then we look at the module Modernisation and Innovation (M&I) procedures. These are minor medical procedures for which GPs receive additional funding with the aim to prevent these treatments being carried out in the (more expensive) secondary care.

Increasing the efficiency of care at the meso-level does not necessarily lead to improved efficiency at the macro-level. Efficiency at the macro-level is also influenced by intersectoral relationships and cross-sectoral shifts of resources; after all, lower expenditure in one sector can lead to higher expenditure in another. For this reason, assessment of performance at the macro-level remains indispensable.

### **Dynamic efficiency (innovation rate)**

The section concludes with an analysis of the innovation rate of the Dutch health care system. The analysis seeks to enhance our insight into dynamic efficiency. Economic theory distinguishes between static efficiency and dynamic efficiency (see e.g. Jacobsen and Andréosso, 1996). Static efficiency focuses on efficiency at a certain point in time, given the current state of technology. In the long run, improvements in products and processes can result in a shift in the ‘production function of health care’. ‘Dynamic efficiency exists when in the long run, resources are allocated in such a way that the marginal costs of an additional investment in an innovation exactly outweigh the marginal benefits to society’ (Schut, 2001). So, whether a system is dynamically efficient depends on several factors, including the added value of new technology and the diffusion rates of new products the moment they come on the market. This section focuses in particular on the latter. The indicators relate to the adoption and diffusion rates of new technology in the hospital sector and the pharmaceutical sector and to the use of ICT in health care.

### **Indicators**

#### *Macro-level*

- Health care expenditure in relation to (healthy) life expectancy
- Health care expenditure in relation to avoidable mortality
- Performance on the system goals client experiences and inequality
- Administrative burden

#### *Meso-level*

- Productivity of hospital care
- Variation in diagnosis treatment combination prices in the B-segment
- Regional variation in hospital admissions and hospital medical procedures
- Variation in length of stay between hospitals
- Variation in consultation fees between GP cooperatives
- Out-of-hospital drugs: use of generic medicines and regional differences
- Means invested and quantity of care provided in mental health care
- Means invested and quantity of care provided in elderly care
- Avoidable hospital admissions in an international perspective
- Substitution effect of the module Modernisation and Innovation

#### *Dynamic efficiency (innovation rate)*

- Use of catheterisation, bypass and angioplasty after a heart attack
- Adoption rate of new cancer drugs
- Trends in expenditure on new drugs
- Day care admissions as a percentage of all hospital admissions
- Number of health care providers connected to the National Exchange Point Electronic Health Records
- Use of e-health in the form of video communication and telecare

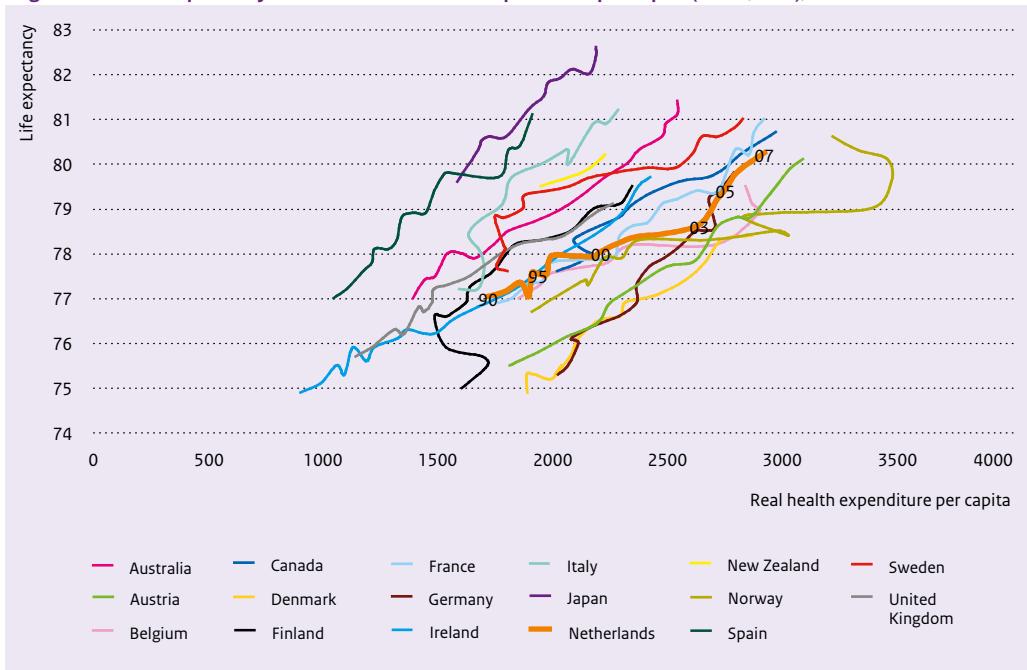
## The current state of affairs

### **Efficiency at the macro-level**

#### **Internationally, the Netherlands had a limited rise in life expectancy and an average growth in health expenditure between 1990 and 2003. Since 2004 the ratio has been more favourable**

Improving health (mortality and quality of life) is one of the key goals of the health system. Over the past two decades, the average health status has improved in the Netherlands (Van der Lucht and Polder, 2010). Life expectancy at birth rose between 1990 and 2008 from 77 to over 80 years. For men, life expectancy rose from 73.8 years to 78.3 years and for women from 80.1 years to 82.3 years. At the disease level, especially the decline in mortality from cardiovascular diseases contributed to the rising life expectancy. Figure 4.3.1 shows the trend in life expectancy and real health spending per capita between 1990 and 2007. Internationally, (Western OECD countries) the increase in life expectancy in the Netherlands was small between 1990 and 2003, to rise above average after 2003. The relationship between expenditure and average health improved after 2003 (see the slope in the line in Figure 4.3.1). Internationally, this improvement was not exceptional compared to, for example, Belgium, Germany and France.

**Figure 4.3.1: Life expectancy at birth and real health expenditure per capita (in US\$ PPP), 1990-2007**

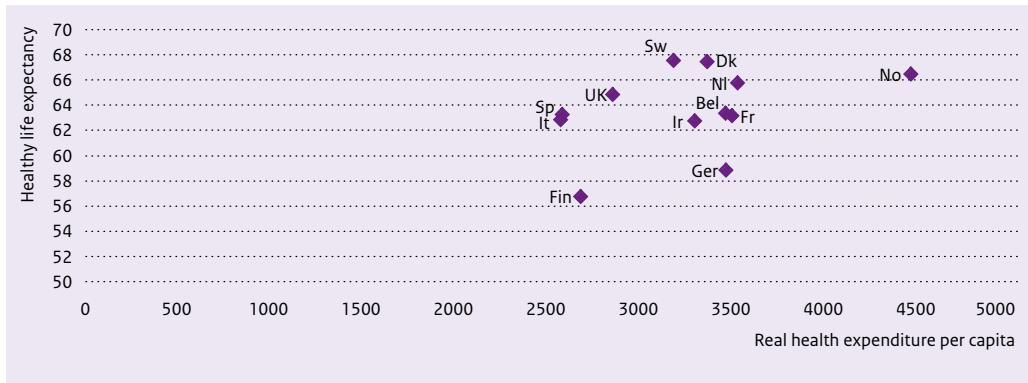


(Source: OECD Health Data, data analysis RIVM)

PPP (Purchasing Power Parities) = US\$ PPP is an exchange rate that corrects for differences in purchasing power between countries

Health care focuses not only on the prevention of mortality, but also on the improvement of health throughout life. Figure 4.3.2 shows the healthy life expectancy, or more precisely, the expected number of life years spent without limitations in physical functioning (Eurostat, 2009). The figure presents the healthy life expectancy for women relative to health care expenditure in 2007. Internationally, some countries have better outcomes at lower or comparable costs. The picture would be the same for the healthy life expectancy for men, as the gender gap in healthy life expectancy is limited. The indicator healthy life expectancy should be interpreted with caution. For it is not clear whether Dutch people are more or less inclined to qualify a health condition as a limitation in physical functioning than, for example, Danish people are.

**Figuur 4.3.2: Healthy life expectancy at birth for women and real health expenditure per capita (in US\$ PPP), 2007**



(Source: OECD Health Data; Eurostat, data analysis RIVM)

PPP (Purchasing Power Parities) = US\$ PPP is an exchange rate that corrects for differences in purchasing power between countries

Bel = Belgium; Dk = Denmark; Fin = Finland; Fr = France; Ger = Germany; Ir = Ireland; It = Italy; Nl = the Netherlands  
No = Norway; Sp = Spain; Sw = Sweden, UK = United Kingdom

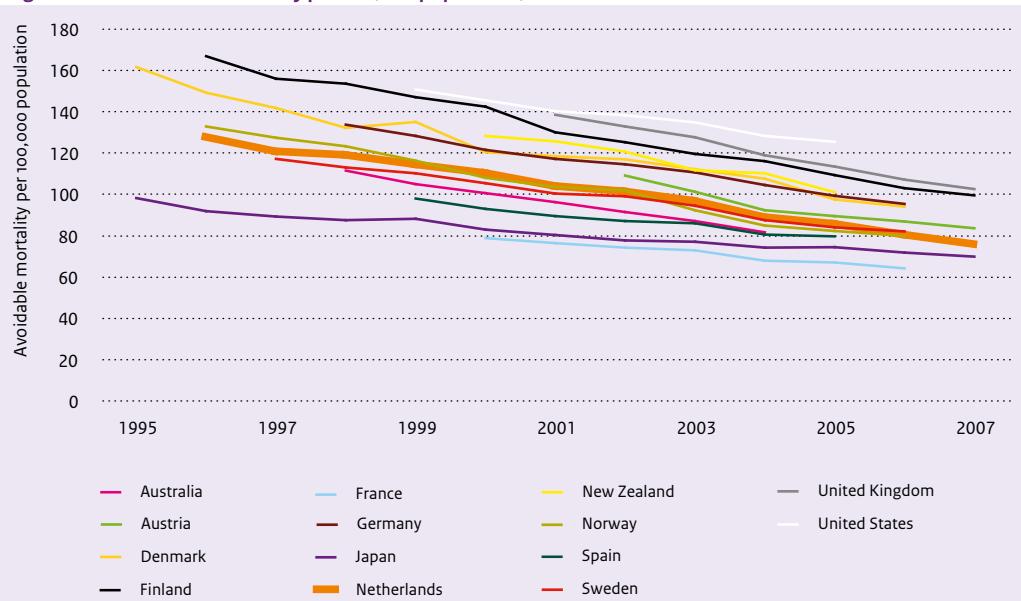
Life expectancy is a relatively robust indicator, because, unlike self-reported health, mortality can be established unambiguously. The question is to what extent the change in life expectancy is affected by health care. For life expectancy is also associated with health determinants that are insensitive to health care, like lifestyle and environmental conditions (Mackenbach, 2010). Nor is it entirely clear to what extent past investments (e.g. in health care and lifestyle) have impacted the current health status.

### The avoidable mortality rate fell strongly in the Netherlands between 2000 and 2007, while the growth in health expenditure was average

By focusing on specific diseases, we might get a better picture of the effect of health care on health. We use the outcome measure 'avoidable mortality' (Nolte and McKee, 2008). Avoidable mortality is the mortality from diseases that could be treated effectively in view of the current health care standards and scientific knowledge. It includes mortality from e.g. TB, asthma, influenza, maternal mortality and breast cancer (34 disorders in all). For the majority of disorders, avoidable mortality involves people up to 75 years of age, and for some disorders even smaller age groups. Health care can potentially avoid mortality from these diseases and reduce it substantially over time.

Figure 4.3.3 shows the trend in avoidable mortality (standardised for age and sex) between 1995 and 2007. Only OECD countries with comparable income levels and countries that use the same ICD mortality codes were included in the analysis (WHO, 2009b). As the figure shows, data was not available for all countries for all years.

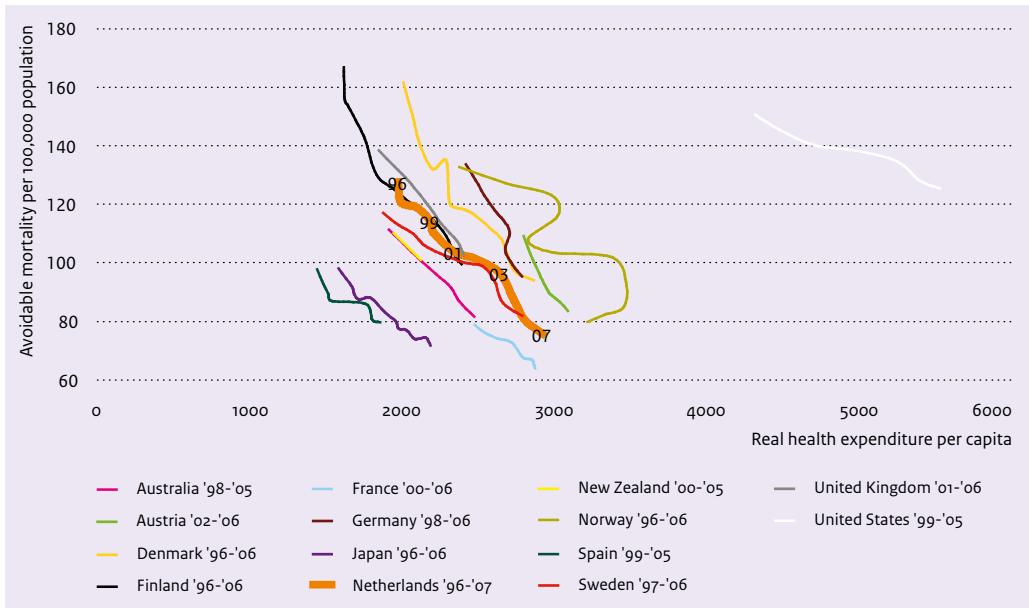
**Figure 4.3.3: Avoidable mortality per 100,000 population, 1995-2007**



(Source: WHO, 2009b, data analysis RIVM)

Figure 4.3.3 illustrates that between 1995 and 2007 avoidable mortality followed a downward trend in most countries. Figure 4.3.4 focuses on efficiency comparing the real expenditure growth (resources used) with the gains in terms of avoidable mortality. Regarding the decline in avoidable mortality the Netherlands belonged to the better-performing countries in this group, but there are countries that achieved a comparable result at lower cost growth. The expenditure growth was average between 2000 and 2007 (see also Figure 4.2.2). So, in terms of efficiency, the Netherlands performed averagely.

**Figuur 4.3.4: Avoidable mortality per 100,000 population and real health expenditure per capita (in US\$ PPP), 1996-2007**



(Source: OECD Health Data; WHO, 2009b, data analysis RIVM)

PPP (Purchasing Power Parities) = US\$ PPP is an exchange rate that corrects for differences in purchasing power between countries

The decline in avoidable mortality (for the relevant age groups) in the period 2000-2007 constituted just under 20% of the total decline in mortality in the Netherlands (WHO data, data processing RIVM). Of the diseases in the group avoidable mortality, the Netherlands had a relatively low mortality rate for cardiovascular diseases (such as stroke under 75 years). Also, the decline in mortality from cardiovascular diseases compared favourably with other countries; it showed a rapid decline after 2000. The Netherlands scored less well on some cancers, for example, colon cancer and breast cancer mortality in under 75 year olds.

**The growth in health expenditure did not reduce health inequalities, which remained constant. As to the performance in the area of client experiences, the first impression seemed favourable. This was true to a lesser extent for the nursing and care sector**

Besides improving the average health status, reducing health inequalities and improving client experiences are also considered important health system goals (see Table 4.3.1). The growth in health expenditure did not result in reduced health inequalities or improved client experiences. Health disparities between socioeconomic groups have been fairly constant over the past decade; the difference in (healthy) life expectancy between people with a low and a high educational level changed little between 1997 and 2008 (Bruggink, 2009; Kardal et al., 2009).

Performance in terms of responsiveness is extensively discussed in Section 2.6. In general, client

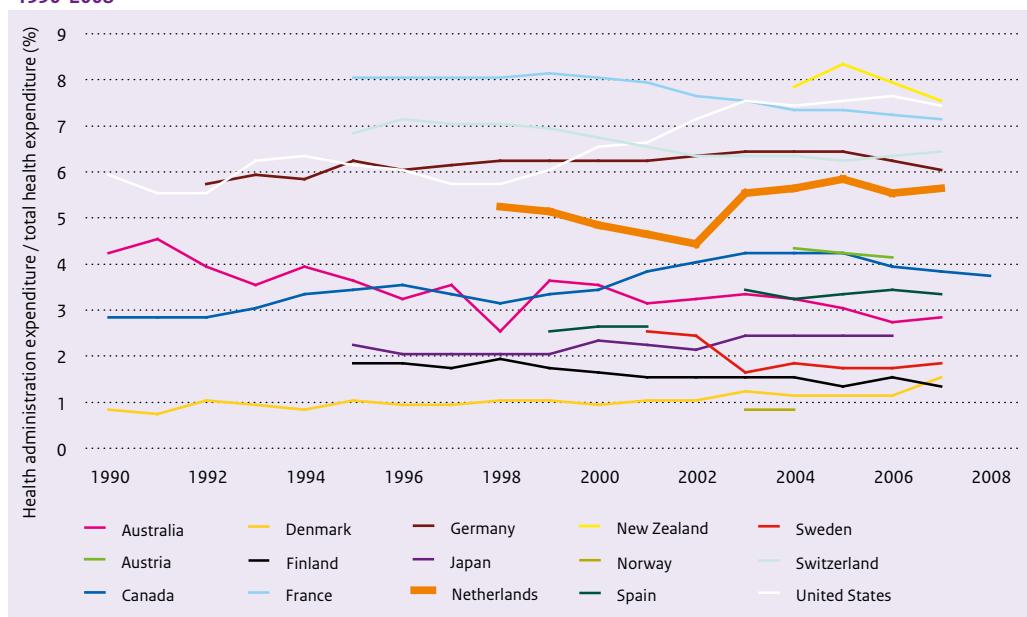
experiences of aspects such as interpersonal conduct, the information offered and the amount of time spent with the patient, have been positive and fairly constant over the years. Residents of nursing homes and residential homes were less positive in their judgement.

**At the macro-level, a comprehensive picture of the administrative burden in the health care system was lacking; from an international perspective, the operational costs for health insurance as a share of total expenditure were average**

To date, no health system-wide study on administrative costs in health care has been performed in the Netherlands. In some other countries such research has been done. Comparative studies on private and public health systems in the USA and Canada (Woolhandler et al., 2003) suggested that in these countries private schemes were accompanied by higher administrative costs than public systems. Administrative costs relate to contracting, regulating and monitoring, promotion/marketing and final transactions (Bentley et al., 2008). Unfortunately, there is no information on all of these aspects.

Figure 4.3.5 shows the share of total health expenditure that is absorbed by health administration and insurance, including operational costs of governments and insurance companies for activities related to the funding of care (planning, management, collecting funds and handling claims and invoices) (OECD Health Data, 2009). The Dutch figures before and after 2002 can not be compared (different methods), but in both periods the Netherlands was in the middle bracket. In Scandinavian countries the share was small, while in countries like Germany, France, Switzerland and the USA it was large.

**Figure 4.3.5: Health administration and insurance expenditure as share of total health expenditure (%), 1990-2008**



(Source: OECD Health Data, 2009)

Table 4.3.2 shows the proportion of the total number of staff in overhead functions in health care organisations as an indicator of the administrative burden for health care providers. There is no straightforward standard or optimum, as a certain level of overhead is normal. Differences between years and sectors do provide some further insights. The proportion of overhead jobs was relatively high in hospitals and relatively low in care for the disabled. Between 2006 and 2008, the proportion of overhead jobs remained fairly stable.

**Table 4.3.2: Employees in ‘overhead jobs’ as a proportion of all employees, by health care provider (in working years), 2006-2008**

	2006	2007	2008
Academic hospitals	31.3	30.1	30.7
General hospitals	31.2	29.9	30.2
Specialised hospitals	29.8	28.0	30.1
Mental health care	25.1	24.2	24.8
Care for the disabled	15.6	15.5	15.3
Care for the elderly	23.3	26.4	24.5

(Source: CBS Statline, 2009)

A 2008 survey conducted among 15 GP practices provided some insight into the administrative burden in primary care (SIRA, 2008). It is not clear whether the 15 practices constituted a representative sample. GPs in this study spent on average just over 25 hours per week on administration and paperwork. Keeping patient records accounted for 40-50% of this work. The GPs indicated that a large proportion (75%) of the administrative tasks is part of their every day professional practice.

For health insurance enrollees, the major transaction costs are the (annual) costs incurred when selecting another insurer. For patients, there are also costs associated with finding a care provider. Further administrative activities relate to applying for care and for care reimbursement (personal health budgets, invoices).

### Effectiveness at the meso-level

In the previous paragraphs, the effectiveness of Dutch health care has been analysed at the macro-level. This is complemented by efficiency analyses for different care sectors. For the hospital, mental health care, elderly care and pharmaceutical sectors, we studied the relationship between the care provided and the means invested over the years. We also looked at the variation in prices (between GP cooperatives and between hospitals) and at the variation in care utilisation and medical practice (in terms of drug use, hospital admissions and length of stay) across regions and institutions. The meso-level analysis concludes with two indicators for the substitution of secondary care by primary care: the number of avoidable hospital admissions, and the extent to which GPs take over simple medical procedures from secondary care.

**The productivity of hospitals, measured by the number of admissions and resources spent, grew on average by 2.9% per annum between 2003 and 2008**

In a recent study, Blank and colleagues (2009) analysed the productivity of hospitals for the years 2003 to 2008. This analysis included the output, in terms of number of admissions, and the resources invested, in terms of personnel, intermediate consumption and capital. The productivity of Dutch hospitals demonstrated a favourable trend in this period compared to previous years and other sectors. Total productivity fluctuated between 1.2% and 6.3%, averaging 2.9% per year (see Table 4.3.3). In all of the years, personnel in particular made a major contribution to the growth in total productivity. The study also distinguished between different types of hospitals: large hospitals in areas with little competition showed the largest productivity growth. A limitation of the study is that it did not include changes in average quality. However, there are no indications that the average quality of hospital care deteriorated between 2003 and 2008 (see Section 2.3).

**Table 4.3.3: Average productivity<sup>1</sup> growth in hospital care (%), 2004-2008**

	2004	2005	2006	2007	2008
Total	1.6	2.2	3.3	6.3	1.2
Personnel	2.2	3.0	4.6	9.0	1.7
Intermediate consumption	0.5	0.8	1.3	2.7	0.6
Capital	1.7	2.4	3.5	6.7	1.2

(Source: Blank et al., 2009)

<sup>1</sup> Productivity is measured in terms of admissions, distinguished by type of admission: specialties with short hospital stays, contemplative specialties with on average long hospital stays, cutting specialties with on average long hospital stays and first outpatient visits without follow-up admissions. The study is based on 52-77 hospitals

Finally, the scale of Dutch hospitals was studied and diseconomies of scale were found. In earlier studies it was established that from an efficiency perspective, the optimal scale for hospitals is between 200 and 300 beds (see Blank et al., 2008). Almost all Dutch hospitals exceeded the optimal number of beds.

**Without adjustment for case mix and quality, there was considerable variation between hospitals in the prices of freely negotiable health care services**

Since 2005, health insurers and hospitals have negotiated about prices of hospital services provided in the B-segment (based on diagnosis treatment combinations). Table 4.3.4 shows, for the diseases with the highest turnover in the B-segment, trends in the average price and the variation in average prices (coefficient of variation). The variation was greatest for wear and tear of the knee, diabetes with secondary complications and bladder cancer.

**Table 4.3.4: Average price per facility (€) and distribution (variation coefficient<sup>1</sup>) for eight disorders, 2006-2008**

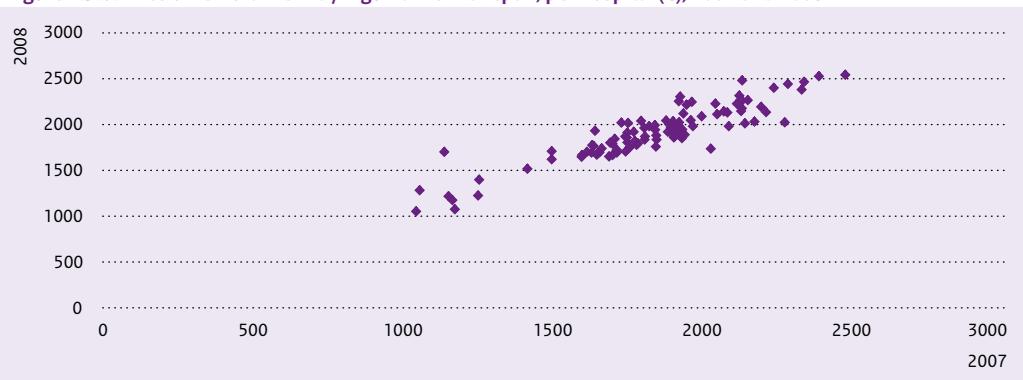
Diagnosis	2006	2007	2008
Wear and tear of the knee	7493 (0.25)	7672 (0.23)	7608 (0.22)
Wear and tear of the pelvis, hip and femur	8807 (0.05)	8999 (0.05)	9107 (0.05)
Cataract	1350 (0.07)	1379 (0.07)	1352 (0.07)
Diabetes with secondary complications	845 (0.27)	896 (0.32)	1081 (0.43)
Incontinence	4241 (0.13)	4343 (0.11)	4477 (0.11)
Bladder tumor	3754 (0.32)	3910 (0.36)	4146 (0.33)
Femur fracture / inguinal hernia	1841 (0.15)	1874 (0.13)	1941 (0.13)
Tonsils	955 (0.12)	963 (0.10)	984 (0.10)

(Source: NZa data, data analysis by RIVM)

Variation coefficient = Standard deviation / average

Figure 4.3.6 demonstrates the variation in prices between institutions for the disorders femur fracture and inguinal hernia. For the 10 institutions with the lowest rates, prices were between €1000 and €1500, and for the 10 institutions with the highest rates, prices ranged between €2200 and €2500.

**Figure 4.3.6: Price of femoral hernia / inguinal hernia repair, per hospital (€), 2007 and 2008**



(Source: NZa data, data analysis RIVM)

It is still unclear whether the variation in prices is related to differences in efficiency between institutions. For the price variation may be due to:

- 1) Variation in quality of care; expensive institutions may also provide better care, in which case they may even be more efficient. Existing quality indicators are still of insufficient quality to allow making statements in this respect;
- 2) Variation in intensity of care; more expensive institutions may serve patients requiring more care. Further research should reveal to what extent the variation in intensity of care can explain price differentials;

3) Inefficiency; when neither 1) nor 2) explains the price variation, differences in efficiency between institutions may exist.

**For 15 diagnoses studied, regional differences in admission rates and surgical procedures could not be explained by the patient characteristics age and income**

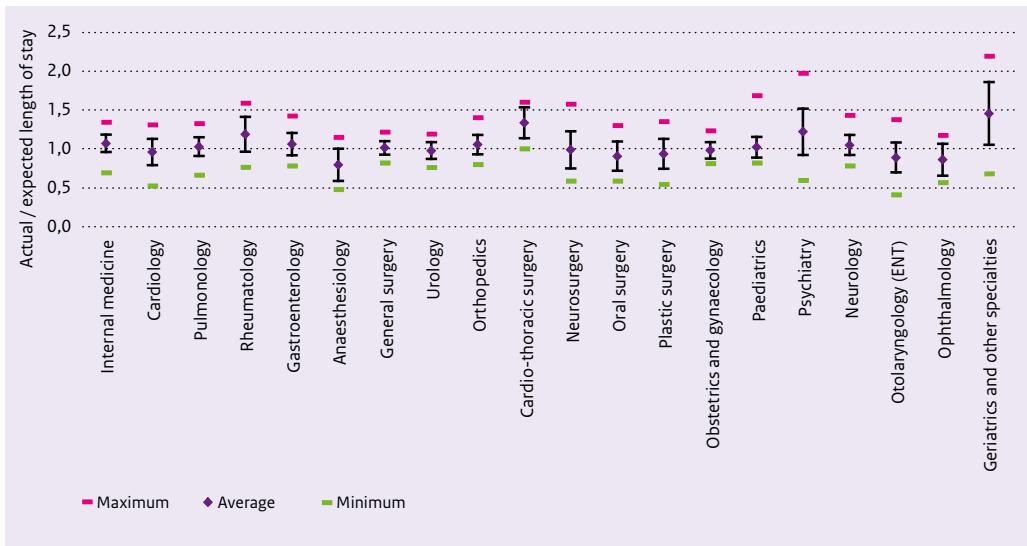
Recently, Plexus has investigated the regional (municipalities) variation in the number of surgical procedures and hospital admissions per 1000 population for 15 disorders (Van Beek et al., 2009).

A large variation in care utilisation was found for the chronic disease COPD, while the variation for disorders of a more acute nature, such as inguinal hernia and hip fracture, was relatively small. Regional differences in care utilisation could not be explained by the patient characteristics age and household income (as indicators of the health status and health care need of the population). It is likely that next to age and income, there were additional exogenous factors outside the control of health care institutions that affected this variation. The variation that remains after adjusting for these factors is indicative of the variation in quality and efficiency. The study used data from the DBC Information System (DIS) for the years 2006 and 2007. There is uncertainty about the quality of registration in DIS and the extent to which registration quality differs between institutions and regions (Spanjaard, 2009).

**There was considerable variation in length of stay between hospitals; the length of stay in Dutch hospitals continued to decline, but it was still above the average internationally**

In the previous DHCPR, it was already established that the length of hospital stay may vary considerably across institutions. This is illustrated again in Figure 4.3.7 (Borghans et al., 2008). The Y-axis of this figure features the ratio of the actual length of stay to the expected length of stay. The expected length of stay is determined on the basis of the average length of stay in Dutch hospitals, taking into account differences between institutions as to the age and diagnosis of patients. After adjustment for these patient characteristics, there remained a considerable variation between institutions.

**Figure 4.3.7: Rate<sup>1</sup> of actual / expected length of stay in Dutch hospitals, by specialty, 2006**



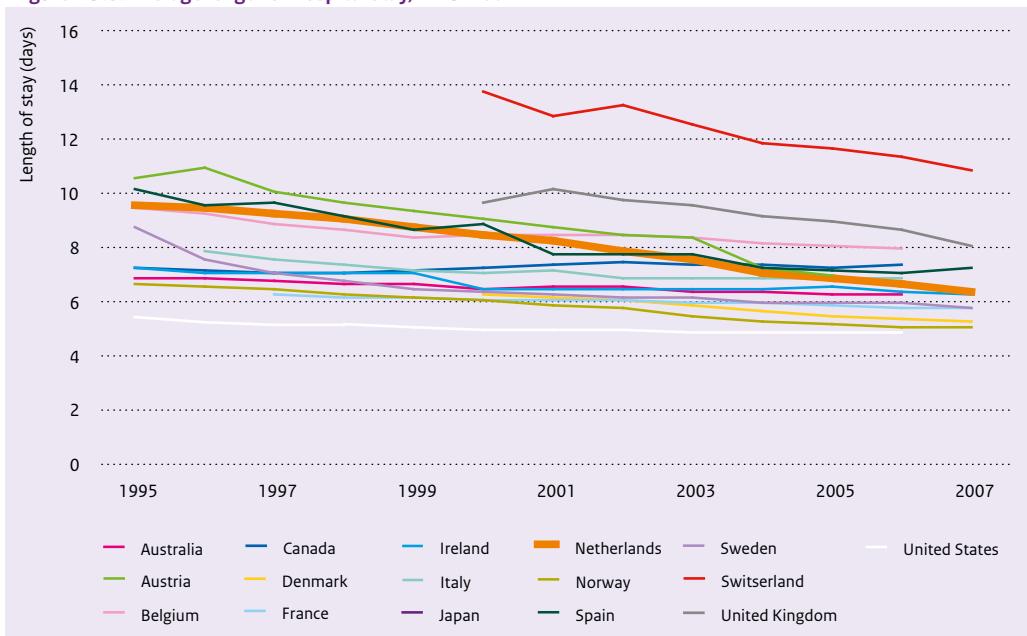
(Source: Borghans et al., 2008)

<sup>1</sup> The rate is equal to 1 if the actual length of stay equals the expected length of stay on the basis of patient's age and diagnosis and the medical procedures

A reduction in the length of hospital stay can improve health system efficiency, provided it is not accompanied by a shift in care to other sectors and/or poorer health outcomes. A number of studies have shown that a shorter hospital stay is not necessarily associated with a poorer quality of care (see e.g. Clarke and Rosen, 2001).

The average length of stay in Dutch hospitals continued to decline between 2006 and 2008. This downward trend had been going on for many years, nationally as well as internationally. Since 2002, the decrease accelerated slightly. Figure 4.3.8 shows that the length of hospital stay in the Netherlands came closer to that in countries with the shortest length of stay.

**Figure 4.3.8: Average length of hospital stay, 1995-2007**

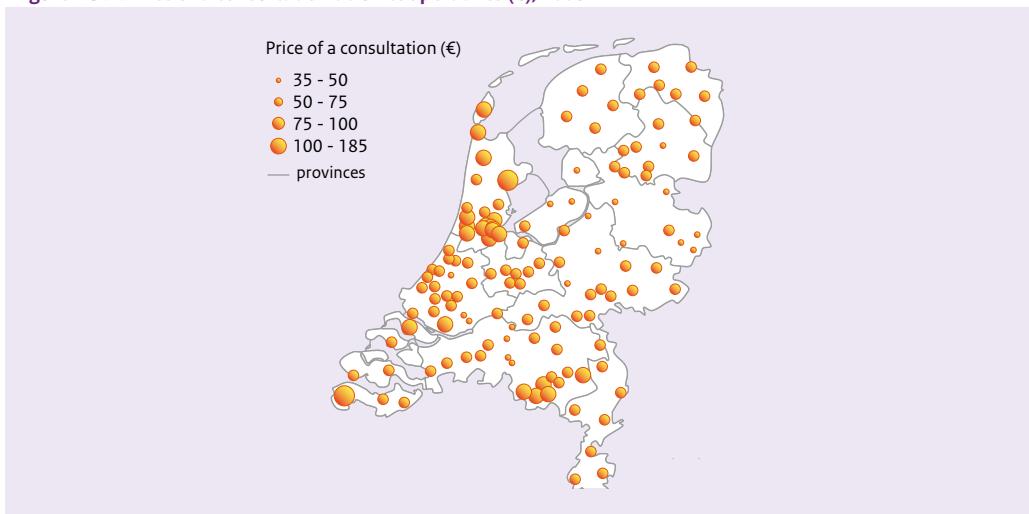


(Source: OECD Health Data, 2009)

**In 2008, the highest consultation fee of a GP cooperative was approximately five times higher than the lowest fee**

The remuneration of GPs is divided into different components. The rates for care provided during office hours are predominantly nationally fixed. GP cooperatives provide care during out-of-office hours, i.e. evenings, nights and weekends. The consultation fees for GP cooperatives are the outcome of negotiations between GP cooperatives and locally operating health insurer(s). Figure 4.3.9 compares the consultation fees for a large number of GP cooperatives. In 2008, the consultation fees ranged from €35 to €184. The rates for home visits also varied between regions, from €275.50 to €53.20. It is not known what proportion of the variation is caused by local conditions (population density and accessibility), local cost prices or by variation in case mix between GP cooperatives.

**Figure 4.3.9: Price of a consultation at GP cooperatives (€), 2008**



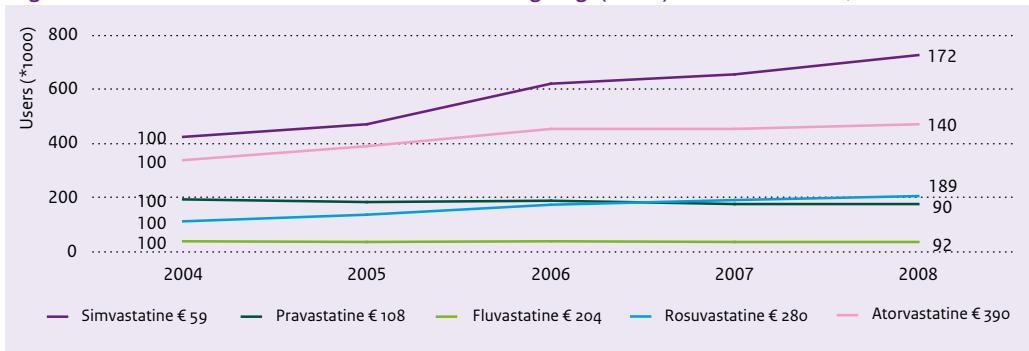
(Source: Zwakhals, 2008)

### In the pharmaceutical sector, price measures resulted in substantial gains; yet, the use of more expensive drug variants continued to grow

The average drug prices saw a moderate growth in the last five to ten years, and even declined in some years (CVZ, 2009b). In 2008, the average price decreased by as much as 10%, while the number of daily doses taken increased by about 13%. If the quality (health gains achieved) of drugs at lower prices is at least equal, there is potential for efficiency gains. Various measures have driven the fall in prices over the past few years, including the Drug Prices Act (since 1996 maximum prices have been set annually relative to prices in neighbouring countries), the drug covenant (price reductions for generic drugs in 2004) and the preferential policy of health insurers (since 2008) (CVZ, 2009b).

At the same time, the use of both expensive and cheaper variants in certain drug categories increased. Figure 4.3.10 presents the use of five cholesterol lowering drugs (total costs €350 million). Between 2004 and 2008, the cheap variant Simvastatin (€59 per user) was increasingly prescribed for new users. Nevertheless, the use of the more expensive variants, such as Atorvastatin and Rosuvastatin, both patented drugs, also increased. The use of Rosuvastatin even increased at the relatively fastest rate.

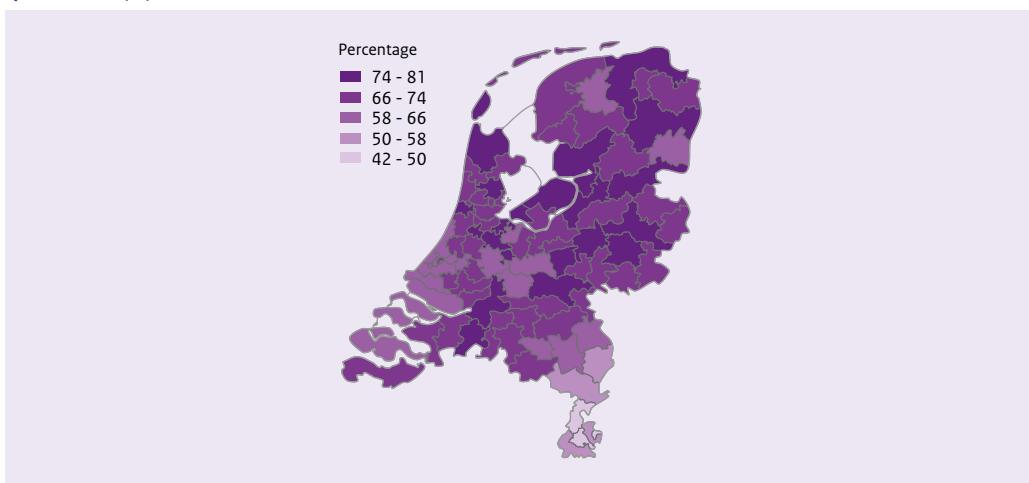
**Figure 4.3.10: Number of users of five cholesterol lowering drugs (\*1000) and index numbers, 2004-2008**



(Source: CVZ data, data analysis RIVM)

The extent to which cheaper drugs were prescribed differed between regions. This is illustrated in Figure 4.3.11, using statins as an example. In 2008, less than 50% of new users were prescribed a cheaper variant in some regions, versus about 80% in other regions. The regional variation in prescribing preferred drugs was larger for stomach complaints, proton pump inhibitors and renin-angiotensin system inhibitors than for statins (coefficient of variance: 0.28, 0.17 and 0.14 respectively compared to 0.11 for statins). Notably, best performing regions and worst performing regions may differ between drugs.

**Figure 4.3.11: Use of preferred (generic) drugs as share of the overall use of cholesterol lowering drugs, by postal code (%), 2008**



(Source: Giesbers and Eimers, 2009)

**The volume of mental health care provided between 2001 and 2007 increased at a slightly faster rate than the labour input**

Table 4.3.5 shows the growth in labour input (FTE), clinical bed capacity and volume of care provided in mental health care in the period 2001-2007. The volume-index is a weighted average of the volume of clinical care (in-patient days and days of sheltered accommodation), the volume of part-time treatments (number of treatments) and the volume of ambulatory care (number of contacts) (Denneman, 2008). Between 2001 and 2008, the total labour input increased at a slightly slower rate than the volume of care provided.

**Table 4.3.5: Care provided and resources spent in mental health care, index numbers, 2001-2007**

	2001	2002	2003	2004	2005	2006	2007
Nursing days	100	100	104	106	107	109	111
Days protected and supported living	100	106	116	126	143	161	187
Part-time treatment	100	105	117	120	117	116	-
Ambulatory contacts	100	111	121	187	207	241	254
Volume index <sup>1</sup> (CBS)	100	107	118	126	133	138	146
Total FTEs <sup>2</sup>	100	104	112	116	120	127	134
Clinical bed capacity	100	105	108	107	110	113	120
Expenditure <sup>1</sup> (adjusted for inflation)	100	108	118	124	132	135	139

(Source: Hilderink and Van 't Land, 2008; Denneman, 2008)

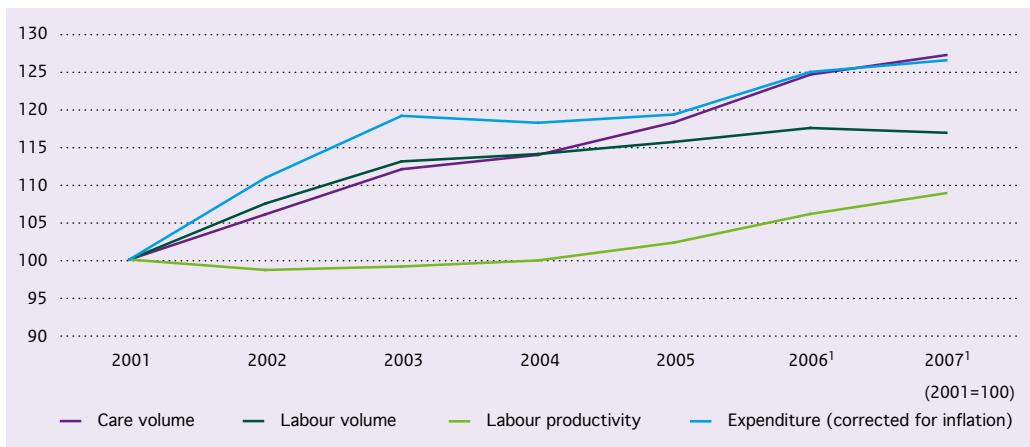
<sup>1</sup> The volume index (CBS) is based on Denneman (2008). Expenditure is based on CBS Statline (2010b and 2010c). Other figures are based on Hilderink and Van 't Land (2008)

<sup>2</sup> Number of FTEs is an unweighted sum of various functions in mental health care

**The volume of elderly care provided between 2004 and 2007 increased at a considerably faster rate than the labour input; more hours of care were delivered with the same labour input**

Recently Netherlands Statistics published a report on the labour productivity in care for the elderly (CBS, 2009c). Figure 4.3.12 shows that since 2004 the volume of care has increased sharply, while the labour input has risen just a little. That is to say, the amount of care delivered per working person has increased. Between 2001 and 2004, both the labour input and the amount of care delivered increased. The volume growth was driven by an increase in the volume of care provided per client and an increase in high-intensity clients (who need more care). Again, this study did not account for changes in quality of care. The decrease in labour input in 2007 was due to the introduction of the Social Support Act (Wmo). Since this act came into force, home care has been delivered more and more by cheaper domestic help and part of the employees has left salaried employment. Some of those who left employment have been hired again. Labour productivity, as presented in Figure 4.3.12, was adjusted for these factors.

**Figure 4.3.12: Care volume, labour volume, labour productivity and expenditure of care for the elderly, index numbers (2001=100), 2001-2007**



(Source: CBS, 2009c; CBS Statline, 2010c)

<sup>1</sup> provisional figures

**Table 4.3.6: Avoidable hospital admissions per 100,000 population, index numbers, 2005/2006**

	Asthma	COPD	Diabetes acute complications	Diabetes amputations	Heart failure	Hypertension
Austria	109	161	98	44	142	523
Belgium	105	94	100	143	73	28
Canada	37	95	105	76	63	19
Denmark	87	160	91	141	71	112
Finland	188	85	142	75	132	142
France	88	40	-	85	119	-
Germany	43	92	65	-	152	281
Ireland	106	192	197	69	83	55
Italy	34	74	49	71	133	78
Japan	118	17	-	-	58	72
Netherlands	53	77	35	77	74	25
New Zealand	148	154	6	80	89	21
Norway	85	122	91	73	81	92
Spain	89	70	82	178	101	18
Sweden	50	96	86	81	125	81
Switzerland	64	50	52	106	67	73
United Kingdom	153	118	142	61	50	15
United States	243	102	259	240	190	64
Average	100	100	100	100	100	100

(Source: OECD, 2009)

### **The number of avoidable hospital admissions in the Netherlands was low by international standards**

For a number of specified diseases, expensive hospitalisations can be avoided by effective preventive or primary care. When primary care is cheaper than (and just as effective as) hospital care, there is potential for efficiency gains through care substitution. In the previous DHCPR it was shown that for twelve diseases, including asthma and pneumonia, the number of avoidable hospital admissions increased over the years, but less rapidly so than the total number of hospital admissions. For some of these conditions, international data was now available. Table 4.3.6 shows that the avoidable admission rates for the Netherlands were well below the average scores for the other countries.

### **Modernisation and Innovation procedures led to substitution of secondary care by primary care for some procedures**

NIVEL investigated to what extent Modernisation and Innovation (M&I) procedures led to a decrease in referrals to secondary care in the years 2006 and 2007 (Van Dijk et al., 2009). This M&I module lists medical procedures that should be carried out in primary care if possible. These procedures include diagnostic measurements for asthma and ear complaints, lung function measurements, diabetes counselling and minor surgical procedures.

In 2006 and 2007, care substitution occurred for minor surgical procedures: a higher rate of minor surgical procedures carried out in primary care coincided with a lower referral rate to secondary care. However, this relationship was not found for other M&I procedures. The overall efficiency effect is difficult to estimate, because the exact costs saved in secondary care and the quality of the procedures are unknown. And, M&I procedures made up just a limited part of the total of medical procedures carried out in GP practices.

### **Dynamic efficiency (innovation rate)**

### **Internationally, the Netherlands scored average in the use of angioplasty, bypass surgery and catheterisation after a heart attack**

The extent to which new technology is deployed may vary significantly across countries. Bech and colleagues (2009) showed as much for treatment of acute myocardial infarction (AMI) patients, in particular for catheterisation, coronary bypass and angioplasty. The effectiveness of these treatment options has been scientifically proven. Because the Netherlands was not included in the study of Bech and colleagues we have computed the number of treatments performed per AMI-admission using aggregated data.

Table 4.3.7 shows the results for the three treatment options for the years 2000 and 2006. Strikingly, it appeared that the Netherlands was in the middle bracket, that the Scandinavian countries carried out these treatments less often and that Belgium, Germany, France and Luxembourg showed on average high treatment rates. The three treatment options showed similar patterns. Despite the fact that no data at the individual level was used, the international differences we found were quite similar to the findings of Bech and colleagues.

**Table 4.3.7: Total number of catheterisations, and angioplasty and bypass surgery per discharged AMI-patient, 2000 and 2006**

	Angioplasty		Bypass surgery		Catheterisations	
	2000	2006	2000	2006	2000	2006
Australia	0.6	0.8	0.5	0.3	1.6	1.6
Austria	1.1	-	0.4	0.3 <sup>3</sup>	2.8	3.1 <sup>3</sup>
Belgium	1.7	2.8	1.0 <sup>2</sup>	0.9	2.9	3.4
Canada	0.6 <sup>2</sup>	0.8	0.5 <sup>2</sup>	0.5 <sup>3</sup>	0.9 <sup>2</sup>	1.0 <sup>3</sup>
Denmark	0.5	0.8	0.6	0.3	0.2 <sup>1</sup>	0.1 <sup>3</sup>
Finland	0.2	0.5	0.3	0.2	0.2	0.1
France	1.1	1.7	0.3	0.3	3.0	-
Germany	-	2.0	-	0.5	-	3.6
Netherlands	0.4	1.0	0.4	0.4	1.0	1.4
New Zealand	0.4	0.4	0.5	0.3	-	-
Norway	0.4	0.6	0.3	0.2	-	-
Spain	0.8	1.8	0.2	0.2	1.1	1.3
Sweden	0.3	0.4 <sup>3</sup>	0.2	0.1	-	0.03
Switzerland	0.6 <sup>2</sup>	0.8	0.3 <sup>2</sup>	0.2	0.3 <sup>2</sup>	0.9
United Kingdom	0.3	0.6	0.3	0.3	0.1	0.06
United States	1.3	2.0	0.4	0.4	1.6	1.7
Average	0.7	1.1	0.4	0.3	1.3	1.4

(Source: OECD Health Data, 2009, data analysis RIVM)

<sup>1</sup> 2001; <sup>2</sup> 2002; <sup>3</sup> 2005

**Internationally, the Netherlands had an above average position as to the use of day care treatments**  
 Day care treatments may be more efficient than in-patient treatments, as they save (residential) costs.  
 Moreover, day care treatment is less time consuming for the patient. Table 4.3.8 presents the number of day care admissions as a percentage of all admissions for hernia, tonsils, stripping veins and cataracts in 2006, with the Netherlands taking an above average position.

**Table 4.3.8: Day care admissions as a proportion of all admissions, 2006, and average annual growth (%), for hernia, tonsils, stripping veins and cataract**

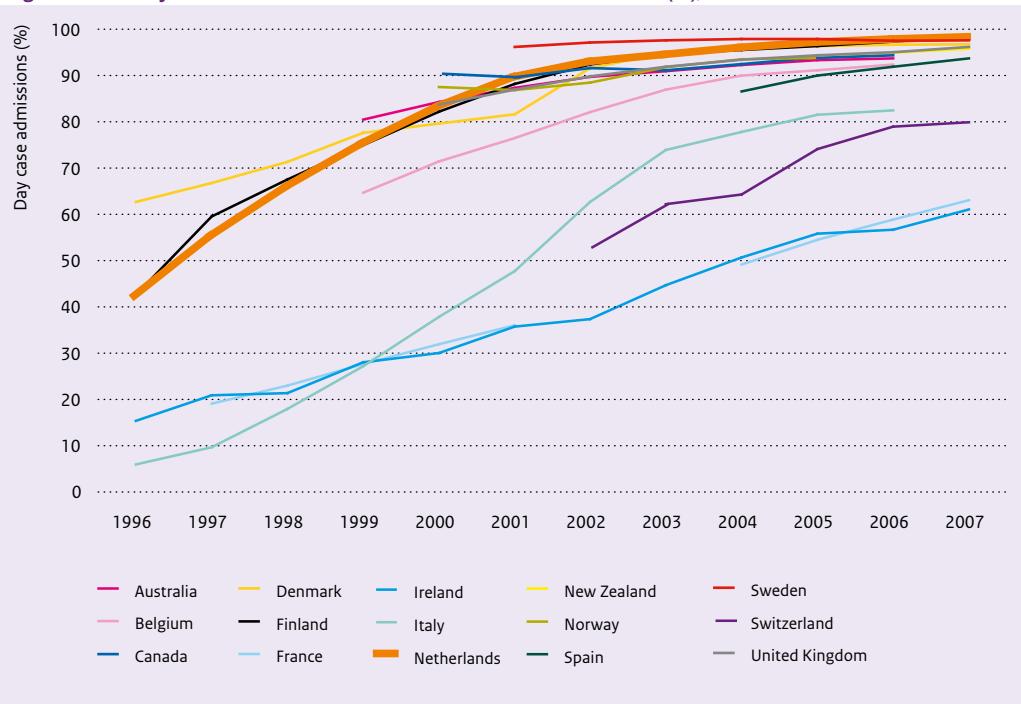
	Years <sup>1</sup>	Hernia		Tonsils		Stripping veins		Cataract	
		2006	Growth	2006	Growth	2006	Growth	2006	Growth
Australia	1996-2006	22.9	3.8	5.2	14.9	22.9	7.1	93.5	2.2
Belgium	1999-2006	21.9	13.7	66.5	4.6	70.5	10.9	92.2	5.2
Canada	1999-2006	71.8	2.4	75.6	1.5	91.5	1.2	99.5	-
Denmark	1996-2007	69.9	5.6	30	9.8	91.1	5.6	96.5	4.0
Finland	1996-2007	53.7	7.0	52.6	26.2	70.2	7.5	97.1	8.0
France	1997-2001	-	6.3	19.2	-1.3	-	4.0	58.7	16.2
Ireland	1996-2007	29.8	7.9	0.4	6.5	47.2	10.8	56.5	13.5
Italy	1996-2006	47.1	34.1	30.8	51.0	57.8	27.0	82.3	30.6
Luxembourg	1999-2007	17	0.5	4.9	23.5	30.9	13.8	33.1	3.0
Netherlands	1996-2007	57.4	9.9	65	0.4	82.9	6.1	97	8.0
New Zealand	1996-2007	49.4	2.2	42.3	3.7	17.9	-6.8	94.8	0.8
Norway	2000-2006	61.4	2.3	52	2.8	85.1	2.8	94.2	1.3
Spain	2004-2007	32.9	4.5	23.9	2.0	40.8	6.5	91.7	2.7
Sweden	2001-2007	-	-	-	-	-	-	97.3	0.2
Switzerland	2002-2007	9.5	-3.1	10.4	-4.5	12.9	-8.7	78.8	8.6
United Kingdom	1996-2007	54.5	6.2	17.6	17.6	65.9	4.0	94.9	2.0
Average		42.8		33.1		56.3		84.9	

(Source: OECD Health Data, 2009)

<sup>1</sup> The column Years presents the years for which data was available for the respective countries

Figure 4.3.13 illustrates that the percentage of day care treatments for cataract approximates 100% in various countries. The Netherlands was quick to attain a high percentage on this indicator.

**Figure 4.3.13: Day case admissions as share of all admissions for cataract (%), 1996–2007**



(Source: OECD Health Data)

### The adoption rate of new cancer drugs was average in the Netherlands

The rate at which new cancer drugs are introduced in a country, after entering the European market, varied across countries, at least in the years 1999–2004 (Wilkins and Jönsson, 2006). More recent data is not available. The adoption rate of these drugs was average in the Netherlands. Wilkins and Jönsson also showed that high investments in research are not necessarily associated with a high diffusion rate. Of all the countries studied, the United Kingdom invested most in cancer research (per capita), but it lagged behind in adopting new drugs.

Table 4.3.9 shows for a selection of cancer drugs the cross-national adoption rates after entering the European market. For five of the seven drugs the adoption rate in the Dutch market was average or higher than average. Admitting new drugs to the market is a delicate process that involves weighing uncertainty regarding potential disadvantages/risks in the initial stage against a potential loss of health gains due to delay.

**Table 4.3.9: Adoption rate of new cancer medicines (number of months after introduction in Europe)**

	Colon cancer			Lung cancer		Chronic myeloide leukemia	Non-Hodgkin's lymphoma	Breast cancer
	Irinotecan	Oxaliplatin	Capecitabine	Vinorelbine	Gemcitabine	Imatinib	Rituximab	Trastuzumab
Europe	Sept. '95	July '96	June '98	June '89	April '95	July '01	Dec. '97	Nov. '98
Austria	24	23	27	36	2	5	7	23
Belgium	45	63	39	121	21	15	31	29
Denmark	39	NR	39	108	23	5	12	25
Finland	19	NR	33	89	5	4	7	23
France	0	0	5	0	15	21	6	22
Germany	36	38	33	80	13	4	7	23
Ireland	36	NR	33	NR	36	6	8	25
Italy	26	47	40	33	15	6	15	27
Netherlands	36	37	36	NR	2	4	7	22
Norway	35	NR	4	112	23	1	2	0
Spain	21	45	32	46	7	9	9	24
Sweden	33	38	32	88	0	4	6	23
Switzerland	36	38	0	81	26	0	0	9
United Kingdom	18	38	32	96	8	4	6	22
Average	29	37	28	74	14	6	9	21

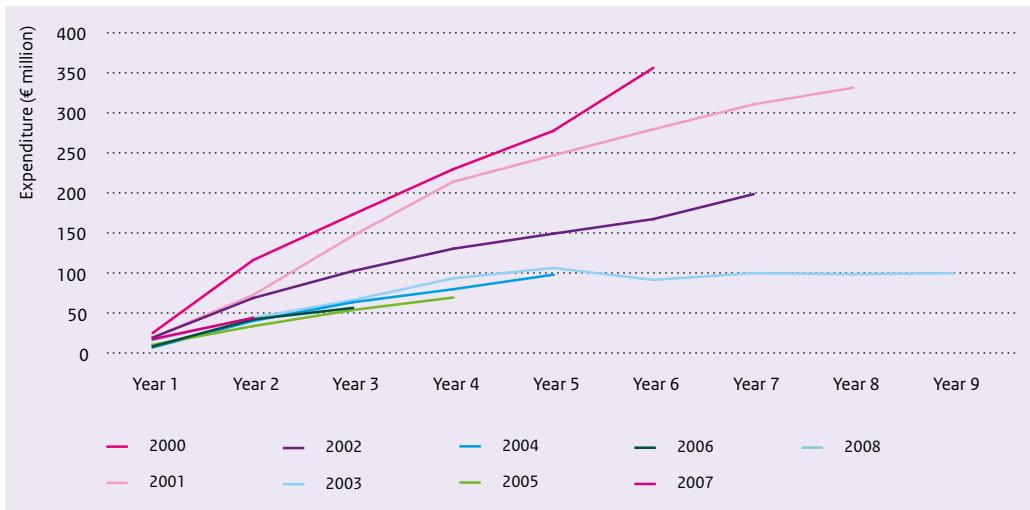
(Source: Wilking and Jönsson, 2006)

NR = not in the report

### The dissemination of new out-of-hospital medicines and the share of new medicines in the total pharmaceutical market have decreased in recent years

A recent publication by the Health Care Insurance Board focussed on the costs of new out-of-hospital drugs (CVZ, 2009b). Figure 4.3.14 shows the trend in expenditure on new drugs since 2000. The volume of new drugs introduced in the years 2001-2003 grew fastest (in terms of expenditure). Drugs that came into the market between 2004 and 2008 did not attain such a high expenditure growth, not in the first years anyway. So, the drugs that were introduced in recent years gained a relatively smaller market share.

**Figure 4.3.14: Total expenditure on new drugs in the Netherlands, by year of introduction (€ million), 2000-2008**



(Source: CVZ, 2009b, data analysis RIVM)

Research showed the adoption rate of new drugs to be highly dependent on the attitude of individual GPs and doctors and on the type of drug (Florentius, 2006). A small group of GPs appeared to be responsible for a disproportionate share of use of new drugs in the first years after their introduction on the market. The influence of medical specialists on the prescribing behaviour of GPs was limited according to this study.

#### New treatment methods do not always substitute existing medicines, as is evidenced by the use of old and new anticoagulant drugs

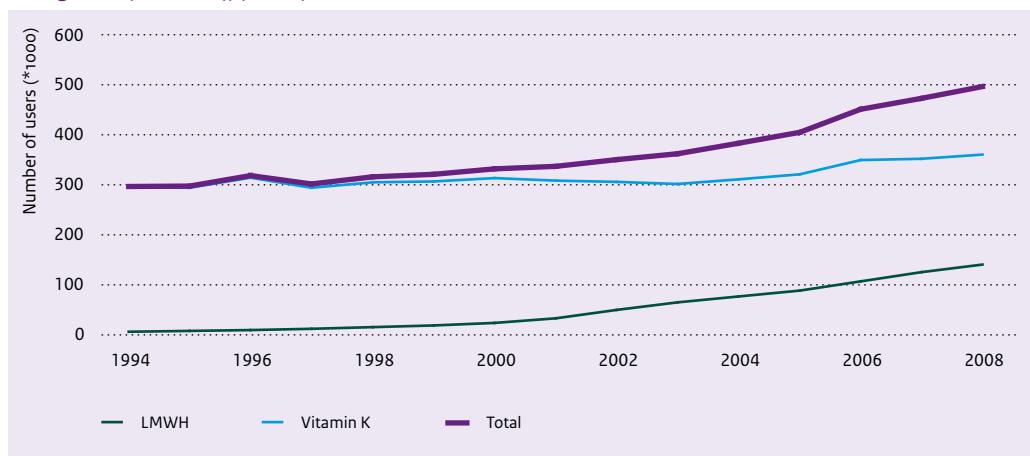
In the Netherlands new drugs are allowed when they are more (cost)effective than existing drugs or more (cost)effective than non-treatment in the absence of treatment.

To investigate the extent to which new drugs replace existing drugs, we looked at the use of anticoagulant medication. This is one of the few areas in pharmaceutical care where due to innovations better treatment options have become available in recent years. We analysed the use of low-molecular weight heparins (injection) relative to vitamin K antagonists (oral medication). The newer low molecular weight heparins (LMWH) are associated with fewer checks and their effects have better predictability (see e.g. Henskens et al., 2007). There was only data available on medications prescribed out-of-hospital.

Figure 4.3.15 shows the number of users of these categories of drugs. Since the late Nineties, users of LMWH have increased sharply. Between 2000 and 2005, especially the number of new drug users grew, while in the years thereafter the number of users of both new and old medicines has increased. This suggests that, at least for this category of drugs, the new therapy does not necessarily replace the old

therapy. The total market grew from 300,000 users (€9.5 million) in 1995 to approximately 500,000 users (€37 million) in 2008.

**Figure 4.3.15: Number of users of anticoagulant drugs (low molecular weight heparin (LMWH) and vitamin K antagonists (Vitamin K)) (\*1000), 1994-2008**



(Source: CVZ data, data analysis RIVM)

**In early 2010, the number of health care providers connected to the National Exchange Point Electronic Health Records rose to 575 of a total of about 6500 providers**

The use of electronic patient records can potentially improve the quality and efficiency of care (Schoen et al., 2006). Whether this effect actually occurs, will largely depend on the extent to which and the way in which electronic records are used.

In the Netherlands, a network of electronic health records is being created by the National Exchange Point Electronic Health Records. In 2007, six health care providers were connected to the Exchange Point. By 2008, this number had increased to 58 and early 2010, the number had increased to 575 (see Table 4.3.10). In the second half of 2009 the number rose significantly. Yet the total number of participants was still below the target number. The target was for all GP cooperatives, GP practices, hospitals and pharmacists to be connected to the Exchange Point in 2009 (Rijksbegroting, 2007; Rijksbegroting, 2008).

**Table 4.3.10: Number of health care providers connected to the National Exchange Point Electronic Health Records, 2007-2010**

	Number of connected				Total number <sup>1</sup>
	June 2007	June 2008	Aug. 2009	Jan. 2010	
GP cooperatives	1	5	7	14	130
GP practices	5	22	66	153	4235
Hospitals	0	1	4	10	190
Pharmacies	0	30	52	397	1900
Total	6	58	129	575	6455

(Source: Rijksbegroting, 2007; Rijksbegroting, 2008; VWS, 2010b)

<sup>1</sup> Number of GP practices on the basis of Hingstman and Kenens (2008); Number of GP cooperatives, see Westert et al. (2008); Number of hospitals including specialised hospitals; Number of pharmacies taken from Nationaal Kompas (Van Wieren, 2008)

### The use of e-health in the form of video communication and telecare stalled in 2008

E-health denotes care being provided remotely by utilising ICT. Through technology health care can become more easily accessible, the care process is less burdensome for the client and it may enable people to continue to live at home. It is still unknown to what extent e-health has increased the actual efficiency of care. Currently, e-health is mainly organised and offered on a temporary basis (projects). Table 4.3.11 presents the numbers of providers and users of e-health, in particular video communication and telemedicine (daily automatic advice via mobile phone), for the years 2005 to 2008 (Peeters and Francke, 2009). End 2008, approximately 1000 people were using these types of remote care (including 660 people with an indication for Exceptional Medical Expenses Act care). This was about the same number as in 2007.

**Table 4.3.11: Number of health care providers and clients using e-health, 2005-2008**

	2005	2006	2007	2008 <sup>1</sup>
Health care providers	6	6	8	11
Clients	-	-	1125	1021

(Source: Peeters and Francke, 2009)

<sup>1</sup> 11 health care providers used e-health; 10 health care providers were planning to do so

In a recent publication, the Court of Audit (Algemene Rekenkamer) observed that innovations in long-term care, including e-health, were only slowly adopted (Algemene Rekenkamer, 2009). Three reasons were mentioned:

- 1) little incentive to innovate and disseminate innovations (because care is funded on the basis of the number of hours incurred);
- 2) lack of continuity in funding;
- 3) inhibiting regulations, lack of ICT standards, and lack of support from care providers and clients.

## Conclusion

We evaluated the efficiency of the health care system on the basis of its cost-benefit ratio. Benefits were assessed against health care goals, such as health improvement and client experiences. The results are mixed. Average health has shown a favourable trend in recent years: after 2003, life expectancy rose faster than in the years before (see Figure 4.3.1). Yet, it is (still) not clear to what extent health care contributed to this rise. The substantial decline in avoidable mortality (20% of the decrease in total mortality) indicates that health care may well have played a role in this. In the areas of health disparities and client experiences less has changed. The expenditure growth did little to enhance the performance on these goals. Differences in (healthy) life expectancy between people with a low or high educational level remained constant over the past decade. What data there is on patient experiences showed that these have also remained constant over the years. Average health lends itself best to international comparison. The strong growth in life expectancy in recent years was also seen in other Western countries. In addition, some countries attained the same health outcomes but at lower costs and some countries had a more favourable ratio of health expenditure growth to health improvement.

Next to macro-trends, we also addressed efficiency at the meso-level. Again the focus was on the relationship between performance and means invested. We looked at the average development of the sectors as well as at the differences between institutions within a sector. Unfortunately, because of the diversity in outcome measures, sectors were hard to compare. Otherwise, the allocative efficiency could have been assessed in terms of resource deployment across sectors.

The variety of outcome measures is partly due to the lack of good quality information in terms of health gains. Gains are measured in terms of, for example, number of patients, treatments or hours of care provided. The lack of quality information is a major disadvantage of many meso-level efficiency studies. Strikingly, these studies suggest that in recent years the volume of care provided has increased significantly in most sectors, including care for the elderly, hospital care and mental health care. In hospital care, the volume growth went hand in hand with a slower increase in expenditure. The productivity of hospitals increased between 2003 and 2008 by on average 3% per year. The growth in volume of care for the elderly was associated with a slower increase in labour input. In mental health care the volume growth coincided with a slower increase in both labour input and real expenditure. These results may suggest a positive development, provided the growth in volume is not offset by a decline in quality.

From the efficiency perspective, the degree of waste in the health system is another matter for consideration. Is it possible to achieve the same results in terms of health and client experiences with fewer resources? Bentley and colleagues (2008) presented a conceptual framework for analysing waste in the health care system. They distinguished three types of waste: administrative waste, operational waste (inefficient production process - technical inefficiency) and clinical waste (production of low-value care - allocative inefficiency). Administrative activities, such as keeping patient records, exist in all health care systems and are part and parcel of everyday work. The optimum amount of administrative costs is difficult to estimate. International comparisons show that operational costs related to health insurances are lower in especially Scandinavian countries. We also looked at the level of overhead. Hospitals appeared to have a strikingly higher percentage of workers in overhead functions than mental health care, care for the elderly and especially care for the disabled.

To gain further insight in operational waste and clinical waste, differences between regions and institutions in terms of price and service utilisation (medical care) were identified. When differences between institutions or regions are not associated with better outcomes or are not explained by differences in case mix, this indicates inefficiency. The current state of research does not always allow such a comprehensive explanation of variations. We observed variation in diagnosis treatment combination prices between hospitals, variation in length of stay between hospitals after adjustment for patient characteristics, variation in the number of hospital treatments after adjustment for age and household income, variation between GPs in their choice of generic drugs and variation between GP cooperatives in consultation fees. Further research is needed to explain these differences.

In the last part of this section, another dimension of efficiency was studied, namely dynamic efficiency. In assessing dynamic efficiency, we looked at the adoption rate and diffusion rate of innovations and new medical technology. The Netherlands performed well with regard to the use of day case treatment and average with regard to the adoption rate of new cancer drugs and the use of new technology in AMI patients. The introduction of the electronic patient record is taking far more time than planned. The main question, which still remains unanswered, pertains to the real added value of new technology, for example in terms of health gains.

## 4.4 The financial position of health care organisations and health insurers

### **Key findings**

- The profitability of health care institutions fluctuated around 1% between 2006 and 2008; approximately 25% of the institutions had a negative result in 2008
- The average solvency of health care institutions improved slightly in 2008; the variation across health care institutions remained substantial and a large number of institutions failed to meet the target norm of 15%
- Insurers still incurred losses in 2008, albeit the losses decreased in the period 2006-2008
- The solvency margin for insurers was still well above the required level in 2008, albeit the surplus declined from €3.6 billion to €2.6 billion between 2006 and 2008

### How we determine the financial position of health care organisations and health insurers

In this section we discuss the financial situation in health care from the perspective of health care institutions and health insurers. On the basis of the annual reports of health care organisations and data

from the Dutch Central Bank (De Nederlandsche Bank (DNB)) (DNB, 2009) an overview is presented of the current financial results and long-term financial resilience using the indicators profitability and solvency. Profitability is indicative of the financial results of institutions in the current year. Solvency reflects the ability of organisations to meet their long-term financial obligations.

As in the previous DHCPR, we distinguish the categories curative care and long-term care. Especially in long-term care, a growing number of organisations is increasingly active in several sub-sectors (such as nursing and residential care, care for the disabled and care under the Social Support Act). As a consequence, it is virtually impossible to further subdivide long-term care for analysis purposes, and organisations that operate in several sub-sectors of long-term care are counted only once. The annual reports of health care organisations were obtained from the Central Information Unit on Health Care Professions (Centraal Informatiepunt Beroepen Gezondheidszorg (CIBG)). The financial figures of approximately 1000 health care organisations were included. In addition, the results were compared with reports of amongst others Statistics Netherlands (CBS, 2009c), PriceWaterhouseCoopers (PWC, 2009) and the Guarantee Fund for the Health Care Sector (Waarborgfonds voor de Zorgsector (WfZ)) (WfZ, 2009).

### Indicators

- Profitability of health care institutions
- Solvency of health care institutions
- Profitability of health insurers
- Solvency of health insurers

### The current state of affairs

**The profitability of health care organisations fluctuated around 1% between 2006 and 2008; approximately 25% of the institutions had a negative result in 2008**

The average profitability (ratio of profits to turnover) of care fluctuated around 1% between 2006 and 2008. Results for curative care were slightly better than the results for long-term care in 2007 and 2008 (see Table 4.4.1). Mental health care institutions showed a significant decline in profitability in 2008 (see also PWC, 2009).

There is still a considerable variation in profitability between institutions (see also WfZ, 2009).

Approximately one quarter of the health care institutions had a negative result in 2008. Approximately 10% of institutions had a negative result in 2007 and in 2008. Over the years, a growing proportion of all health care institutions had a negative result; in 2005 this proportion was a mere 10%, to increase to 30% in 2007. Notably, about 50% of the organisations that provide relatively much household support (over 5% of their total revenue) had a negative result in 2008 (CBS, 2009c).

In curative care, the percentage of institutions with a negative result declined strongly in 2008; among hospitals from about 30% to 15%. The results of hospitals in 2007 and 2008 were positively affected by occasional ex-post reimbursements (from previous years). These one-off effects also occurred in care for the disabled (PWC, 2009).

**Table 4.4.1: Profitability of care institutions, 2005-2008**

	2005	2006	2007	2008
Curative care	1.3	0.9	1.3	1.3
Long-term care	2.5	1.1	0.7	1.0

(Source: Westert et al., 2008; CIBG data, data analysis RIVM)

Curative care = hospitals, independent treatment centres, rehabilitation centres, trauma centres, procedures covered by the Special Medical Procedures Act (WBMV)

Long-term care = nursing and care, home care, care for the disabled, mental health care. The result per sector equals the turnover-weighted average of all institutions

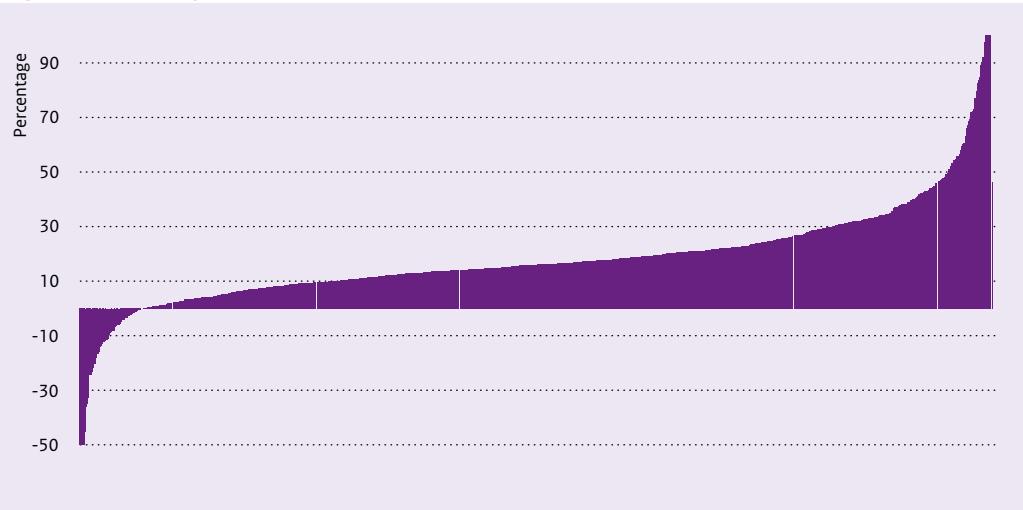
**The average solvency of health care institutions improved slightly in 2008; the variation across health care institutions remained substantial and a large number of institutions failed to meet the target norm of 15%**

Solvency reflects the ability of institutions to meet their financial obligations in the long run. At the institutional level, this indicator has been defined as the ratio of equity capital to turnover. In 2008, the solvency of health care providers averaged 15%, compared to 14.6% in 2007 and approximately 13% in 2006 (CIBG data, data processing RIVM).

The Guarantee Fund (WfZ) enables health care institutions to conclude low interest loans by acting as guarantor. To be able to use this service, institutions have to be creditworthy and satisfy a number of conditions. The target solvency standard was set at 15%. Two thirds of curative care institutions failed to meet the 15% standard. In 2008, the situation was slightly better in long-term care, with just over 40% of the institutions failing to meet the 15% standard (see also CBS, 2009c). In the market sector, the solvency requirement is generally higher than 15%.

The slight increase in equity capital in 2008 was partly caused by changes in accounting (transfer of equalisation reserves to equity capital). Furthermore, there was still considerable variation in solvency between health care institutions (Figure 4.4.1).

**Figure 4.4.1: Solvency of health care institutions<sup>1</sup>, 2008**



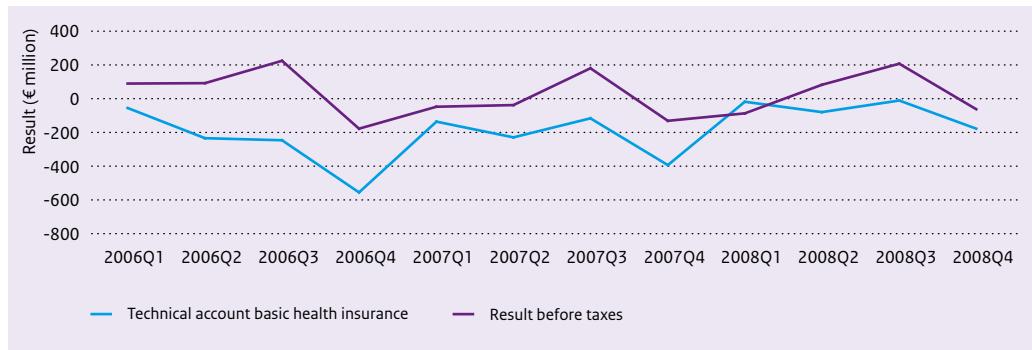
(Source: CIBG data, data analysis RIVM)

<sup>1</sup> Institutions with an annual turnover of over € 1 million

#### **Insurers still incurred losses in 2008, albeit the losses decreased in the period 2006-2008**

Figure 4.4.2 shows the financial performance of insurers between 2006 and 2008. In that period, the insurers incurred their biggest losses on the basic health insurance; in 2006 the loss amounted to approximately €560 million and in 2008 to almost €186 million. The overall result was less dramatic, i.e. €73 million in 2008. The difference between the result of the basic health insurance and the overall result comprises the result of complementary insurance, costs and revenues from previous years, and investment income. The investment result was a lot worse in 2008 than in previous years. Without this loss the overall result for 2008 would have been positive.

**Figure 4.4.2: Cumulated result of technical basic health insurance accounts and result before taxes (€ million), per quarter (Q1-Q4), 2006-2008**



(Source: DNB, 2009)

Table 4.4.2 presents, in addition to the national picture in Figure 4.4.2, the financial results for the four major health insurers; together they hold a market share of around 85%. Again, the result on the technical account (operational results of the basic health insurance and complementary insurance) appeared to be better in 2008 than in 2007.

**Table 4.4.2: Results of four large health insurance companies, 2007-2008**

	Number of insured (1000)		Results before taxes (€ 1000) (€ 1000)		Result of technical account for health insurance (€ 1000)	
	2007	2008	2007	2008	2007	2008
Achmea	4,728	4,764	-	-	-52,000	8,000
• basic insurance					38,000	102,000
• supplementary insurance						
Menzis	1,954	2,062	-14,258	-25,994	-34,820	3,319
UVIT-health insurance	4,220	4,275	-	-	-	-44,226
CZ	2,597	2,599	15,866	-50,509	-44,484	43,352

(Source: Eureko, 2009; Menzis, 2009; UVIT, 2009; CZ, 2009)

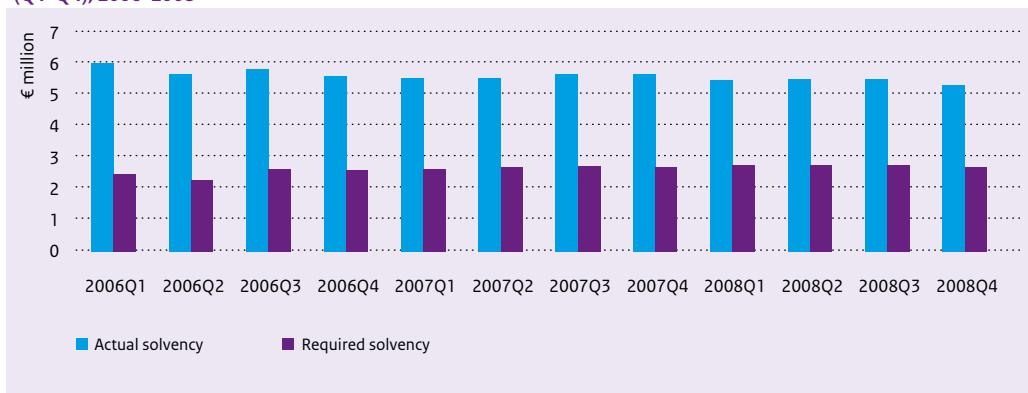
For Achmea (a branch of Eureko Holding) and UVIT-health insurance, only the results of the technical account (basic and supplementary insurance) are presented

**The solvency margin for insurers was still well above the required level in 2008, albeit the surplus declined from €3.6 billion to €2.6 billion between 2006 and 2008**

Solvency gives an indication of the long-term financial resilience. The Dutch Central Bank, as supervisor of insurers, assesses the financial resilience of health insurers. The required solvency is calculated prospectively on the basis of the total expenditure of insurers.

Figure 4.4.3 shows that in 2008 the solvency position of insurers was still well above the standard set by the Dutch Central Bank. Between 2006 and 2008, the surplus declined from €3.6 billion in early 2006 to €2.6 billion at the end of 2008.

**Figure 4.4.3: Actual solvency and required solvency of health insurance companies (€ million), per quarter (Q1-Q4), 2006-2008**



(Source: DNB, 2009)

## Conclusion

In 2007 and 2008, the financial position of health care institutions continued to be a concern. This is evident from, amongst others, the actual profitability rate that averaged 1% in recent years. In addition, the relatively favourable profitability of hospitals and care for the disabled was positively affected by one-time profits in 2008. The outcomes were markedly poorer for mental health care and organisations providing a large volume of household support (Social Support Act). As the outcomes showed, the margins in health care were still small. The percentage of institutions that did not operate at break-even decreased in 2008 from 30% to 25%. Approximately 10% of institutions suffered losses in both 2007 and 2008.

In terms of solvency, health care institutions made a small step forward. This is partly due to the low profit margins that allow institutions to build capital. Average solvency was around 15% in 2008. Hospitals performed a little worse compared to long-term care institutions. A great many institutions still scored below the target solvency of 15%, one of the creditworthiness requirements of the Guarantee Fund for the Health Care Sector (WfZ). In a more competitive environment a higher solvency rate is required, because the financial risks are larger and lenders use stricter requirements. Changes in the funding of health care are relevant in this respect. Rather than being financed on the basis of budgets and advances, health care institutions are increasingly paid on the basis of pay-for-performance systems and negotiations with insurers. To this purpose, health care products have been redefined. Thus, hospitals are more and more funded on the basis of diagnosis treatment combinations, which are currently being

transformed into less detailed and more transparent diagnosis treatment combinations (DBC's Op weg naar Transparantie (DOTs)). From 2008 onwards, a funding system based on diagnosis treatment combinations has been gradually introduced in medical mental health care, and inpatient Exceptional Medical Expenses Act care has been increasingly funded on the basis of care intensity packages (zorgzwaartepakket (ZZP)). Furthermore, in the future institutions will be required to cover capital costs from the products delivered (such as diagnosis treatment combinations). The latter transition will change the valuation of assets, with as yet unknown effects on the capital position of institutions (WfZ, 2009; PWC, 2009). Also institutions are still quite in the dark as to DOT-rates and care intensity package fees and their impact on the financial position of institutions. Because of these uncertainties there will be a transition period in which the financial position of institutions will be guaranteed by the Ministry of Health.

Health insurers saw an improvement in their financial results between 2006 and 2008. In 2006 substantial losses were incurred. Two years later the results were better, at least for the basic health insurance. The overall result of 2008 was still affected by factors outside health care, in particular a poor return on investments. Between 2006 and 2008, health insurers also continued to use up their reserves, although their solvency is still well above the margin required by the Dutch Central Bank. When the ex-post compensation system is further reduced, the solvency requirements can become stricter, because of increasing insurers' risks.

The results in this section provide insight into the financial sustainability and continuity of institutions as well as into the ways in which the market operates (see also Chapter 5). From the perspective of competition and from the perspective of continuity, the above findings can be assessed differently. In a free and more risky market, consistently underperforming institutions will not survive and negative results will not be uncommon. The large variation in financial performance shows that this may become reality for a part of the institutions. This could have a negative impact on the continuity of care, but to what extent is currently incalculable.

# 5

## Impact of the Dutch health care system reforms

### **Key findings**

- Quality trends in the Dutch curative health care sector do not diverge much from those in neighbouring countries.
- No substantial changes in quality or accessibility have been recorded since 2006, but macro costs have been rising more sharply.
- The necessary conditions for regulated competition are not yet fully in place, so it is not yet clear whether intended effects have been achieved.
- Quality still plays a limited role in the health care purchasing process; price is still the deciding factor.
- Information and transparency about quality is essential and is not yet sufficiently available; competition solely on a price basis carries risks.
- Health care reforms are a long-term process; it requires continuous evaluation and monitoring of the effects on quality, accessibility and costs.

### 5.1 Introduction

In our previous *Dutch Health Care Performance Report* we noted that the 2010 report would assess whether competition had been further enhanced by improving transparency about health care quality, reducing financial guarantees and certainties for health care providers and increasing the number of services with freely negotiable prices. The report was also to investigate the effects of the reforms on the quality,

accessibility and costs of health care. This chapter addresses these issues for the curative health care sector in particular. It does not examine competition in the long-term sector as covered by the Exceptional Medical Expenses Act (*Algemene wet bijzondere ziektekosten* (Awbz)). We should point out beforehand that the transition to regulated competition in health care is a gradual process, and effects may not become evident until some time later. The Dutch health care system reforms involve a long-term process that was initiated during the 1990s and is still ongoing. It is difficult to measure the impact of a process that is still subject to continuous modification. Nevertheless, we attempt in this chapter to provide an intermediate assessment, taking 2006 – the year in which the Health Insurance Act (*Zorgverzekeringswet* (Zvw)) and the Health Care Market Regulation Act (*Wet marktwerking gezondheidszorg* (Wmg)) came into force – as our reference year.

### **Outline of the chapter**

The chapter begins by briefly explaining what is understood by regulated competition in health care and by reviewing important policy developments that have occurred in recent years (Section 5.2). We then take another look at the indicators discussed in other chapters, evaluating them in relation to the health system reforms as well as in terms of each of the defined public health objectives of quality, accessibility and affordability. In particular, we assess whether trends in the Netherlands have differed significantly from those in other countries, whether marked changes have occurred in the Dutch trends either before or after the 2006 reference year, and whether any major changes are evident in health care sectors that have been subject to increased competition for a longer period (Section 5.3).

One necessary condition for achieving the intended results of the reforms is that the system of regulated competition must properly function. We therefore also examine the prerequisites for successful regulated competition (Section 5.4). Although these conditions are essential, they do not guarantee the success of regulated competition. The better they are met, the better the regulated competition system can function and the better it can help to safeguard public interests in health care delivery. We end with a conclusion and discussion section (5.5).

## **5.2 Regulated competition in the health care system**

The pathway to the 2006 Health Insurance Act and the Health Care Market Regulation Act began with small, gradual steps that were initially seen as reversible. These were followed by several important measures that helped to establish regulated competition in the health care system.

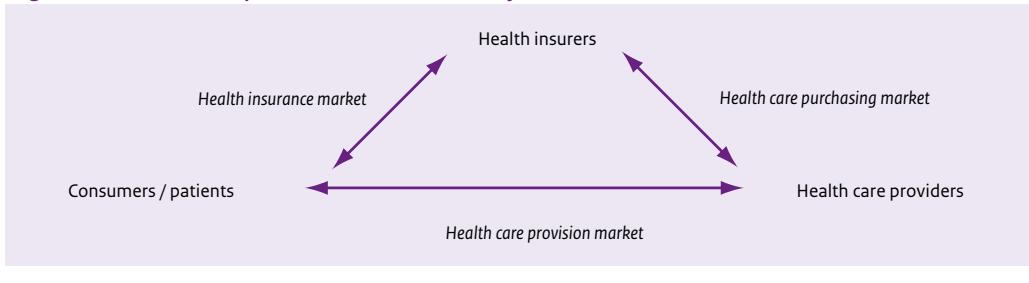
### **Key characteristics of the current system**

By introducing the regulated competition model, the Dutch government sought to create an effective, affordable system that would provide quality health care to all residents of the Netherlands, irrespective of age, health status or income (VWS, 2004c). Three market parties can be distinguished in the health care sector: health care providers, health insurance companies and consumers. These parties operate, for their part, in three submarkets (Figure 5.2.1). Like all markets, the health care market involves supply and demand:

- in the *health care delivery market*, patients seek health care services and health care providers deliver them,
- in the *health care purchasing market*, health care insurers purchase services from health care providers; within integrated care arrangements, health care providers may also purchase services from other health care providers,
- in the *health care insurance market*, insurance companies offer health care policies and consumers purchase these.

The various submarkets are interlinked: if one market is to function properly, all the others must be working. The aim is that insurance companies purchase good-quality, reasonably priced services in the health care purchasing market, that consumers weigh up those services to judge which insurance company they prefer and then choose a company and a policy option, and that these market transactions have a combined effect on the services that the consumers ultimately choose and utilise in the health care delivery market. If policyholders are dissatisfied, they are to signal that to insurance companies, for instance by changing to another company. This, in turn, should induce insurance companies to buy better-quality services via the purchasing market (Figure 5.2.1). This report examines all three markets.

**Figure 5.2.1: Schematic representation of the subsidiary markets in the health market**



The current Dutch health system has a number of important characteristics. Health insurance is mandatory for all residents. The state determines the basic health insurance package, which is highly comprehensive. Health insurers are legally required to accept all applicants for the basic package and may not charge different premiums to different types of clients. Policyholders may switch insurance companies once a year. To minimise the temptation to select clients on the basis of risk, a risk equalisation system is in operation whereby insurers receive compensation for predictable differential patient costs based on the risk profile of the entire insured population. Health insurers are not required to contract with all accredited health care providers; they may decide for themselves which providers to contract for services. They do have a requirement to ensure that their policyholders receive the health care they need. Clients with incomes below a specified threshold are entitled to a state health care allowance, which varies with income and which partially offsets their insurance premium costs. Policyholders with high unavoidable health care expenses are entitled to compensation for their yearly insurance excess.

There is no completely free market in the Dutch health care system. It is a market with regulated competition. This means that buyers and sellers are free to participate in the market, but that their freedom is circumscribed by legislation and regulations designed to counter unwanted effects and to safeguard the public objectives of quality, accessibility and affordability. Two examples of regulation are the mandatory insurance policies and the acceptance requirement – all residents are required to purchase the state-defined basic insurance package and all insurance companies are required to accept all applicants for the basic package.

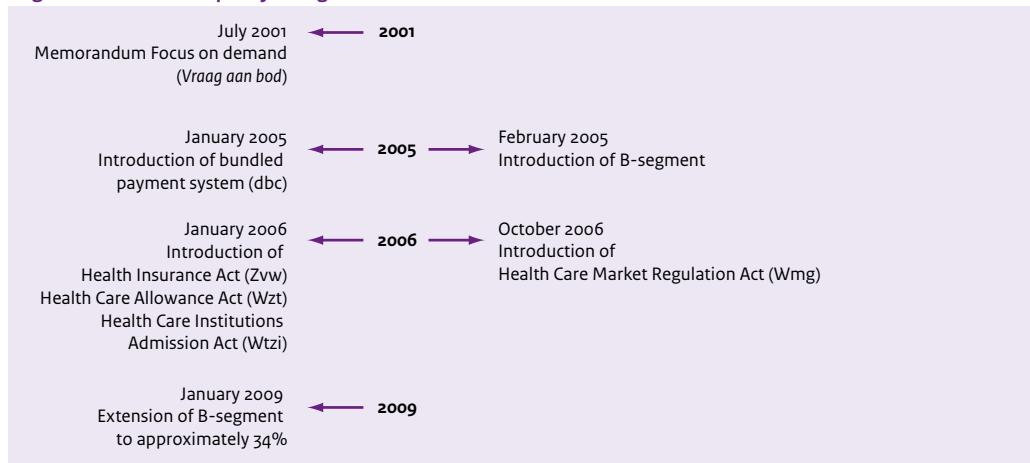
### 5.2.1 Significant policy changes

Among the small steps that gradually smoothed the way to the 2006 Health Insurance Act were measures taken between 1990 and 2006, most of which were initially considered reversible:

- eliminating the regional monopolies of statutory health insurance funds (*ziekenfondsen*),
- enabling policyholders to switch to other health insurance funds once a year,
- gradually increasing the financial accountability of health insurance funds,
- removing the requirement to contract all qualified outpatient health care providers,
- developing and implementing a risk equalisation system,
- replacing fixed fees by minimum fees.

After the Dutch government published its white paper entitled *Vraag aan Bod* (A Question of Demand; VWS, 2001), it instituted policy changes designed to induce regulated competition, with the ultimate goal of an efficiently running health care system. We represent these measures on a time line in Figure 5.2.2.

**Figure 5.2.2: Relevant policy changes**



## Pricing based on diagnosis treatment combinations

Diagnosis treatment combinations (DBCs) define sets of health care services to be delivered for specific health conditions. Because they determine the content of 'health care products', they facilitate an episode-based payment model. Dutch hospitals and other providers of specialist medical care have been required since 2005 to do their billing per episode of care rather than on a fee-for-service basis. The pricing systems for hospital-based inpatient and outpatient services, other specialist medical care and therapeutic mental health care are now based on diagnosis treatment combinations. Each such arrangement has its own code that health care providers use in their accounts and record-keeping.

## Creation of the B-segment

Since 2005, fees are set in some specialist disciplines (called the B-segment) on the basis of free negotiation. At first these amounted to about 7% of the total expenditures for hospital-based and other specialist care, but the B-segment has expanded in most years since then. In 2008 it covered 20% and in 2009 about 34% of total expenditures for specialist care; it grew no further in 2010, but it will possibly be expanded again in future. In the B-segment, health insurance companies are allowed to negotiate with health care providers on the prices, the volume of services and the quality of diagnosis treatment combinations, and they have more latitude to play more robust roles as health care purchasers. Fees for the remainder of the specialist disciplines, the A-segment, are set by the Dutch Healthcare Authority (NZa), and health care providers and insurers can only negotiate about the volume and quality of services.

Fees for physiotherapy were also freed in 2005. In the GP practice sector, a small proportion of services, known as Modernisation and Innovation (M&I) procedures, was made negotiable in 2006. Exercise therapy fees were floated in 2008 and those for dietary counselling in 2009. Fees for primary care psychotherapy and counselling are also freely negotiable.

In January 2007, experimentation with free price formation was initiated, mostly on a small scale, for certain bundled payment arrangements for chronic diseases. As of 1 January 2010, bundled payment was introduced nationwide for diabetes and cardiovascular risk management, and six months later for COPD. A quality information system is also being implemented to accompany these integrated treatment schemes.

## Health Insurance Act and Health Care Allowance Act

The Health Insurance Act (Zvw) and the Health Care Allowance Act (*Wet op de Zorgtoeslag* (Wzt)) came into force on 1 January 2006. The former requires all persons who live or work legally in the Netherlands to have health care insurance. The latter act provides for financial compensation to help lower-income people pay their health insurance premiums.

## Health Care Institutions Admission Act

The Health Care Institutions Admission Act (*Wet Toelating Zorginstellingen* (WTZi)), which took effect in January 2006, made it easier for new health care agencies to enter the market. Accreditation was no longer contingent on obtaining building permits. Independent treatment centres (ZBCs) gained permission to provide all health care services in the B-segment and all outpatient services in the A-segment. This increases competition in the health care purchasing market.

### **Health Care Market Regulation Act**

The Health Care Market Regulation Act (Wmg) came into effect in October 2006. It had four aims:

- to promote and maintain market competition where possible,
- to regulate fees and services where necessary,
- to ensure that health care providers and insurers furnish patients and policyholders with adequate information to enable them to choose the best health care provider for their needs as well as the insurance company and policy option that suits them best,
- to ensure cohesion in the regulation and oversight of the health care markets.

## **5.3 Effects of regulated competition**

The Explanatory Memorandum accompanying the Health Insurance Act (VWS, 2004c) sets out the objectives of the reformed health care system. For consumers, these included more freedom of choice, more client responsibilities and affordable health care. Health insurance companies were to act more as contracting parties in their relationships with health care providers, demanding effective, high-quality services. Health care providers were to become more performance- and demand-oriented in their work. Regulated competition was seen as a means to ensure quality, accessibility and affordability in health care.

Although the effects of regulated competition may only be observable after some time, we can now try to discern in which directions such effects may be moving. Because the purpose of this report is to assess the outcomes of the Dutch health care system as a whole, and not those of its separate parts, we are mainly interested here in whether any broad effects of the health system reforms can be detected in the totality of analysed indicators. Using data from Chapters 2, 3 and 4 in particular, we will investigate whether any clear changes have taken place in recent years in terms of the quality, accessibility and affordability of care, and whether such changes might be attributable to the reforms. We have taken 2006 as our reference year, the year in which the Health Insurance Act and the Health Care Market Regulation Act went into force. The indicators we assess involve:

- trends over time: whether significant changes have occurred since 2006 that might show effects of the reforms,
- trends in international comparison: whether the Netherlands has significantly diverged from international trends on particular indicators since 2006, thus possibly revealing effects,
- health care disciplines with longer histories of competition, such as the B-segment or the physiotherapy sector: whether changes in quality, accessibility or costs have occurred there, possibly indicating effects.

If no notable changes or differences are evident, it will be less likely that the reforms have produced effects, or it may be too early to identify them. If no significant changes have occurred, we obviously cannot rule out that conditions might have got worse without the reforms.

## **Quality**

Quality trends in Dutch health care were assessed in Chapter 2 of this report. No substantial changes in trend or other differences were noted. In the health promotion and disease prevention sector, a favourable trend was evident that had already been noted prior to the reforms. In the curative sector, few differences in effectiveness can be discerned between the pre- and post-reform periods. Hospital mortality declined in 2003-2008, but this favourable trend had already commenced before the reforms; that might have been due to strategic behaviour on the part of hospitals, such as making improvements beforehand in anticipation of the increased competition. In terms of orientation to demand, no changes were observed. In the international comparison, no substantial differences were seen, either, that might be attributable to the reforms. The lack of evidence for effects of the reforms does not yet mean that no improvement processes have begun to take shape.

The Health Insurance Act and other measures have given rise to many quality incentives. A large number of consumer quality indexes have been developed that document client experiences in the health care system; the amount of quality information on consumer comparison websites such as kiesBeter.nl has also increased. The launch of the Health Care Transparency Programme (*Zichtbare Zorg*) represents a first step towards a uniform set of quality data that should be of help to the various stakeholders in judging the quality of care. The viability and reliability of the quality information now available is still disputed, however. As Van de Ven and colleagues (2009) wrote, 'Quality of care is now on the agenda. Patient organisations now have incentives and tools to assess and consult about quality. Health insurance companies are now definitely including a number of quality issues in their health care purchasing process. One effect of this is that health care providers such as hospitals are now focusing more consciously on the quality of their services. Private secondary care establishments whose quality is below par are soon eliminated from the market.'

Notwithstanding these developments, health insurers are still finding it hard to get an adequate picture of the quality of specialist medical services. In 2007 and 2008, the Dutch Healthcare Authority did report a growing emphasis on quality in negotiations between health insurers and health care providers, and this was also reflected in its *Monitor Ziekenhuiszorg 2009* (Hospital Services Monitoring Report; NZa, 2009a). The increasing interest in quality is especially evident in the accessing and utilisation of quality indicators and health care profiles by health insurers and the engagement of medical advisers in their negotiating procedures. Yet health care providers still report that quality information and health care profiles are less important to the insurers than the fees to be paid. The ultimate conclusion of the Healthcare Authority is therefore that the price of the services is still the deciding factor (NZa, 2009a).

In specialist care, the health insurance companies are also cautiously experimenting with influencing their policyholders' choices of providers, but they are still wary of damaging their reputations if they are seen to be restricting freedom of choice (NZa, 2010b). In purchasing physiotherapy, insurers are already differentiating on the basis of quality criteria (using process indicators). Physiotherapy is an area in which insurers have gone the furthest in their purchasing practices; several systems exist for benchmarking and for applying financial incentives (NZa, 2010b).

## **Accessibility**

The introduction of the Health Insurance Act in 2006 had positive consequences for the clients' freedom of choice and for the accessibility of insurance coverage. Large numbers of people switched to other insurance companies that year, but the percentage has meanwhile returned to the levels from before the law took effect. From Chapter 3 above, we may conclude that health care accessibility in the Netherlands is good in financial terms. This is due in part to the compulsory health insurance and the low patient out-of-pocket payments. Apart from a few mergers between health care institutions and between health insurance companies, which have slightly decreased accessibility and freedom of choice, no significant changes are observable in comparison either to the Dutch trends prior to 2006 or to the trends in other countries. Let us now take a closer look at the findings from Chapter 3.

In a comparison of all OECD countries, Dutch people spend the lowest percentage of their disposable income on out-of-pocket payments for health care, and the level is slightly declining. We should point out, though, that the premiums for the mandatory basic health insurance package were classified in that data as part of the collective burden. In terms of income solidarity, we see that out-of-pocket payments are relatively higher for lower-income people, and that this has not significantly altered in recent years. In international perspective, the differences between the Dutch income groups are small.

Although the number of uninsured people has remained rather stable, there has been a heavy increase since 2006 in the rate of delinquency (defined as over 6 months' premium arrears). Policy measures to curtail insurance delinquency were introduced in 2009.

The personal health care expenditures of people with chronic illnesses or disabilities have remained stable in recent years, but we do observe a shift in the types of expenditures since the Health Insurance Act came into force. Fewer people now report additional expenditures for GPs, dentists, medical specialists, physiotherapists and prescription drugs. More people report extra costs for aids and appliances and for home adaptations (the latter are not covered by the act).

Few changes have occurred in terms of geographical accessibility, but in rural areas there are increasing tendencies towards mergers, resulting in an uneven spread of facilities for acute health care. This suggests a concentration of services that may benefit the quality and affordability of care, but will have negative effects on accessibility.

This study has no indicators that assess privately run hospitals. The advent of such facilities has expanded freedom of choice for patients seeking some types of treatment. Some components of the care in private hospitals are not covered by the Dutch basic insurance package, making the number of out-of-pocket payments greater.

## **Costs**

Chapter 4 of this report analysed the Dutch health care expenditures. We shall now first examine the total costs of health care and then the expenditures in parts of the system where more competition has existed for a longer period of time (B-segment, GP practice, preferred drugs policy, physiotherapy).

The total costs of health care have risen. The rise in expenditures has not slackened since the Health Insurance Act was enacted. In fact, a substantial increase is apparent since that time in the public expenditures on health care per employed person. This represents a distinct change in trend, with costs continuing to rise in 2006 and thereafter, but at a higher level (see Figure 4.2.2). The increase was caused by the introduction of the mandatory basic insurance package in 2006; health care costs of policyholders who had previously been privately insured were now treated as public expenditures.

As a percentage of gross domestic product, Dutch health care expenditures are around the European Union average. That percentage has risen in nearly all countries over the course of time. The Dutch increase was above average from 2000 to 2007. The major proportion of the recent cost rises is due to increases in the volume of care. Costs are determined by the price and the volume of the care delivered. Competition is expected to influence at least the prices. Since the new funding and pricing system was introduced in 2006, the total costs of GP practice services have risen sharply (NZa, 2009b; Van Dijk et al., 2008); average revenue per GP rose by €39,000 in 2006 and by €12,000 in 2007.

From 1 July 2009, several health insurance companies launched their own preferred drugs policies. This triggered substantial price decreases for generic drugs (NZa, 2009c). As prices sank, volume grew, and total costs for medicines failed to decline. After the prices for physiotherapy were floated in 2005, prices initially increased. They stabilised in 2007 (NZa, 2007b), but the volume of physiotherapy has increased (CBS, 2008).

To summarise, we may conclude that competition has had a downward effect on some prices, but that the volume of services has continued to grow. Macro costs have consequently increased.

## 5.4 Explanations for the limited evidence of effects

The transition to a system of regulated competition in Dutch health care has proceeded smoothly (Van de Ven et al., 2009). There is also evidence of progress in improving processes to facilitate the ongoing introduction of regulated competition in curative care. Yet in terms of the quality, accessibility and affordability indicators used in this report, few changes can be detected since the health care reforms were introduced. We shall now discuss several possible reasons for that. Does room for improvement exist? Is it still too early for effects to be identified? Are there problems with measurement? Have all the necessary conditions been created for regulated competition to work?

## **Room for improvement exists**

For improvements to occur, there must be room for improvement. From the chapters of this report that compare Dutch statistics to those from other countries, we may conclude that there is definitely room for improvement. Performance variations can also be seen internally within the Netherlands, for example between hospitals. These also indicate room for improvement.

## **Reforming the system is a process**

Health system reforms like those in the Netherlands also need time to take full effect. It may still be too early to identify any definite outcomes in terms of the public health objectives set. Establishing causal relationships between different variables in the process is a problematic undertaking in a large-scale project such as the reforms, because it is often not clear which measures are at work, because measures may counteract one another and because the process is not yet completed. Nonetheless, it has already been some time since regulated competition was initiated, and we should already be able to determine in what direction any changes are moving. We can indeed observe changes in the health care process, but not yet in terms of the outcome indicators that measure quality, accessibility and costs.

## **Developments may not yet be quantifiable**

Problems with measurement may also partly explain why few changes can be detected as of yet. Developments and trends may be occurring which cannot be detected by the indicators that are currently available to RIVM and other researchers. Using more indicators in future could enable additional trends to be identified.

## **Conditions for regulated competition are not yet fully in place**

Two final reasons why effects may fail to materialise are that inaccurate assumptions have been made about how regulated competition will work and that the necessary conditions for it to work successfully have not been ensured. According to health economic theory, competition does not have straightforward effects on the quality of care, because such effects also depend on factors like the availability of information and the sensitivity of consumers to that information. Several different hypothetical situations are conceivable, in each of which competition would have different effects on quality. If customers choose their insurance policies mainly on the basis of price (the insurance premium), then more competition will lead to lower prices, even if that implies poorer quality. In a mechanism in which competition is to lead to higher quality, information is crucial. This is one condition for the success of regulated competition. Whether the intended effects of regulated competition will indeed be achieved therefore depends partly on whether certain conditions are satisfied. The conditions in question have been summarised in a report entitled *Evaluatie Zorgverzekeringswet en Wet op de Zorgtoeslag* (Evaluation of the Health Insurance Act and the Health Care Allowance Act; Van de Ven et al., 2009), and we list them in Box 5.4.1. Each of these conditions for regulated competition is analysed in more detail in our appendix 5.1, using empirical data to assess progress in achieving them. The overall conclusion is that most conditions had been partially fulfilled by 2009, but that practically none had been satisfied in full.

The most critical deficiencies appear to be the lack of adequate information about health care quality (despite numerous initiatives to obtain it) and the lack of selective contracting by health insurance companies (although some do differentiate between providers; NZa, 2010b). Other problems lie in

policyholders' perceptions (7% do not switch insurers for fear they will be turned down), insufficient efficiency inducements, and the state's reluctance to allow malfunctioning hospitals to go bankrupt (despite other measures to reduce financial guarantees and certainties to health care providers and insurers).

#### **Box 5.4.1: Necessary conditions for regulated competition**

1. *Freedom of choice for consumers.* Every policyholder should have the right to switch from one health insurance company to another periodically (e.g. once a year), irrespective of income or health risk. The transition should proceed without restraints or impediments, undue red tape (such as convoluted application forms), high transaction costs or stringent research efforts due to incomparable insurance products (as was the case in private health insurance prior to 2006).
2. *Subsidies.* A system of cross-subsidisation between risk and income groups is necessary to ensure that all people can freely choose health insurance within a competitive insurance market. One way of achieving this is an equalisation system in combination with income-based contributions.
3. *Freedom of contract.* Sufficient freedom of contract should exist in the relationships between health care insurers and providers and between insurers and policyholders. Insurance companies should be able to offer a range of policies that include a variety of treatment packages and optional services (subject to minimum requirements concerning quality and financial and physical accessibility).
4. *Transparency and information.* The basic insurance package and the health care products should be defined in a sufficiently transparent manner. Sufficient reliable, comprehensible information, preferably standardised, should be available concerning variations in prices, products and quality both across insurance companies and across health care providers. Consumer information on the quality, price and service delivery of health care providers and insurers should be comprehensible, relevant, objective, reliable and available to everyone free of charge.
5. *Financial incentives to efficiency.* All stakeholders – health insurance companies, health care providers and consumers – should have enough financial incentives to efficient action.
6. *Deterrents to free-riding.* People should be prevented from deliberately remaining uninsured or underinsured (e.g. by choosing an overly high voluntary excess) on the assumption that altruistic fellow citizens will foot their medical bills. Such practices could eventually undermine the affordability of health care. Mandatory health care insurance for all is a deterrent to free-riding behaviour.
7. *Contestable markets.* Newcomers (both insurers and providers) should have sufficient opportunities to enter the market, and existing market parties should be sufficiently able to exit from the market (for example upon failure).
8. *'Market superintendents'* and oversight bodies. Powerful, independent authorities must exist that proactively safeguard the interests of consumers in the health care system, for instance by monitoring the market, overseeing health care insurers and providers, ensuring transparency and information for consumers and other market parties, and effectively intervening if necessary. Consumers are to be effectively protected against substandard health care services as well as against insolvent insurance companies. Effective competition policies should discourage inappropriate cartels, monopolies and abuse of market power.

(Source: Van de Ven et al., 2009)

## 5.5 Potential risks from a lack of transparent quality information

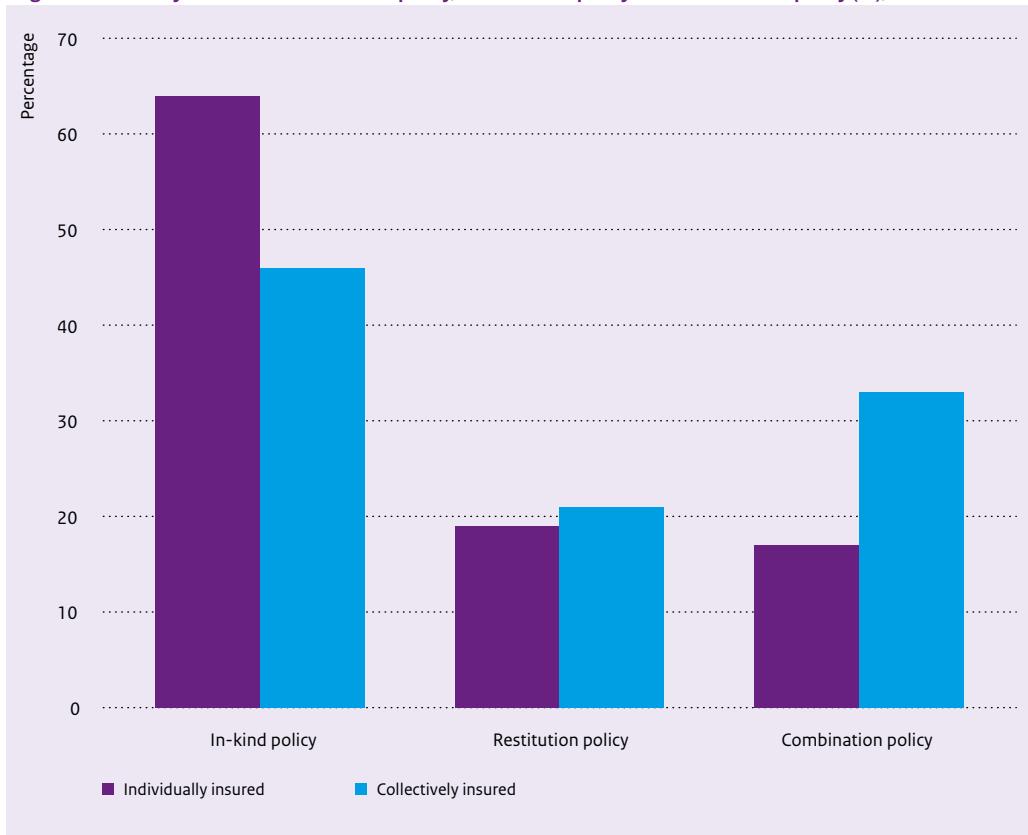
Since almost none of the necessary conditions for regulated competition have been fully met, this poses risks for the successful completion of the reforms. Intended effects may not be achieved, and undesired effects may arise instead. One of the conditions for success is the availability of transparent information about the quality and prices of health care products. Failure to ensure such information has consequences for other conditions, such as freedom of choice for consumers and freedom of contract. It also jeopardises the goal of improving the quality of care through competition on the basis of quality. For such quality competition to occur, health insurers and consumers need information about the quality of the health care services being delivered. Failing this, competition will mainly take place on the basis of price, as price information is available and is more easily and directly interpretable than quality information. Price competition may compromise quality.

Even where information is available, little seems to be done with it. As shown in Chapter 2 of this report, differences exist between hospitals. Despite this knowledge, health insurance companies do not refuse to contract the more poorly performing hospitals. Possible reasons for this are that too few hospitals exist or that insurers avoid selective contracting for fear of losing customers after restricting their freedom of choice. A third reason could be that insurers have insufficient confidence in the available data and do not wish to base decisions on it. Interviews with six insurance companies reveal that any selective contracting is mostly confined to specific areas or types of care, such as disease-specific diagnosis treatment combinations, independent treatment centres or particular 'health care modules' (NZa, 2010b). They indicate that this is mainly intended to differentiate between providers. They designate preferential providers or pay differential fees to different contracted providers. To better gauge the quality of services, they arrange for the providers to supply them with specified information (NZa, 2010b).

Health insurers actually procure care only for their benefits-in-kind policies, the type of policy held by most Dutch policyholders (Figure 5.5.1). In contracting that care, they may make agreements with the health care providers about the quality of care; they may also choose to contract only those providers that satisfy certain conditions, such as quality criteria. For their policies based on reimbursement, insurers do not purchase care, but merely act as mediators.

Percentages of Dutch health insurance policyholders with benefits-in-kind, reimbursement and mixed policies

**Figure 5.5.1: Policyholders with an in-kind policy, a restitution policy or a combination policy (%), 2009**



(Source: Vektis, 2009)

It would appear that the incentives for health insurers to insist on effective, high-quality care from their providers are not strong enough in practice to show measurable effects as of yet.

Gaynor (2006) has concluded on the basis of an extensive review of the theoretical and empirical literature on competition and quality that under imperfect competition quality can be both high and low. Competition can either raise or lower quality. How the price-quality relationship will evolve in a competition system depends on the sensitivity of consumers to price and to quality in their demand. The Dutch Healthcare Authority (NZa) has concluded that although quality awareness has grown, price is still the decisive factor in health care procurement. In a market where competition is mainly on a price basis, quality is in danger of deteriorating, especially if quality information is unavailable. Complete quality information that is reliable and widely accessible is essential to quality assurance in health care.

## 5.6 Conclusion and discussion

Developments in curative health care in the Netherlands have not diverged markedly from those in neighbouring countries. Nor have noticeable changes in trend occurred since the introduction of the Health Insurance Act and the Health Care Market Regulation Act in 2006, although the macro costs have increased more sharply in recent years. Some of the intended effects of the reforms can now be observed, including process-related adaptations designed to facilitate quality-of-care assessment.

### **Not all necessary conditions for regulated competition have been met**

The transition to regulated competition has proceeded smoothly (Van de Ven et al., 2009). This has improved freedom of choice and accessibility of health care insurance for consumers. In terms of the quality and accessibility of health care itself, little has changed. The collective costs of the health care system have increased. Ensuring the necessary conditions for the success of the reforms is an essential prerequisite for achieving the intended aims. Until those conditions are adequately met, the intended effects of the reforms will not materialise.

Our previous *Health Care Performance Report* concluded by citing a number of developments that would strengthen those conditions and further improve competition: more transparency about quality, a reduction of financial guarantees and certainties for health care providers, and expanding the number of services with freely negotiable prices. Although these developments have been initiated or achieved, they have not yet resulted in demonstrable positive effects in terms of the indicators used in the present (and other) research to assess quality, accessibility and affordability. We suspect that two years is not enough time to draw conclusions about the true effectiveness of the new developments.

### **Quality still plays a limited role in health care procurement; price is the deciding factor**

Ensuring that health care is purchased on the basis of quality has proven to be an arduous process. A beginning has been made, but quality considerations still play no more than a very modest role in purchasing decisions. According to the Healthcare Authority's monitoring report on health care purchasing, health insurers indicate that they make arrangements with health care providers for the provision of information. This gives them more knowledge about the nature and quality of services delivered; the data may also be put to use at a later stage in purchasing care or in facilitating policyholders. Insurers also report that they include provisions in contracts about the improvement of services; these may or may not be coupled with financial inducements (NZA, 2010b).

### **Information and transparency about quality is essential; competition solely on price carries risks**

In essence, regulated competition is intended to foster favourable price-quality ratios in the health care sector. Consumers should choose their health insurance on the basis of quality as well as price. Insurance companies should therefore insist on the best possible price-quality ratios in purchasing health care services from providers, and transparent information about these must be available to consumers. Transparency is still lacking. In large part, that is due to a lack of information and clarity about the quality of health care products. Reliable, systematic information on quality is reportedly unavailable (NZA, 2009d; Van de Ven and Schut, in preparation). A gradual process has been started that could yield

increasing amounts of information on the quality, price and service provision of health insurance companies and health care providers. In the absence of quality information, insurers will compete on price, and that will be detrimental to health care quality. Insufficient quality information therefore carries risks.

### **Regulated competition was not introduced to control macro costs**

The regulated competition model appears to have been developed primarily in order to achieve efficiency, quality, and financial and physical accessibility. The relationship between regulated competition and macro cost control is less clear. It remains uncertain whether the macro costs of health care can be controlled. If the health care market functions as intended, that will result in lower prices, but the macro costs could still rise due to increasing volume of care or due to higher prices resulting from consumer demands for better quality. Such a risk is definitely present if consumers are not confronted with the costs at the point where they need care, and if health care providers do not have incentives to limit the volume of care.

In addition, the average price increase in the A-segment has been slightly greater than that in the B-segment (the specialist care with free pricing). Yet, convincing evidence that freely negotiable services result in more efficiency or cost savings is still lacking (Box 5.6.1). In the period 2005-2007, the average price rise in the B-segment was just as great as that in the A-segment. For the separate years 2005, 2007 and 2008, the Healthcare Authority has concluded that the prices in the B-segment rose less sharply than in disciplines with state-mandated pricing (NZa, 2010b). Although the prices per unit of care may rise more slowly or may even decline, costs can still increase due to a growth in volume. The expenditures in the freely negotiable B-segment are not controlled by the state, but are governed by the market. If insurers, providers and consumers have insufficient incentives to limit costs ( $\text{price} \times \text{volume}$ ), then it is highly uncertain whether freeing the prices could result in cost savings. It is therefore important to verify first whether the incentives are pressing in the right direction.

### **Health care reforms are a long-term process requiring continuous evaluation**

The enactment of the Health Insurance Act and other laws that have shaped regulated competition in the Dutch curative health care sector (such as the Health Care Market Regulation Act) was preceded by many years of planning. Regulated competition has been further refined by a series of more recent measures. Additional developments that may affect the quality, accessibility and affordability of health care are occurring at present. Sharp cuts in health care allowances and a further expansion of the free-pricing segment are on the political agenda. Any evaluation of the health care system reforms is therefore necessarily a partial evaluation of process or outcome. The reforms are a dynamic process that may never reach an end. That makes it difficult to decide how long it will take to identify effects on quality, accessibility and affordability. It is therefore important to make periodic intermediate evaluations of trends in outcomes as they relate to system-level quality, accessibility and affordability.

#### **Box 5.6.1: Freely negotiable health care services**

##### **No convincing evidence at present that freely negotiable specialist care produces more efficiency or cost savings**

The performance of specialist care disciplines with freely negotiable prices (the B-segment) can be assessed in different ways:

- by comparing it with the performance recorded before the B-segment was launched. Exact comparisons are not feasible, however, as the B-segment consists of new products (such as diagnosis treatment combinations (DBCs) payment arrangements) whose services were defined and recorded differently in the old system,
- by comparing it to performance in the A-segment, the complementary sphere of specialist care with centrally determined prices. Such a comparison must be adjusted for confounding factors such as the care intensity of the patient populations (case-mix intensity); it is likely that levels and trends in patient care intensity will differ between the two segments,
- by monitoring trends in the care delivered in the B-segment after its launch. For the diagnosis treatment combinations that were initially introduced in 2005, it is only feasible to calculate whether performance within the segment became better or worse, but not whether the freely negotiable entity performed better than an alternative form (e.g. in the A-segment). For arrangements that were transferred from the A to the B-segment in 2008 and 2009, a comparison could be made with their performance in the A-segment in preceding years. Price developments over time could be compared to the administrative prices set when diagnosis treatment combinations were introduced.

#### **Assessing efficiency in health care**

Efficiency refers to the relationship between the resources invested (inputs) and the returns obtained from the resources utilised. Ideally, the returns of health care should be measured as health gains in terms of patient outcomes. Unfortunately, for the B-segment in particular there is not yet enough information available to assess the health gains (that is, the quality) of the care, let alone to evaluate trends or to make comparisons with the A-segment. That makes it difficult from the start to draw any conclusions about efficiency. We do have some evidence about waiting list trends in the B-segment; waiting lists shrank for a large number of treatment programmes from 2006 to 2009 (NZa, 2010c). Whether and how much this may be attributable to free negotiations is unclear, given that waiting lists were reduced in most other specialist medical disciplines as well.

An alternative, less exact method is to measure returns in terms of health care volume, such as the number of episode-based payments made or the number of treatments performed, rather than in terms of health gains. Because no quality information is available, assumptions must be made about the added value (health gains) per product delivered. However, volume calculations for the B-segment are still rather rudimentary. The DBC Information System, where data on diagnosis treatment combinations is recorded, had many start-up problems, and definitions used in the system have also shifted over the course of time. Comparisons to the A-segment or to earlier years (drawing on a system such as the National Medical Registration, LMR) are complicated by varying definitions and because the reach of the LMR has shrunk considerably in recent years.

The firmest, most reliable data at present is the price information. Plotted against the average quality of care, it gives an indication of the efficiency of services. Nonetheless, as noted above, the quality data on the B-segment is still too meagre to be used in efficiency analyses. The price information reveals the following. In 2005, the first year that prices were freed, average prices in the B-segment increased by 5.5% above the administrative prices set at the launch of the project. In the years that followed, prices rose by 0% (2006), 2.1% (2007), 1.1% (2008) and 1.5% (2009). It is difficult to see any distinct trend here. The average price rise was similar to that in the A-segment from 2005 to 2007 but the A-Segment prices subsequently rose at a slightly higher rate. At that time, though, the composition of the two segments also shifted, making comparison more difficult; one problem is the lack of adjustment factors for case mix and any other confounding influences (see also CPB, 2009).

If and only if the B-Segment price trends after adjustment for such differences were to prove lower (as compared, say, to those in the A-segment) and the health gain per episode of care were to prove equal or higher, then transferring care from the A to the B-segment would produce efficiency gains. This cannot be empirically substantiated on the basis of the currently available data, nor can it be ruled out.

### **Assessing cost savings**

In recent debates on the restructuring of state finances, it has been suggested repeatedly that expanding the B-segment would lead to macro-level savings. To test that claim, we would need to analyse the total expenditures (or their two components, price and volume). If B-Segment prices were found to increase more slowly than those in the A-segment, then a transfer of services from the A to the B-segment would indeed save money, provided that a growth in volume did not nullify the savings. In the years 2005 to 2007, when the number of health conditions covered by the B-segment remained constant, the total cost trend there was slightly higher than that in the A-segment. Although it is difficult to compare the two segments for the reasons explained above, such a result does not suggest that a transfer of services would result in savings.

The conclusion is that no convincing evidence is available at present to suggest that specialist medical care at freely negotiable prices is either more efficient or more economical than care with centrally determined fees.

# Appendix 5.1

## Progress towards regulated competition. Situation in 2010

Chapter 5 cites eight conditions that are deemed necessary for a system of regulated competition to function properly (see Box 5.4.1; Van de Ven et al., 2009). In this appendix to the chapter, we evaluate each of these conditions in terms of the progress made towards achieving it. Our analysis is based on *Evaluatie Zorgverzekeringswet en Wet op de Zorgtoeslag* (Van de Ven et al., 2009), *Evaluatie Wet Marktordening Gezondheidszorg* (Friele, 2009) and on secondary literature relating to the various conditions.

### 1. Freedom of choice for consumers

All health insurance policyholders in the Netherlands have the opportunity to change their health insurance once a year. They have many policy options to choose from, offered by a large number of companies. To ensure a smooth transition, a newly chosen company will arrange for the old company to terminate the previous policies.

Although insurers are required to accept all applicants for the basic insurance package, consumers do not necessarily have free access to policies for supplemental services, to collective policies or to policy-linked subsidies from employers or other sources. Other obstacles to freedom of choice may arise from consumer misconceptions or from inaccurate, incomplete or unclear information.

About 18 per cent of Dutch policyholders changed their insurance coverage when the Health Insurance Act took effect in 2006. Many of these were able to join collective policies via their employers or other connections. From 2007 onwards, approximately 4% to 5% of policyholders have changed per year. Figures vary by age group, with younger policyholders switching companies at a higher rate than older clients.

In 2007, 2008 and 2009, research was done on the considerations people had for staying with their present insurance company (De Jong and Groenewegen, 2007; De Jong, 2008b; Vos and De Jong, 2009). The reason most cited (by 45%) was satisfaction with the current company, but the percentage citing the coverage of their supplemental policy has grown from year to year (Vos and De Jong, 2009). In addition to reasons that can be considered legitimate from the standpoint of regulated competition, there are also motives that suggest obstacles to mobility. Almost one fifth (18%) of policyholders consider it too much trouble to change; 7% believe they will not be accepted by a new company, a percentage that has gradually increased over the years (Vos and De Jong, 2009). In practice, such perceptions constrain freedom of choice.

Collective policies figure heavily in the current health insurance system. These are the major reason why people change their insurance company. Since the Health Insurance Act was enacted, the numbers of people insured under collective contracts has risen sharply, from 44% in 2006 to 65% two years later (De Jong, 2008b). Many collective contracts were signed at the beginning of 2006 for a period of three years, meaning that new contracts could be negotiated from 2009. Potentially, collective entities could have

negotiated new contracts with other insurers, causing large numbers of policyholders to switch in January 2009, but many collective contracts were renewed with the same insurer (Van der Maat and De Jong, 2009). A high rate of policyholders' mobility failed to materialise.

When the Health Insurance Act took effect in 2006, fierce competition broke out between insurers to secure customer loyalty; the competition continued in 2007, as reflected in signs such as narrowing differences between the premiums of various companies and the fact that the average premiums did not cover the costs. Yearly premiums rose little from 2008 to 2009. In the former year, premiums for the basic insurance package (not including any collective discounts) ranged from €933 to €1,198 per year (Vektis, 2008); in 2009, the average premium was €1,110 (Vektis, 2009). The spread between the lowest and highest premiums has narrowed; in 2010 it was €960 to €1,176. Since 2006, the average premium for the basic package has been below the break-even premium calculated by the health ministry, but it has risen increasingly closer to it (BS Health Consultancy, 2009).

Not only the actual price differences play a role with consumers, but also their perceptions. If they believe the differences between insurers are too small, they will not switch companies. Research by the Netherlands Institute for Health Services Research (NIVEL) in 2006, 2007 and 2008 found that 68%, 70% and 74% of the Dutch population in those years felt they did not stand to benefit much by changing health insurance companies.

## 2. Subsidies

Insurance companies are barred from refusing applicants for the state-determined basic health insurance package. That is the only form of risk selection that is actually prohibited by law (Van de Ven et al., 2009). To discourage companies from using other types of risk selection, the state provides them with subsidies. Cross-subsidies between risk and income categories are effectuated via a system of ex-ante risk equalisation, income-based social contributions, ex-post cost compensation, income-based health care allowances and bans on premium differentiation within policies (Van de Ven et al., 2009). Risk equalisation discourages risk selection by compensating companies for differences in health care expenditures deriving from predictable differential health risks. As the equalisation scheme now used does not provide full cost compensation, companies may still find it advantageous to apply some kind of risk selection. Their possibilities include supplemental policies, collective contracts and selective contracting.

The percentage of clients with supplemental cover remains high. It was 95% in 2006, and it was still above 90% in 2008 and 2009 (De Jong et al., 2006; NZa, 2008a; NZa, 2009d). Clients generally hold supplemental policies from the same insurance company that provides their basic package. Article 120 of the Health Insurance Act prohibits companies from terminating a supplemental policy if a policyholder switches their basic insurance package to another company. Policyholders cannot, however, use that article to obtain a basic policy and a supplemental policy from different companies (VWS, 2009c). Contrary to the basic package, companies are not required to accept applicants for supplemental insurance and they are allowed to differentiate the premiums. Supplemental policies may therefore serve as an effective instrument of risk selection within the statutory health insurance. Researchers in 2008 reported a tightening of terms and conditions for supplemental insurance, reflected both in the application procedures and in conditional acceptances and extra stipulations (Roos and Schut, 2009). The trend

apparently did not continue in 2009. Although companies make limited use of health declarations, they do ask more questions about the expected use of services and about particular illnesses (for some of which they are not compensated via the equalisation system). Because this involves small numbers of applicants, it does not yet permit conclusions about risk selection. In 2009, fewer applicants had restrictions imposed (such as exclusions or waiting periods for the reimbursement of particular treatments) and fewer had to pay loaded premiums. More companies did differentiate their packages or premiums (Roos and Schut, 2009).

Risk selection may conceivably also take place on the basis of collective entities, or even by those collective entities. In the former case, insurers offer collective contracts to categories of clients with relatively favourable risk profiles; a group of employers, for example, would run fewer risks than the members of a patient association. In risk selection by collective entities, those groups would themselves select people with favourable risks and would discourage those with unfavourable risks from using a collective contract. The latter form of risk selection does not appear to take place in the Netherlands (Roos and Schut, 2009), although entities do exist that explicitly target people with favourable risks. Client categories that could or do have higher risks also tend to receive relatively smaller discounts on collective policies (Roos and Schut, 2009; Van der Maat and De Jong, 2009; NZa, 2009d).

Another form of risk selection would be a decision not to contract certain health care providers. Patients that need those services would then choose other health insurance companies. We have no empirical data to assess whether that phenomenon occurs in practice.

### **3. Freedom of contract**

From 1991, health insurers were no longer required to sign contracts with all health care professionals in private practice, the statutory health insurance funds (ziekenfondsen) were no longer confined to their geographical regions and clients received more freedom of choice in joining health insurance funds. Competition in health insurance received added impetus from 1992, when clients were enabled to switch between statutory insurance funds each year; insurance funds were also assigned more financial responsibility. The latitude for contracting providers was broadened further in 2006. The generic, non-discipline-specific descriptions of health care tasks in the basic insurance package enable insurance companies to contract health care providers from different disciplines. GP practice services, for instance, no longer necessarily have to be rendered by a GP, but a practice nurse could also be contracted. Selective contracting is also allowed, and fees may be negotiated freely or with fewer constraints. That makes it possible for companies to offer a range of different policies that include a variety of treatment packages and optional services.

Freedom of contract for specialist medical care is still limited, with the freely priced B-segment covering about 34% of total expenditures for specialist care. In practice, health insurance companies have done virtually no selective contracting as of yet. What little they have done, they report, involves specific areas or types of care, such as disease-specific integrated care arrangements, independent treatment centres or particular 'health care modules' (NZa, 2010b). They are still cautious. One example of a policy with selective contracting of GPs and secondary care providers is the ZEKUR policy from the Unive insurance company, which covers a restricted number of providers for non-acute services. In its *Monitor*

Ziekenhuiszorg 2009 (Hospital Services Monitoring Report; NZa, 2009a), the Healthcare Authority points to the tardiness of contracting in the B-segment, where fee negotiations for 2009 were barely underway in March of that year, and not a single contract had been signed between an insurance company and a hospital.

Another reason why insurers are cautious about selective contracting is that this might tarnish their image and drive policyholders to other companies. Selective purchasing does occur when it comes to medication, as some insurance companies operate preferred drugs policies. For various reasons, including price differences and less fear of reputation damage, insurers pursue a further-reaching form of selection in their drug coverage than they do in other parts of the health care purchasing market (NZa, 2010b).

For freedom of contract to function in practice and not just in theory, it requires sufficient numbers of providers in the market.

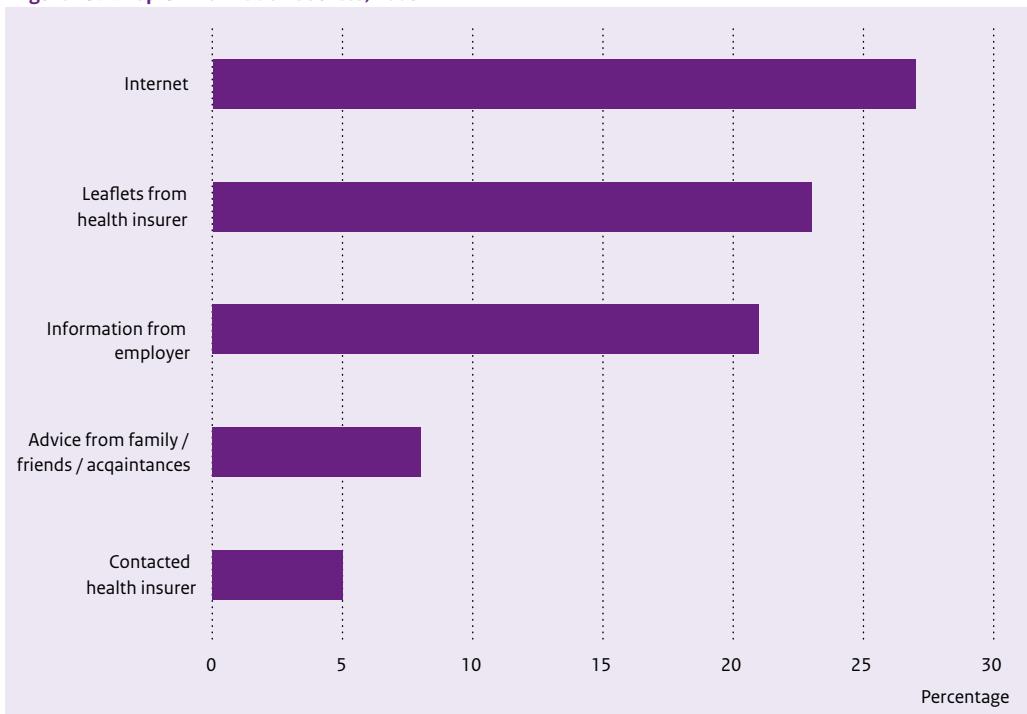
#### **4. Transparency and information**

The aim of promoting competition in health care is to make services more responsive to patient demand and to achieve a better price-quality ratio. A key role in this is assigned to health insurance companies. They are to purchase care cost-effectively; if they do not, their policyholders may switch to other companies. Before that process can start functioning, both insurers and consumers must be able to judge the quality of the care they purchase. In the absence of quality information, insurers will compete solely on price, and that may be detrimental to quality.

Reliable, systematic data on quality has been found to be unavailable at present (NZa, 2009d; Van de Ven and Schut, 2009), although more and more information is being published on the quality, price and customer service of insurance companies and health care providers. The Healthcare Authority has spurred insurance companies to improve their information systems and provision by testing their compliance with the *Richtsnoer Informatieverstrekking Ziektekostenverzekeraars* (Information Provision Guidelines for Health Insurance Companies; NZa, 2009d).

Decision support information on available health insurance policies and their premiums can already be obtained from ample sources (see Figure A5.1). The Internet is the most widely used medium (Van der Maat and De Jong, 2008). Some websites are [www.kiesBeter.nl](http://www.kiesBeter.nl), [www.independer.nl](http://www.independer.nl) and [www.consumentenbond.nl](http://www.consumentenbond.nl). They provide product overviews with prices and customer service ratings, and they try to get insurance companies to tailor their products to the wishes of the website visitors. Consumer choices appear to be influenced in particular by the insurance premiums and the customer service ratings. Information leaflets about insurance options are also available.

**Figure B5.1: Top-5 information sources, 2008**



(Source: Van der Maat and De Jong, 2008)

A study by kiesBeter has shown that people do not always find the information they are looking for (Colijn and Van der Graaf, 2009). In the first half of 2008, 60% of those questioned reported they had found what they sought, but the percentage sank to 40% in the second half of the year. The percentage indicating that the website gave support in making a choice also declined in the same period. In 2007 and again in 2008, the Dutch Healthcare Authority evaluated the websites that compared health insurance policies. In the former year, it found differences between websites in terms of the quality of information presentation (NZa, 2007c); the follow-up study reported that most such differences had been remedied (NZa, 2008b).

The basic insurance packages of many companies are reasonably easy to compare, but transparency is diminished by the widening differentiation in supplemental policies. Given that a large part of the Dutch population (about 90%) has supplemental cover from the same company where they have their basic coverage, transparency about the range of other available supplemental options is needed.

Websites such as [www.kiesBeter.nl](http://www.kiesBeter.nl) and [www.independer.nl](http://www.independer.nl) also help people to choose a health care provider. Health insurance companies also provide support, usually web-based, in finding a provider. Information on the quality of providers is usually lacking. Consumer quality index information on patient experiences is displayed regarding hospitals and regarding a number of specific health conditions (hip and knee operations, cataract operations). News media such as *Algemeen Dagblad* and Elsevier also publish rankings of hospitals, but statistical analysis has shown that the lists are not comparable (Pons et al., 2009).

A ‘blacklist’ of health care providers has been available since October 2009 on [www.ribiz.nl](http://www.ribiz.nl), the central register of individual health care practitioners that includes doctors, dentists, nurses, physiotherapists, midwives, psychotherapists, health psychologists and pharmacists. Suspensions or removals from the register or conditions imposed on registration may be viewed here by the public. The list also names specialists, GPs and nurses who have been suspended or removed from their profession after disciplinary proceedings.

Little is known yet about what effects the modes of presentation of comparative decision support information may have on the choices made by consumers (Damman and Rademakers, 2008; Damman et al., 2008). What we do know is that the publishing of findings on health insurance companies has led to improvements in the customer service of companies that had received mediocre ratings (Hendriks et al., 2009). The publishing of quality information on health care facilities and agencies mainly influences the behaviour of those providers themselves, who particularly fear damage to their image (Fung et al., 2008; Lugtenberg and Westert, 2007). Consumers make little use of such information (Bijlsma and Pomp, 2008).

In addition to consumer information, data is also needed by insurance companies, especially for determining whether or not to contract particular health care providers. They next need to let their policyholders know which providers they have contracted and on what criteria these were selected.

Quality information based on client and patient experiences is now increasingly available in a consumer quality index. The Dutch Health Care Inspectorate (IGZ) has also invested in transparency and information provision in recent years. It has developed sets of indicators, often in collaboration with the Health Care Transparency Programme (*Zichtbare Zorg*). Quality information based on treatment-specific outcome indicators lags behind.

## **5. Financial incentives for efficiency**

Efficiency incentives can be given to insurance companies, health care providers and health care consumers. The current system contains financial incentives intended to promote efficiency. Incentives to consumers involve the amounts set for basic insurance premiums and the compulsory excess. The mandatory premium is set high enough to make people realise the costs of health care and use it with more discretion. The excess is intended to get people to think twice before utilising services. It is questionable whether the current form and level of excess actually work. Policyholders report that they

do not make more conscious use of health care (Van der Maat and De Jong, 2009). Other types of excess are thought to be more effective (Van Kleef, 2009).

Health insurance companies and health care providers also have financial incentives to encourage efficiency. Although these are increasingly being applied, the efficiency incentives condition has still not been completely achieved. The existing compensation schemes mean that insurance companies still do not bear their full risks. Health care providers are still not allowed to make a profit.

The risks for insurance companies are equalised in large part on the basis of a post hoc evaluation of actual costs. It is argued that doing away with this mechanism would create more incentives for efficiency in health care purchasing. Yet there is debate about the consequences of additional financial incentives to efficient purchasing, such as increasing the insurers' responsibility for patient risks. As one writer commented, 'In the absence of a level playing field, incentives will not be improved by eliminating retrospective costing and introducing more risks; this could, however, result in higher solvency margins for insurance companies and higher premiums for policyholders to make up for the risk' (Wiegel, 2010). One point this author is making is that if insurance companies run greater risks, that will be an incentive for them to raise their prices to offset the estimated risks of their policyholders. To discourage that, an effective risk equalisation mechanism is needed.

## 6. Deterring free-riding

To safeguard the principle of solidarity in the health care system and to keep the system affordable, the Dutch government has made the basic health insurance mandatory. All people who live or work in the Netherlands on a legal basis are required to take out a policy (Health Insurance Act, article 2.1). Despite this requirement, about 153,000 of the people in question had no health insurance as of 1 May 2008 (CBS, 2009a), and a further 279,000 adult policyholders were more than six months in arrears on their insurance payments, a higher number than in 2006 (see Chapter 3). From September 2009, the Health Care Insurance Board (CVZ) therefore began obtaining attachment-of-earnings orders against people with more than six months' arrears. Uninsured people are actively tracked down through database comparisons by the CVZ and are sent legal notices. Fines are imposed after three months. If they are still found not to be insured in a subsequent database comparison three months after the fine, a second fine is levied. If they are later found to still be uninsured, a policy for the mandatory health insurance is imposed on them by the authorities.

## 7. Contestable markets

BContestability of markets means that new market entrants have free access to the market and that poorly functioning market parties can be eliminated. The Health Insurance Act allows new insurance companies to enter the market, and it fully guarantees the position of policyholders in the event that market incumbents exit the market (e.g. due to bankruptcy; article 31.1). In theory, then, the condition of contestable markets is satisfied for the health insurance market.

On the health care providers' market, opportunities for new providers to enter the market had been created by the generic task descriptions in the state-determined basic insurance package, by the right of health insurers to selectively contract health care services, and by the removal of the requirement to

obtain a building permit. From January 2006, the new Health Care Institutions Admission Act (WTZi) made it easier to establish independent treatment centres (ZBCs). The number of such centres providing health care services in the B-segment of specialist care increased from 37 in 2005 to 125 in 2009 (NZa, 2009a). Market access by new individual health care practitioners is widely constrained by the limited education and training opportunities.

New professions do appear to have room to enter the market. It is not yet clear whether the hospital market is truly contestable, as the state has not yet allowed poorly functioning hospitals to go bankrupt. In late 2008, for example, the Healthcare Authority approved a request for financial assistance for a group of hospitals known as the IJsselmeerziekenhuizen, fearing that closure would create serious problems in maintaining the continuity of health care in the region in question.

## **8. ‘Market superintendents’ and oversight bodies**

A number of different institutions are responsible for the quality, affordability and accessibility of health care services in the Netherlands. The state authorities guide the overall system and are charged with safeguarding public interests. The increasingly hands-off approach by government and the introduction of regulated competition have created the need for ‘market superintendents’ and ‘oversight bodies’, which can monitor whether insurance companies, health care providers and consumers stick to the rules and which can intervene if necessary. In theory, this condition appears to be fulfilled to a substantial degree by six oversight bodies: the Dutch Healthcare Authority (NZa), the Netherlands Competition Authority (NMa), Dutch Central Bank (DNB), the Health Care Inspectorate (IGZ), the Netherlands Authority for the Financial Markets (AFM) and the Consumer Authority. It is still difficult to say whether the oversight works adequately in practice. Task demarcation between these watchdogs and the state is still largely unclear. As a consequence, an evaluation of the Health Care Market Regulation Act has recently concluded that fully effective market oversight is still a long way off (Friele, 2009).



# 6

## Towards the next Dutch Health Care Performance Report

### 6.1 Introduction

**The Dutch Health Care Performance Report is a national monitoring report in which the Netherlands is compared internationally**

By means of 125 indicators, the Dutch Health Care Performance Report (DHCPR) attempts to monitor the quality, accessibility and efficiency of Dutch health care, thus to serve as a source of information for the strategic policy of the Ministry of Health.

Taken together, the indicators provide a broad picture of the performance of the Dutch health care system. As the Ministry of Health required the indicators to be limited in number, it was impossible to describe the performances of all specific elements of health care. The indicators provide signals with respect to the status of Dutch health care in terms of quality, accessibility and costs. A more detailed analysis is required to estimate the real value of the (warning) signals. Such a detailed analysis would make additional demands on the information infrastructure. Hence the information demands of the DHCPR can not be seen separately from the overall information infrastructure in health care in the Netherlands.

The DHCPR could be compiled thanks to the existence of a large quantity of data sources. Although improvements have been made in this third DHCPR, further developments are still desirable. In this chapter we address two questions:

1. What are the most important improvements in the data used in this third DHCPR and what improvements are sought in terms of information provision for the next DHCPR? (Section 6.2)
2. How can the usefulness of the DHCPR for the strategic policy of the national government and all other interested parties be increased? (Section 6.3)

In Section 6.4 we look ahead to the next DHCPR. In doing so we will address the question whether the publication of an identical and equally extensive DHCPR every two years is desirable.

## 6.2 Improvements and gaps in this Dutch Health Care Performance Report

Despite reported improvements in the availability of useful data, continuity of a number of important data registrations is still not guaranteed and the provision of information on a number of key areas has even deteriorated. Especially in light of the increasing demands made on the provision of information now and in the future, this situation is quite a concern.

This section first describes the extent to which the present DHCPR is filled with data. Next, we examine the comparability of data over time and internationally. Finally, we present some conclusions about the need for a strong improvement of the provision of information.

### 6.2.1 Improvements in indicators, but gaps remain

Table 6.2.1 broadly indicates the extent to which the indicator domains are filled with (more or less) adequate data. Especially, the quite solid data base for curative care indicators stands out. Hence the DHCPR discusses this subject extensively.

For all indicators, the DHCPR website ([www.gezondheidszorgbalans.nl](http://www.gezondheidszorgbalans.nl)) will contain not just the data from the report but also the scientific foundation, i.e. reasons as to why the indicator has been selected, the sources used and a short overview of the reliability of the data.

**Table 6.2.1: Quality of the empirical data for the indicators**

Care needs / care sector	Effectiveness	Safety	Responsive-ness	Accessibility	Costs
Staying healthy / prevention					
Getting better / curative care		X	X	XX	
Living with illness or disability / long-term care			XX		
Care in the final stage of life / palliative care	XX		XX		

Green: good; Orange: moderate; Red: poor

X: improved in the DHCPR 2008; XX: improved in the DHCPR 2010

## Improvements in the set of indicators

The composition of the set of indicators has become more balanced by adding a number of new indicators. In particular, several quality indicators have been improved.

First, the experiences of citizens, patients and clients are described for a wider range of care services, due to the increase in available Consumer Quality (CQ)-indices. A number of CQ indicators have been selected that are relevant to the DHCPR, with regard to both quality and accessibility of care.

Second, for long-term care we could use the results of the second national survey of the Quality Framework for Responsible Care dating from 2008.

Third, provisional indicators for palliative care have been included. Data is available for some structural features of palliative care only. NIVEL, together with stakeholders, has developed quality indicators, but as yet there is no data for these indicators.

## Health Care Transparency Programme

In the future, the DHCPR will continue to closely monitor the development of new indicators and in particular when these indicators will produce data that serve the purpose of the DHCPR. This includes the indicators developed in the framework of the Health Care Transparency Programme (Zichtbare Zorg) of the Health Care Inspectorate (IGZ). This programme supports the health care sector in the development and use of quality indicators. At present, in co-operation with the field, indicator sets have been developed for public health, primary care obstetrics, public pharmacies, hospitals, private clinics, care for the disabled, nursing homes, residential homes and home care, maternity care and mental health care. The sets of quality indicators are in different stages of development. In addition, new sets of indicators are being developed, amongst others for integrated care for some chronic diseases. The Inspectorate has most experience with hospital quality indicators (Geelhoed, 2010). These indicators are mainly process

and structure indicators; the number of outcome indicators is still low. It usually takes several years for the first data to become available.

#### **Box 6.2.1: Priorities in indicator domains that need improvement**

Some indicator domains require more improvement than others. Priority should be given to the following indicator domains:

##### *Quality*

- 1 Mental health care: this sector is lagging behind other health care sectors in the development and use of quality indicators.
- 2 Terminal and palliative care: the next step is collecting empirical data for the quality indicators developed.
- 3 Co-ordination in care: the increasing number of initiatives related to the implementation of integrated care requires a systematic monitoring of the state of affairs of care co-ordination, both at the patient level and the system level (connection between sectors).

##### *Accessibility*

- 4 Disparities in accessibility: until now the DHCPR has focused on the ‘average’ citizen’s experience of accessibility. As a consequence, it remains in the dark what groups experience accessibility as less favourable. The system goal of accessibility applies to all citizens. It is therefore desirable that differences in perceived access (and quality) between populations will be analysed in the next DHCPR, with attention being paid to the care of vulnerable people, such as the homeless and other groups targeted by public mental health care.

##### *Costs and efficiency*

- 5 Labour productivity in relation to quality: until now labour productivity has been measured chiefly independent of the quality of the care provided. As a consequence it remains unclear whether an increase in the number of clients that is being served may be associated with poorer care. Still, it is not clear either whether a constant labour productivity is associated with a better quality of care. Further investigation is indicated here. The Dutch Healthcare Authority (NZa) and the DHCPR have the intention to co-operate more closely on this subject.

##### *Sectors*

- 6 The main focus of the present DHCPR is on curative care. In the next DHCPR we would like to pay more attention to long-term care (in particular care for the disabled, long-term mental health care and changes in the administration of the Exceptional Medical Expenses Act (Awbz)) and to indicators that will allow to track progress in prevention.

##### *Interdependence of system goals*

- 7 The question of whether it is possible to improve accessibility and quality of care and simultaneously control the cost of care becomes increasingly compelling. It would require an analysis of the interdependence of quality, accessibility and cost.

## Gaps in the set of indicators

Box 6.2.1 identifies gaps in the DHCPR indicator domains and presents priorities for improvement. The list is nearly as long as in the previous DHCPR and also focuses on the analysis and interpretation of indicators. The list thereby reflects the comments on the DHCPR from policy and health care.

The DHCPR gives primacy to outcome indicators, such as the HSMR (hospital standardised mortality rate), and next to process indicators. The curative care sector appears to be reluctant to develop outcome indicators, often emphasising the limitations in interpretation and frequently opting for process indicators that are on the safe side rather than at the heart of quality.

## 6.2.2 Comparability of data has partly improved, further improvement is necessary and substantial investments are required

Ideally, each DHCPR indicator is not only explored using trend data, but also by international comparison and comparison with a benchmark or policy standard. The number of indicators with trend data has increased, but the proportions of international comparisons and comparisons with a policy standard have declined. An important reason for the decline is the increase of indicators that reflect patient experiences (CQ-indices). There are no international comparisons for patient experiences nor explicit policy standards. Further improvement of comparison opportunities is necessary and requires obvious investments (see Table 6.2.2).

**Table 6.2.2: Data comparability in the DHCPR**

Characteristic	Indicators satisfying a characteristic (%)			Improvements compared to the DHCPR 2008
	DHCPR 2006	DHCPR 2008	DHCPR 2010	
Time trends		61%	72%	Many indicators have been followed over a longer period of time
International comparison	20%	26%	24%	
Comparison with (policy) standard <sup>1</sup>	<5%	21%	18%	Extra focus on differences between health care providers

<sup>1</sup> Comparability with policy standard is discussed in Section 6.3

## Improvements in trend data

The period of time for which trend data is available has clearly improved. For some of the indicators there is now data available for the years 2000–2008/2009, a period of nearly 10 years. The number of indicators with no trend data at all has decreased.

## **Gaps and breaks in trend data**

In this edition of the DHCPR, a number of indicators has been dropped, because the registering bodies have not updated measurements. Examples are the quality indicators for health policy in schools, the opinions of clients on the National Care Assessment Centre (CIZ), and patient experiences with medical aids.

For a number of other indicators, there is a methodological break due to registering bodies changing their methods or making corrections in recent years. Cases in point are the indicators for hospital waiting times and the number of uninsured.

A significant number of breaks in trends are the result of changes in health care that affect the operational definitions of indicators. Examples include changes in the National Vaccination Programme, in the age limit for seasonal flu vaccinations, in standards for the minimum number of specific surgical procedures to be performed in hospitals, in the freely negotiable medical specialist care in the hospital B-segment, policy changes in financial allowances for the chronically ill, and the introduction of bundled payment schemes for chronic diseases (such as diabetes) and of care intensity packages (zorgzwaartepakketten) in long-term care.

These methodological, policy- and care-related breaks in trends may obscure the view on actual developments. Sometimes the effects are that considerable, such as waiting times in hospitals, that they stand in the way of an adequate understanding of the actual trends in recent years. Changing registration schemes require additional investments not only to revamp the registrations, but also – at least temporarily – to guarantee good comparisons with previous years.

## **The current state of affairs of international comparisons**

Comparisons of quality of care with other OECD countries (Health at a glance) are at the backbone of the international comparisons in the DHCPR. In addition, new data from the CMWF International Health Policy Surveys is used in which the Netherlands has participated since 2006. Other countries that have participated in the survey are the United States, Canada, Australia, New Zealand, Great Britain, Germany, France (since 2008), Norway and Sweden (since 2009). The DHCPR does not use international data from the Euro Health Consumer Index, because of the amount of critical comments from the scientific community on the selection, reliability and interpretation of this data.

## **Gaps in international comparisons**

The quality of international comparisons in the DHCPR is currently highly dependent on the pace of delivery of harmonised data from the Netherlands and other countries to the OECD. In many respects the data supply from the Netherlands goes well, but in a number of essential respects the supply is not good, because Dutch quality data are altogether lacking.

In 2009, the supply of Dutch data for the care quality and safety indicators to the OECD was hindered by several bottlenecks due to registration problems in the Netherlands (RIVM, 2008). A particular case in point is the National Medical Registration (LMR). Due to the continuous deterioration of the quality of

the LMR and the disrupted continuity in hospital participation, data on medical complications and avoidable hospital (re)admissions related to mental disorders could not be supplied.

- For the newly developed international database of patient safety indicators, the OECD analysed the indicators from different countries in detail, in particular as to their plausibility, reliability and validity. The Dutch LMR data on medical complications of hospital admissions proved to be insufficient and could not be used because of the poor registration or serious underregistration of secondary diagnoses.
- For the avoidable hospital admissions-indicators there was the added problem of the LMR becoming increasingly incomplete. Over time, the participation of the hospitals and thereby the completeness of the registration has suffered. Thus, some hospitals failed to record secondary diagnoses and/or medical procedures, or vague hospital diagnoses were coded.
- The Netherlands could not supply any mental health care data. The required readmission rates for mental and psychiatric disorders could not be calculated, because the Diagnosis and Treatment Combinations Information System (DBC Informatie System (DIS)) did not allow the extraction of start and end dates of hospital admissions, and because of IT problems.

Because of the poor registration, the Netherlands could not participate in the development of a number of international indicators for the important field of safety in health care. The declining availability of proper Dutch hospital data is even posing a threat to the future data supply to the OECD for existing indicators. Ultimately, the Dutch government is responsible for the supply of data to international organisations. The number of European Union information requirements in the field of public health and health care is rising.

For long-term care very few international comparisons are as yet available.

### 6.2.3 Information provision in a wider context

Summing up the state of affairs regarding data availability, the second DHCPR stated: "As the DHCPR is primarily a monitoring instrument, the poor continuity of registrations is the greatest source of concern. If the National Medical Registration in hospitals is lost, a significant proportion of the DHCPR will also cease to exist. The Ministry of Health has a directive task with respect to this issue. The highest priorities are:

- the continuity of the National Medical Registration in hospitals,
- starting the third Dutch national survey of general practice,
- continuing participation in the international comparative survey of the Commonwealth Fund, and
- a good supply of data to international organisations."

#### What is the present situation? Some improvements have been put into motion, but significant improvements have not

The first two priorities - the LMR and the Dutch national survey - are most important for the information supply and they remain problematic.

Attention is being paid to the continuity of the LMR, but in recent years the situation appears to have deteriorated even further rather than to have improved (for the considerable severity of the adverse effects, see international comparisons above). As yet, the request from the Ministry of Health for hospitals to continue or resume their participation in the LMR seems to have had no noticeable effect (VWS, 2009d).

Of the original plans for the third Dutch national survey of general practice (Meuwissen et al., 2007) only a small proportion can be financed. This limits the view on trend developments in GP care (such as the gatekeeper function) and in other primary care disciplines. However, a National Information Network Primary Care (LINEL) is currently being developed with the aim to integrate mono-disciplinary registration systems into a multidisciplinary primary care system, which includes medical activities of a variety of health care providers (NIVEL, 2010).

Participation in the international Commonwealth Fund survey has been continued and the number of participating Western and Northern European countries is increasing thereby enhancing its usefulness for international DHCPR comparisons. Continued participation in the future is therefore desirable.

On behalf of the Ministry of Health, RIVM has started a project to gain insight into the data supply to international registrations and the national co-ordination thereof (Achterberg, 2010).

The call for improving the supply of information is sounding increasingly louder from different sources. Several analyses have been published in the Netherlands regarding the shortcomings in the information provision and the adverse effects of a lack of understanding of questions that are important to policy and decision making regarding the quality, accessibility and cost of care (Canoy et al., 2009; Klink and Van Uum, 2009; Pool and Bor, 2009; Bovenberg et al., 2009; RIVM, 2008; RIVM, 2009). Both public and scientists demand more transparency in health care, with transparency related not only to the willingness of the field to disclose information on their own performance, but also to the desire to have that information translated into meaningful answers to important questions about the performance of the health care system.

Changes in the health care system often occur at a faster pace than the provision of information in the field can keep up with. The rising levels of freedom in the organisation and funding of health care (e.g. by the integrated payment system) make the provision of information even more complicated, thereby rendering care more complex and less transparent.

Overall monitoring, as is done in the DHCPR, provides information to guide overall policy. And that is what it is. Day-to-day decision making in specific areas and sub-sectors of health care requires much more additional and interim updated information than the DHCPR can provide.

In all, the Ministry of Health should assume the role as director in the provision of information, that is based on a clear notion of what policy information is required in the new system of regulated competition.

## 6.3 The usefulness of the Dutch Health Care Performance Report

The most important reference point for the DHCPR is its usefulness for strategic policymaking. Whether the DHCPR is successful in this respect primarily depends on a good match between indicators and strategic policy questions that need to be answered.

### **The expressiveness for policy has increased, but a more prominent place in strategic policy discussions is desirable**

Important parliamentary documents, such as the Policy Agenda, the National Budget and the Annual Accounts of the Ministry of Health, refer to the DHCPR as an important source of information. The DHCPR has obtained the status of an authoritative source of information, so that agreement on the numerical state of affairs of the health care system can be reached (in retrospect and with some delay).

However, the DHCPR is not, or to a lesser extent, used in debates (within and outside the Ministry of Health) on the elements and aspects in which the health care system is properly or not properly functioning and on whether the system will be able to stand up to future demands. This is a serious matter, especially as the report is intended to serve strategic policy.

There are several reasons for this non-use of the DHCPR:

- so far the DHCPR has been published every two years, while policy must often react to developments that go much faster;
- for the individual policy areas, the DHCPR does not provide a very strong information base for policy making; this would require information on more diverse aspects of a problem and at multiple levels of abstraction. Examples abound, such as policies with regard to safety in health care, acute care, innovation, funding and the Exceptional Medical Expenses Act;
- government policy is broadly outlined at the beginning of a new cabinet. Thereafter coalition agreements allow less room for policy changes.

To strengthen the expressiveness for policy, this DHCPR focuses more on differences in performance between care givers and care organisations. Yet, we think this improvement – however useful in itself – is not strong enough to substantially enhance the expressiveness. To turn the DHCPR into the intended information base for strategic policy, a few powerful improvements are needed, namely:

- strengthening the analytical, diagnostic and future-oriented function of the DHCPR,
- strengthening discussions on the findings of the DHCPR within and outside the Health Ministry,
- if need be, interim (annual) updates of a series of key indicators.

## 6.4 The Dutch Health Care Performance Report continued

### **The Dutch Health Care Performance Report 2012 and 2014**

At the start in 2006 it was reckoned that the DHCPR should be allowed a growth path to achieve a balanced set of indicators with sufficient time series, international comparisons and comparisons with policy standards and benchmarks. In this DHCPR this stage is more or less reached; it is unlikely that major improvements would still be possible. Hence, within the scope of the original commission, the third DHCPR has more or less reached maturity. It also allows, as has been suggested, a reduction in the periodicity from once in every two years to once in every four years.

A four-yearly frequency after 2010 has two advantages:

- 1 it strengthens the possibility to provide trends for a longer time-span and to deepen the reflection on the changes in recent years, thereby providing a sounder base for policy development in subsequent years and for the medium term;
- 2 the DHCPR can appear simultaneously with the four-yearly Health Status and Forecast report (VTV). Thus, developments in health and health care needs of the Dutch population and developments in the quality, accessibility and cost of the health care system can be addressed interrelatedly.

A four-yearly publication also has to meet certain requirements. Its supporting role in strategic policy will become even more important and the report will have to gain in strength of analysis, future orientation and authority. In addition, it will need a stronger base in the scientific community and the field.

At the same time there will also be a need for sufficient intermediate updates of the data. There are two major arguments for the DHCPR to appear every two years:

- 1 the economic crisis has necessitated cutbacks in public expenditure, including health care spending. Such cutbacks could have a major impact on the accessibility and quality of care. Because of public interests it is necessary to keep a finger on the pulse of what is going on;

- 2 many parties are of the opinion that as yet no substantial effects can be expected of the health system reforms implemented in 2006. Too short a time has elapsed and several follow-up measures have been and will be taken over the next few years to further shape the system of managed competition. Again, it is advisable to regularly keep a finger on the pulse.

The DHCPR website ([www.gezondheidszorgbalans.nl](http://www.gezondheidszorgbalans.nl)) can be a very useful tool for keeping a finger on the pulse. One way of doing so would be to update annually (in May) a (limited) number of key indicators on the website. The updates could be used as a basis to compile in-between 'limited' editions of the Dutch Health Care Performance Report.

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# Appendix 1

## Members of Project Groups

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# Appendix 2

## Indicators

### 2 Quality of care

#### 2.2 Effectiveness of prevention

- Participation rates of screening programmes
  - breast cancer
  - cervical cancer
  - heel prick test
- Vaccination rates of the National Vaccination Programme
- Uptake of preventive interventions for depression
- Percentage of schools that applied for the project ‘The healthy school and drugs’
- Lifestyle
  - smoking
  - drinking alcohol
  - obesity
- Coverage of preventive child health care
- Infant mortality

#### 2.3 Effectiveness of curative care

- Percentage of prescriptions in GP practices according to the formulary of the Dutch College of General Practitioners
- In-hospital case-fatality rates within 30 days for acute myocardial infarction, cerebral infarction or cerebral haemorrhage
- Experienced progress in physical functioning after surgery
- Mortality due to breast cancer, colon cancer or cervical cancer
- Number of hip fractures that are operated on within 48 hours

- Avoidable hospital admissions
- Unplanned caesarean sections in low risk pregnant women
- Drop-out rates in mental health care

#### **2.4 Effectiveness of long-term care**

- Number of clients or representatives who experienced good physical care
- Number of clients or representatives who experienced care as professional and safe
- Satisfaction of nurses and carers with the quality of care
- Preventable health care problems among clients in residential homes and nursing homes and home care clients
  - malnutrition
  - falls
- Number of rooms with multiple beds in nursing homes and residential homes
- Number of nursing homes, residential homes and facilities for psychogeriatric care where a doctor is on call 24/7
- Demonstrated competence of staff in carrying out reserved and risky procedures

#### **2.5 Patient safety**

- Percentage of chronically ill people who experienced medical errors with regard to
  - drugs or dose of drugs
  - treatment or care
  - test results
- Hospital standardised mortality rate
- Percentage of patient contacts in primary care that resulted in unintended harm
- Percentage of residents of nursing homes and residential homes who experienced an adverse drug event
- Percentage of patients with a hospital-acquired infection
- Percentage of serious blood transfusion reactions per 1000 blood products
- Percentage of patients with hospital-acquired pressure sores
- Percentage of patients with pressure sores acquired in nursing homes, residential homes or in home care
- Percentage of hospitals that performed less than the minimum number of AAA or OCR operations
- Percentage of Pharmacotherapeutic Consultation groups functioning at level 3 or 4

#### **2.6 Responsiveness**

- Experienced interpersonal conduct
- Experienced polite behaviour
- Receiving understandable information
- Involvement in decision making about care
- Extent to which health care providers take sufficient time for patients
- Fulfilment of care wishes of clients in mental health care

#### **2.7 Co-ordination and co-operation**

- First experiences of care groups with bundled payment
- Extent to which patients have to repeat their story to different health care providers
- Patient experiences with health care providers giving contradictory information
- Percentage of chronically ill people who experienced co-ordination problems with medical tests

- Supply of support and information at hospital discharge
- Number of health care providers connected to the National Exchange Point Electronic Health Records
- Percentage of hospitals where information on medication prescribed in hospital and elsewhere is electronically accessible on hospital wards and elsewhere

### **3 Access to care**

#### **3.2 Financial access**

- Percentage of people who do not have health insurance
- Percentage of people who failed to pay their health insurance premium for at least six months
- Judgement of GPs as to the affordability of medicines and non-reimbursable costs for their patients
- Percentage of chronically ill people who forego care because of costs
- Additional health-related expenses of chronically ill or disabled people
- Out-of-pocket payments for health care
- Distribution of out-of-pocket payments across income groups
- International comparison of out-of-pocket payments

#### **3.3 Geographical access**

- Percentage of people who have to drive by car more than 20 minutes to a physiotherapist, pharmacy, primary care midwife or GP
- Percentage of people who have to drive by car more than 30 minutes to the nearest hospital and more than 10 minutes to the nearest nursing home or residential home
- Average driving time by car for every inhabitant of the Netherlands to the nearest specific care service
- Trends in average driving time to the nearest GP and the nearest hospital

#### **3.4 Timeliness of acute care**

- Percentage of emergency ambulance rides that exceed the 15-minute norm
- Percentage of people who can be reached by a mobile medical team within 30 minutes
- Number of people who can reach the nearest emergency service by car within 30 minutes
- Number of people who can reach the nearest GP cooperative by car within 30 minutes
- Telephone access to GPs for emergency calls
- Percentage of people with a need for acute care who did not get the care they needed or wanted

#### **3.5 Timeliness of regular care**

- Percentage of care users who are of the opinion that waiting times for care are long or short
- Telephone access to GP practices
- Number of people waiting for mental health care (the length of the waiting list)
- Number of hospitals with waiting times that exceed the Trekk norm
- Number of problematic patients waiting for long-term care
- Number of people waiting for a donor organ

#### **3.6 Access according to needs**

- Adaptation of care, assessment and treatment to needs
- Telephone access to regular care during office hours
- Interpersonal behaviour of care professionals
- Disparities in care utilisation between people with a high and a low educational level
- Differences in hospital readmission rates between various ethnic groups
- Access to health care for homeless people

- Access to health care for people without legal residence status

### *3.7 Personnel availability*

- Number of vacancies per 1000 jobs in health care
- Percentage of vacancies that are difficult to fill
- Percentage of nursing and care personnel that are leaving the sector (net turnover)
- Percentage of work hours lost (absenteeism)
- Percentage of care users who believe sufficient personnel is available during a stay in hospital or nursing home
- Number of doctors and nurses per 1000 population

### *3.8 Freedom of choice*

- Number of people who experienced problems finding a GP
- Number of people with a personal health budget
- Percentage of policyholders who switched health insurer
- Percentage of policyholders who did not experience any limitations to their freedom to choose health insurance
- Percentage of the Dutch population that looked for information on health care

## **4 Health expenditure and efficiency**

### *4.2 Trends in health expenditure*

- Health expenditure (total and per sector)
- Growth in health expenditure (total and per sector)
- Health expenditure as a share of GDP
- Drivers of health expenditure (price and volume)
- Health expenditure compared to expenditure on other sectors
- Health expenditure compared to expenditure on other public sectors
- Public health expenditure per working person

### *4.3 Efficiency*

#### Macro-level

- Health care expenditure in relation to (healthy) life expectancy
- Health care expenditure in relation to avoidable mortality
- Performance on the system goals client experiences and inequality
- Administrative burden

#### Meso-level

- Productivity of hospital care
- Variation in diagnosis treatment combination prices in the B-segment
- Regional variation in hospital admissions and hospital medical procedures
- Variation in length of stay between hospitals
- Variation in consultation fees between GP cooperatives
- Out-of-hospital drugs: use of generic medicines and regional differences
- Means invested and quantity of care provided in mental health care
- Means invested and quantity of care provided in elderly care
- Avoidable hospital admissions in an international perspective
- Substitution effect of the module Modernisation and Innovation

Dynamic efficiency (innovation rate)

- Use of catheterisation, bypass and angioplasty after a heart attack
- Adoption rate of new cancer drugs
- Trends in expenditure on new drugs
- Day care admissions as a percentage of all hospital admissions
- Number of health care providers connected to the National Exchange Point Electronic Health Records
- Use of e-health in the form of video communication and telecare

#### *4.4 The financial position of health care organisations and health insurers*

- Profitability of health care institutions
- Solvency of health care institutions
- Profitability of health insurers
- Solvency of health insurers

# Appendix 3

## Abbreviations

AAA	aneurysma van de aorta abdominalis (abdominal aortic aneurysm)
AHRQ	Agency for Healthcare Research and Quality
AMI	acuut myocardinfarct (acute myocardial infarction)
ASA	American Society of Anesthesiologists
Awbz	Algemene wet bijzondere ziektekosten (Exceptional Medical Expenses Act)
AZN	AmbulanceZorg Nederland (Ambulance care in the Netherlands)
BIG	Wet beroepen individuele gezondheidszorg (Health Care Professions Act)
BKZ	Budgettair Kader Zorg (Health Care Budgetary Framework)
BMI	body mass index
BMR	bof, mazelen, rode hond (mumps, measles, rubella)
CBO	CBO Kwaliteitsinstituut voor de Gezondheidszorg (Dutch Institute for Healthcare Improvement)
CBS	Centraal Bureau voor de Statistiek (Statistics Netherlands)
CI	confidence interval
CIBG	Centraal Informatiepunt Beroepen Gezondheidszorg (Central Information Unit on Health Care Professions)
CIZ	Centrum Indicatiestelling Zorg (National Care Assessment Centre)
CKZ	Centrum Klantervaring Zorg (Centre for Consumer Experience in Health Care)
CMS	Centers for Medicare and Medicaid Services
CMWF	Commonwealth Fund
COPD	chronic obstructive pulmonary disease
CPB	Centraal Plan Bureau (Netherlands Bureau for Economic Policy Analysis)
CQ-index	Consumer Quality index

CTG	College Tarieven Gezondheidszorg (Health Care Tariffs Board)
CTZ	College Toezicht Zorgverzekeringen (Health Care Insurance Regulatory Board)
CVA	cardiovascular accident
CVZ	College voor zorgverzekeringen (Health Care Insurance Board)
DBC	diagnose behandeling combinatie (diagnosis treatment combination)
DGV	DGV Nederlands instituut voor verantwoord medicijngebruik (Dutch Institute for Rational Use of Medicine)
DHCPR	Dutch Health Care Performance Report
DIS	DBC-informatiesysteem (DBC Information System)
DKTP	difterie, kinkhoest, tetanus, polio (diphtheria, pertussis, tetanus, polio)
DNB	De Nederlandsche Bank (Dutch Central Bank)
DOT	DBC's Op Weg naar Transparantie (DBCs on their way to transparency)
ECDC	European Centre for Disease Prevention and Control
EMGO	Extramuraal Geneeskundig Onderzoek (Institute for Research in Extramural Medicine)
EPD	electronisch patiënten dossier (electronic patient file)
EU	Europese Unie (European Union)
EUR	Erasmus Universiteit Rotterdam (Erasmus University Rotterdam)
EUR/iMTA	EUR/institute for Medical Technology Assessment
EUR/MGZ	EUR/instituut Maatschappelijke Gezondheidszorg (EUR/Department of Public Health)
EUROHOPE	European Health Care Outcomes, Performance and Efficiency
FTE	full-time equivalent
FTO	Farmacotherapeutisch Overleg (Pharmacotherapeutic Consultation)
GGD	Gemeentelijke/Gewestelijke Gezondheidsdienst (Local/Regional Health Service)
GDP	gross domestic product
GP	general practitioner
HA	Health Accounts
HDS	huisartsendienstenstructuur (GP service structure)
HfA	Health for All
HHI	Herfindahl-Hirschman Index
Hib	haemophilus influenzae type b
HPV	humaan papilloma virus
HSMR	Hospital Standardised Mortality Rate
ICT	Information and communication technology
ICD	International Classification of Diseases
IGZ	Inspectie voor de Gezondheidszorg (Health Care Inspectorate)
IOM	Institute of Medicine
IVF	in vitro fertilisatie (in vitro fertilisation)
KNMP	Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie (Royal Dutch Pharmaceutical Society)
KQS	Kwaliteit van de Quartaire Sector (SCP) (quality of the fourth sector)
Kzi	Kwaliteitswet zorginstellingen (Quality of Care Institutions Act)

LETB	Landelijk Evaluatie Team voor bevolkingsonderzoek naar Borstkanker (National Evaluation Team for Breast Cancer Screening)
LHV	Landelijke Huisartsen Vereniging (National Association of General Practitioners)
LINH	Landelijk Informatienetwerk Huisartsenzorg (National Information Network of General Practitioners)
LINEL	Landelijk Informatie Netwerk Eerstelijnszorg (National Information Network Primary Care)
LMR	Landelijke Medische Registratie (National Medical Registration)
LMWH	laag molecuair gewicht heparine (low molecular weight heparin)
LPZ	Landelijke Prevalentiemeting Zorgproblemen (Annual Survey of Care Problems)
M&I	Modernisering & Innovatie (Modernisation & Innovation)
MDS	Minimale Dataset (Minimum Data Set)
MenC	Meningokokken C (Meningococcal C)
MMT	Mobiel Medisch Team (Mobile Medical Team)
NDF	Nederlandse Diabetes Federatie (Netherlands Diabetes Federation)
NHG	Nederlands Huisartsen Genootschap (Dutch College of General Practitioners)
NIAZ	Nederlands Instituut voor Accreditatie van Ziekenhuizen (Netherlands Institute for Accreditation of Hospitals)
NIVEL	Nederlands instituut voor onderzoek van de gezondheidszorg (Netherlands Institute for Health Services Research)
NPCF	Nederlandse Patiënten/Consumenten Federatie (Dutch Patients/Consumers Federation)
NTS	Nederlandse Transplantatie Stichting (Dutch Transplantation Foundation)
NVI	Nederlands Vaccin Instituut (Netherlands Vaccine Institute)
NVZ	Nederlandse Vereniging van Ziekenhuizen (Dutch Hospitals Association)
NZa	Nederlandse Zorgautoriteit (Dutch Healthcare Authority)
OCR	oesophaguscardia resectie (oesophagus cardia resection)
OECD	Organisation for Economic Co-operation and Development
PGB	persoonsgebonden budget (personal health budget)
POLS	Permanent Onderzoek LeefSituatie (Integrated System of Social Surveys)
PPP	purchasing power parities
PREZIES	PREventie ZIEkenhuisinfecties door Surveillance (prevention of nosocomial infections by surveillance)
PRN	Stichting Perinatale Registratie Nederland (Netherlands Perinatal Registry)
PWC	PriceWaterhouseCoopers
QALY	quality adjusted life years
R&D	Research and Development
RAS-remmer	renine-angiotensinesysteem-remmer (renin-angiotensin system inhibitor)
RIAGG	Regionaal Instituut voor Ambulante Geestelijke Gezondheidszorg (Regional Institute for Ambulatory Mental Health Care)
RII	Relative Index of Inequality
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (National Institute of Public Health and the Environment)

RVP	Rijksvaccinatieprogramma (National Vaccination Programme)
RVZ	Raad voor de Volksgezondheid en Zorg (Council for Public Health and Health Care)
SCP	Sociaal Cultureel Planbureau (Social and Cultural Planning Office)
SEH	spoedeisende hulp (emergency care)
SER	Sociaal-Economische Raad (Socio-Economic Council)
SFK	Stichting Farmaceutische Kengetallen (Foundation for Pharmaceutical Statistics)
SHA	System of Health Accounts
STIVORO	Stichting Volksgezondheid en Roken (STIVORO for a Smokefree Future)
TRIP	TRIP (transfusion reactions in patients)
UMC	Universitair Medisch Centrum (University Medical Centre)
VTV	Volksgezondheid Toekomst Verkenningen (Public Health Forecasts)
VWS	Volksgezondheid, Welzijn en Sport (Ministry of Health, Welfare and Sport)
Wbmv	Wet bijzondere medische verrichtingen (Special Medical Procedures Act)
WfZ	Waarborgfonds voor de Zorgsector (Guarantee Fund for the Health Care Sector)
Wgp	Wet geneesmiddelenprijzen (Medicines Prices Act)
WHO	World Health Organization
Wmg	Wet marktordening gezondheidszorg (Healthcare Market Regulation Act)
Wmo	Wet maatschappelijke ondersteuning (Social Support Act)
Wtg	Wet tarieven gezondheidszorg (Health Care Tariffs Act)
WTZi	Wet toelating zorginstellingen (Health Care Institutions Admission Act)
Wzt	Wet op de zorgtoeslag (Health Care Allowance Act)
ZBC	zelfstandig behandelcentrum (independent treatment centre)
ZN	Zorgverzekeraars Nederland (Association of Dutch Health Insurers)
Zvw	Zorgverzekeringswet (Health Insurance Act)
ZZP	Zorgzwaartepakket (care intensity package)







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Access to Dutch health care is overall good. Essential health services are within easy reach and well accessible. The number of people who forego care because of costs is small. Still, despite this easy access, the overall use of services is low in international perspective. In the period 2007-2009, health care expenditures rose substantially. The growth in health care expenditures resulted largely from an increase in the volume of care – that is, more services were delivered. Although the quality of care stands out in many ways, remarkable variations in quality and price exist between care providers. The DHCPR shows many examples of this variation.

Since 2006, RIVM has monitored the performance of the Dutch health care system. With the help of roughly 125 indicators, RIVM describes the quality, accessibility and costs of the Dutch health care system.

Published by:

**National Institute for Public Health**

**and the Environment (RIVM)**

P.O. Box 1

3720 BA | Bilthoven

The Netherlands

[www.rivm.nl/gezondheidszorgbalans](http://www.rivm.nl/gezondheidszorgbalans)

May 2010

ISBN 978-90-6960-247-9



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