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Dutch Health Care Performance Report

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Rijksinstituut
voor Volksgezondheid
en Milieu

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In addition, the valuable comments and advises of other experts consulted and reviewers of the Ministry of Health, Welfare and Sport are gratefully acknowledged.

CONTENTS

DUTCH HEALTH CARE PERFORMANCE REPORT; EXECUTIVE SUMMARY

The performance of the Dutch health care system in 2004

This is the first national report on the performance of the Dutch health care system. Its focus is on quality, access and costs in 2004. The Dutch Health Care Performance Report (DHCPR) presents a broad picture based on 125 indicators. Where possible, comparisons in time and between countries are presented. The Ministry of Health, Welfare and Sport has commissioned the National Institute of Public Health and the Environment to produce the DHCPR every two years.

The Dutch health care system was accessible in 2004. Between 2000 and 2004 the costs of care rose substantially. This rise in costs is in line with other EU countries; just above the EU-15 average. The quality of care is internationally above average in many respects. However, there is still much room for improvement with respect to the effectiveness of prevention and care, patient safety, coordination of care and integrated care.

The performance of the Dutch health care system in 2004 from an international perspective

As norms – as measures of performance – are more or less lacking, similar countries are used for comparisons in order to answer the question: how does the Dutch health care system perform from an international perspective? The OECD report 'Towards high-performing health systems' (OECD, 2004) is used as a point of reference. It compares the health care performance of a number of countries. It also gives cautionary advices and formulates possible lines of action for the future for the countries studied (including the Netherlands). The OECD distinguishes five major policy issues: quality, access, demand orientation, sustainability and efficiency. The DHCPR allows the OECD's recommendations to be specifically related to the Netherlands, so that a more balanced judgement of the Dutch health care system can be provided. The five policy issues will be dealt with in turn.

Quality: health gains by better care

The main key findings of the DHCPR concerning access to health care in 2004 are:

- Curative services are on average effective, but the effectiveness of some services is lower than in other countries
- Quality of long-term care is 'work in progress'; there are considerable differences between long-term care facilities in some respects

- Mental health care offers effective prevention programmes (e.g., for depression and anxiety disorders), yet their uptake is limited
- One-third of the people with mental problems contact mental health care services for help
- Levels of vaccination and of participation in screening programmes are high
- Little is known about the effectiveness and efficiency of health-promoting interventions
- Patient safety has improved in some respects. However, a comprehensive overview of preventable harm by health care is lacking
- Generally, Dutch patients are positive about health care. One-third, though, are less confident about future health care
- Over 40% of the Dutch population are satisfied with the health care system in 2002. This is just above the average of fifteen OECD countries
- Not all care institutions are accredited or certified. The level of certification is highest in dialysis centres (73%) and ambulance services (45%)
- Measured by the investments in research and development, the Netherlands is on a par with important international players, but in absolute terms the Netherlands plays a small part
- The Netherlands has obtained good results with respect to treatment innovations (e.g., non-invasive surgical techniques) and process innovations (e.g., integrated care pathways), but there are considerable regional differences on the supply side

Between 1960 and 2000, life expectancy at birth increased by 8.6 years on average across OECD countries. Yet there are considerable differences between countries. The increase in life expectancy in the Netherlands was below average, i.e. 4.5 years (OECD, 2004c), while in Germany and Belgium, our neighbouring countries, the increase was 8.1 and 7.1 years, respectively. On the other hand, in 1960 life expectancy in those countries was lower than in the Netherlands. One of the key messages of the Dutch Public Health Status and Forecasts Report (van Oers, 2002) was that Dutch life expectancy is dropping towards the European average (*Figure 1*).

The OECD also observed considerable differences across regions within countries. This is also true for the Netherlands. Groenewegen *et al.* (2003) reported substantial regional differences in (healthy) life expectancy in the Netherlands. Across 27 health regions, life expectancy varies between 72.5 and 76.1 years for men and between 78.9 and 81.9 years for women.
Quality of prevention and care is by no means the most decisive factor in life expectancy (RIVM, 2006a). However, the OECD finding raises the question as to whether it is possible to improve quality of care. The picture of the quality of Dutch health care (*Chapter 2*) is in line with the OECD's demand for increased attention for quality improvement in health care. In the Netherlands the performance of health care in terms of effectiveness and patient safety is above average for a number of indicators. However, as is stated in *Chapter 2*, much still has to be achieved in terms of:

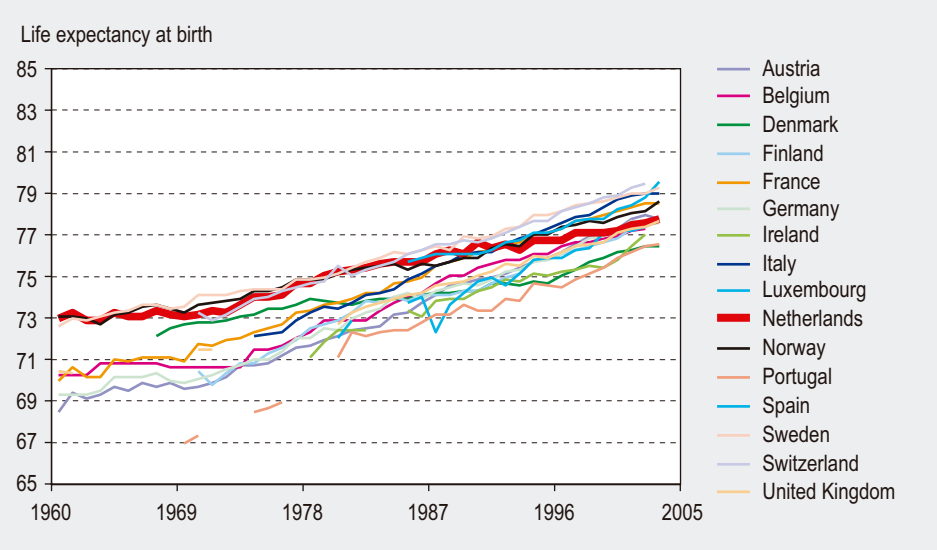


Figure 1: Life expectancy at birth in 16 European countries, 1960-2004 (OECD, 2005d).

- Effectiveness and uptake of preventive health promoting interventions
- Variation in in-hospital mortality
- Disease-specific 5-year survival rate
- Coordination of care and integrated care
- Insight in preventable harm and patient safety
- Differences in responsible care between (long-term) care facilities.

Quality: towards demand-oriented care

Section 2.6 details the Dutch population's opinion of the health care services used. In general Dutch people are satisfied with health care. They rate health care as more than sufficient and over 90% has confidence in the general practitioner (GP) and specialist. On a scale from 0–10, with 0 being worst and 10 being best, home care scores 8.3 and health insurers score an average of 7.6. More specific information on patient and client experiences is scarce, although this is an important issue in demand-driven care (Schoen *et al.*, 2005b).
In the Netherlands the transformation from a supply-driven to a demand-driven health care system started in 2001. However, the supply of information in the Netherlands still very much focuses on the care provider rather than the care demander as a source of information (*Chapter 5*). Schoen *et al.* (2005b) state that '*patients' voices can provide policy leaders with a window onto what is happening at the front lines of care*'.

In 2002, consumers in fifteen EU countries (EU-15) were asked whether they were satisfied with their country's health care system. As the outcome for the Netherlands had changed little between 1998 and 2002, the year 2002 is assumed to be indicative for

the year 2004, the reference year of the DHCPR. *Figure 2* shows two out of four response categories for each country, representing those who think that the health system needs (1) no or (2) minor changes only.
The Netherlands scores just above the average of the EU-15 countries. In countries like Finland, Luxembourg, Austria, Belgium and France, people are far more positive.

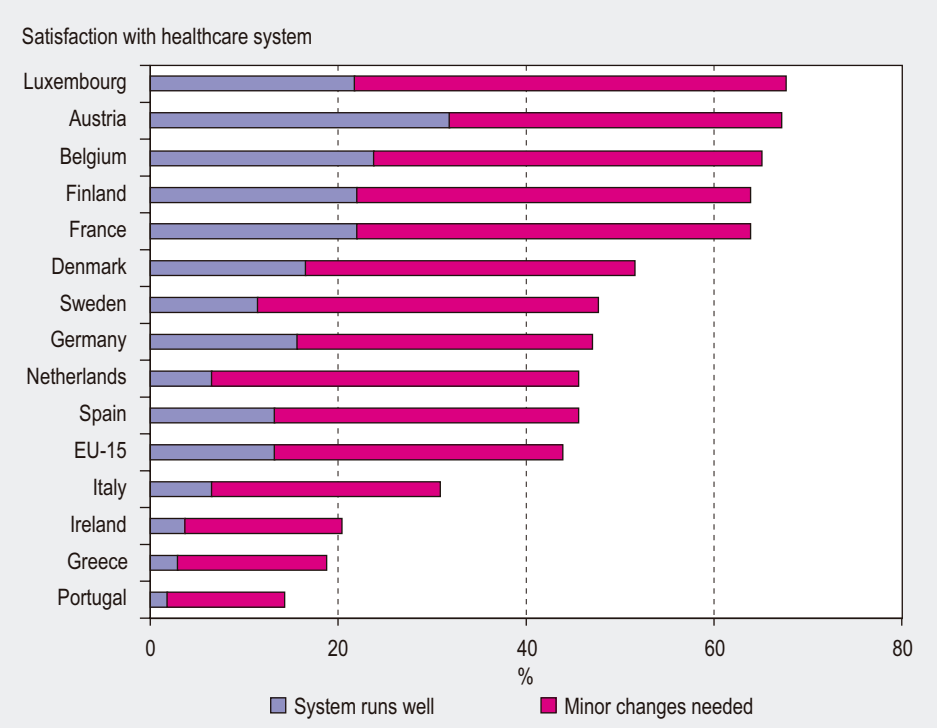


Figure 2: Percentage of the population that is satisfied with the health care system, in 2002 (Eurobarometer, 2003 (OECD, 2005b)).

The call for a better alignment of demand and supply in health care is not a typically Dutch phenomenon. Waiting times for elective surgery, among others, have led to demand orientation gaining a very prominent place on the agenda of governments. Demand-oriented care is not just about timely care, but timeliness is an aspect patients experience first in the process of care. Siciliani & Hurst (2003) report that at the turn of the millennium, the Netherlands belonged to a group of OECD countries where waiting times for elective surgery had become a political concern. Yet then, waiting times for hip replacement surgery in the Netherlands were the shortest in this group of countries (OECD, 2004b). Since 2000, waiting list issues have changed due to policy interventions. There has been a clear decrease in waiting times and waiting lists in recent years (see *Chapter 3* on access to care).
Schoen *et al.* (2005b) interviewed chronically ill patients in six countries (Australia, Canada, Germany, New Zealand, United Kingdom and the United States). They found similar deficiencies in all countries, despite the rather different health care systems.

Patient safety and integrated care pathways are in particular need of improvement. Poor coordination of care (e.g., during hospital discharge) is a universal problem. The Dutch Health Care Inspectorate reached similar conclusions for the Netherlands in its Annual Report 2003, in which it reports fragmentation and a poor integration of care for the chronically ill. In the Netherlands integrated care is still in its infancy and has been slow to get off the ground (IGZ, 2003). The key findings of *Chapter 2* also point in this direction.

Access: maintain

The main key findings of the DHCPR concerning access to health care in 2004 are:

- In general the Dutch health care system is accessible
- Dutch people would like to have more choice with respect to treatment and health care provider
- Waiting lists and waiting times have decreased considerably. In the majority of cases waiting is not problematic; this is true for 80% of the waiting lists for elective hospital care
- Access to care differs little across population groups, including groups with a low level of education and immigrant groups; underutilisation of care persists in some subgroups and for some health care services
- Access to care is vulnerable in disadvantaged areas and for marginal groups (uninsured, illegal residents and the homeless)
- In the period 1998–2004 the costs of care rose by 58% for Dutch people; the growth in care volume per se would have resulted in a rise of 21%
- In the period 1997–2003 chronically ill people spent an additional 500 euro per year on illness-related costs
- Regional differences in geographical access to most core health care services are small
- Projections predict a structural need of more health care personnel in the near future

From an international perspective, overall access to health care in the Netherlands is up to standard. The proverbial Dutch 'thrift' is a contributing factor in guaranteeing access in the near future. For example, Dutch people use relatively little medication and their average number of visits to the GP is low compared to other countries (Rae, 2005). Moreover, an important feature of the Dutch health care system is a strongly developed primary health care sector with the GP acting as a so-called gate keeper to further care. The gate keeper system increases the opportunities for an effective cost control of more expensive health care services. Over 95% of the complaints presented to the GP are handled by the GP himself. The referral rate is low (Cardol *et al.*, 2004). Almost 100% of the Dutch population has health insurance. Co-payments, as a percentage of the total health care expenditure, are low compared to other OECD countries (OECD, 2005c).

Health care use by the Dutch population – actual access – differs little across groups (van Lindert *et al.*, 2004). However there are aspects of access that need attention in all countries, including the Netherlands. Medical care in disadvantaged areas and for marginal groups (asylum seekers, illegal residents, the homeless) is particularly complex because of the volume and the nature of the health problems presented and their relation with other problems like insurance status.
In the Netherlands financial access to health care for the chronically ill continues to be a societal concern. People with multiple physical and functional limitations are particularly vulnerable, because they typically have a lower income and more health care costs. In the period 1997–2003, they spent an additional 500 euro a year on health care (*Section 3.6*). Still, only 56% of the chronically ill entitled to a special tax deduction applied for this.
Access to health care in disadvantaged areas and for marginal groups and chronically ill people still demands vigilance. The need for continued monitoring remains.

Costs: affordability

The main key findings of the DHCPR on the costs of health care in 2004 are:

- According to the Health Care Budgetary Framework (Ministry of Health, Welfare and Sport), the costs of health care are 45 billion euros, representing 9.2% of GDP
- According to the Health Accounts (Statistics Netherlands) the costs of health care are 60 billion euros, representing 12.3% of GDP. Statistics Netherlands uses a broader definition of health care (e.g., including co-payments and supplementary insurance)
- Health care expenditure as percentage of GDP in the Netherlands is on a level with the middle group of European countries, which is slightly above the EU-15 average
- Between 1998 and 2004 health care costs rose steeply, due to a large rise in the volume of care and the relatively high price increases in care
- The health care market and the health insurance market only function to a very limited extent. Mobility between health insurers among people with public health insurance was 2.4% in 2004
- At the end of 2004, 40% of all healthcare organisations participated in the Guarantee Fund for the Health Care Sector (Waarborgfonds voor de Zorgsector). The participation rate rose from 17% in 2000 to 40% in 2004. Participation in this fund indicates that an organisation is financially healthy
- On balance, there is no indication that productivity in the different health care sectors increased strongly in the period 1994–2003

In the Netherlands cost control in health care has been an important policy concern over the past few decades, with the premise of equitable access for all (Schut *et al.*, 2005). The development of health care costs in the Netherlands has kept pace with other European countries. The costs per capita have also continued to rise, again at similar levels as in neighbouring countries. Yet, health care costs expressed as a per-

centage of GDP have increased faster in recent years. This is associated with the limited economic growth in the Netherlands over the past few years.

Costs: increase efficiency

Given the high level of accessibility of care in the Netherlands, the demand for efficiency and cost-effectiveness of the health care system is essential. How much health care do we get for one care euro? *Figure 3* shows care expenditure for a number of countries (SCP, 2004). The line in the graph represents the countries with the best health status for a given level of health care expenditure. The health status is determined by a combination of four components: life expectancy at birth, infant mortality, disability-adjusted life years as a proportion of total life expectancy, and subjective health status (SCP, 2004: 2002). For the Netherlands it shows that at an equal level of costs, optimisation of health is feasible (vertical, upwards). Similarly, less expenditure per capita is possible without a loss of health (horizontally, to the left). As public health is only determined by health care to a limited extent (RIVM, 2006a) and this is a composite index, the figure should be interpreted with caution. Still, a call for greater efficiency as put forward in the OECD report also seems to be justified for the Netherlands.

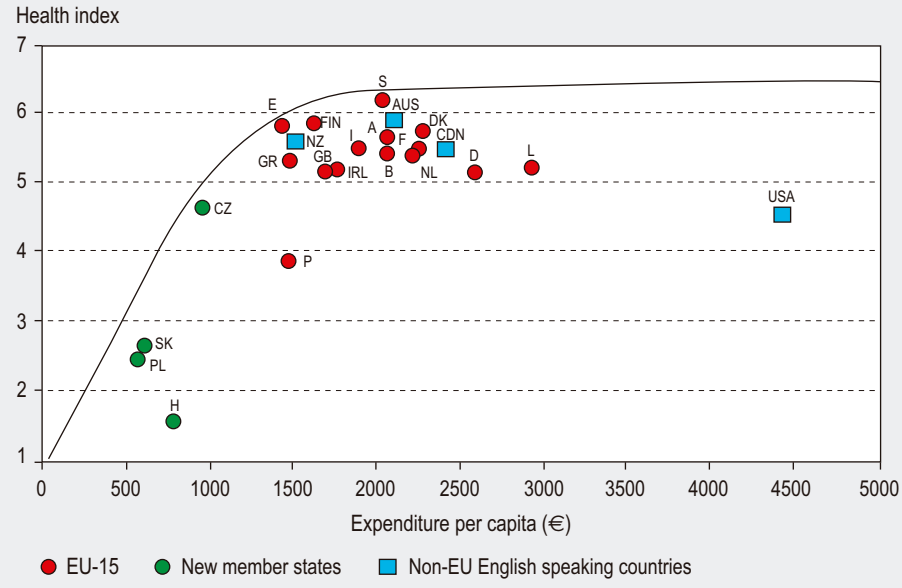


Figure 3: Cost-effectiveness of health care, in 2001 (SCP, 2004).

Over the past two decades, health care expenditure in the Netherlands has increased and the health status of the population has improved. *Figure 4* shows that in the Netherlands, health care expenditure per capita, corrected for inflation, increased from

1000 euro in 1983 to almost 2000 euro in 2004. Likewise, the health index has risen and continues to do so. The question is whether this is feasible at a more favourable cost-effectiveness ratio. OECD (2004c) raises the following questions:

- Are resources properly allocated (prevention versus cure)?
- Are there sufficient incentives to prevent unlimited use on the demand side?
- Are there sufficient incentives in the system to increase efficiency on the supply side?

OECD is critical about the question as to whether countries are making the right choices regarding the allocation of resources to prevention and cure; '*... systems focused on curing illness today can miss opportunities to prevent illnesses and disabilities tomorrow*' (OECD, 2004c:12). The Netherlands deviates little from the international pattern of resource allocation to prevention versus care. Resources devoted to prevention within the context of health care constitute only a fraction of the total health care expenditure (*Section 4.2*).

In terms of preventing unlimited use of expensive care, the Netherlands has the advantage of the GP acting as a gate keeper. On the basis of the Second National Survey of General Practice, Schellevis and Westert (2004) report that the GP is successful in carrying out this role. Measured by a number of indicators, it appears that the Dutch population does not make inappropriate use of GP care. However, expectations of GP care for everyday complaints have decreased compared to 1987. Less people expect that the GP is able to do something about stomach complaints (62% in 1987 versus 45% in 2001) or diarrhoea (44% in 1987 versus 32% in 2001), or that a headache will be over more quickly by consulting a GP or by a GP prescription (24% in 1987 versus 11% in 2001).

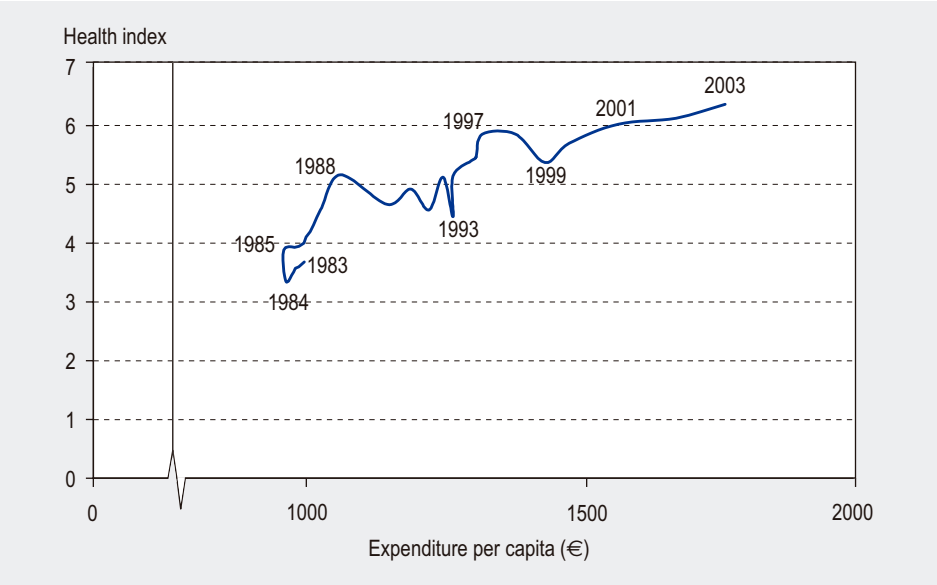


Figure 4: Health care expenditure per capita and the health status of the Dutch population (OECD Health data 2005).

In 2001, 37% of the adult population, versus 24% in 1987, reported using over-the-counter medication during the previous two weeks, in particular medication for pain, fever, a cold or a sore throat. This points to an increase in self-care.

The average number of patient contacts per year rose by about 10% between 1987 and 2001. This rise occurred in all age groups, but was strongest in the age group 75 years and older. Because (chronic) illnesses are highly prevalent in this age group, little inappropriate use of GP care is likely to have occurred. Further, in that same period the rise in contact frequency was higher for people with private health insurance than for people with public health insurance.
There are also indications that the gate keeper is thrifty. Dutch GPs tend to refer sparsely to specialists. Compared to fifteen years ago, the referral rate has even dropped (van Weel, 2005). New incentives against unlimited care utilisation have been implemented only recently, after 2004. An increasing number of insurance policies include an 'own risk' clause, which is expected to have a certain restraining effect on care utilisation.
On the whole, there seems to be room for more efficiency on the supply side, particularly in in-patient care facilities such as hospitals (see *Section 2.9* on efficiency and *Section 4.4* on productivity). The reports on QuickerBetter (SnellerBeter) innovation projects point in the same direction (www.snellerbeter.nl; in Dutch), as shown by the following examples. In 2004, the Plexus Medical Group reported large differences between the logistics and management of operation theatres. Hospitals can improve their performance with respect to the handling of emergency patients, scheduling of staff and use of operation theatres, logistics within operating theatres, and reducing operating times (Stokdijk *et al.*, 2004). Statistics Netherlands recently reported on the high overheads in hospitals; between 1997 and 2004 full-time overhead personnel rose twice as fast as total hospital personnel (CBS, 2006).

On balance

On balance, a picture of the Dutch health care system emerges which shows that anno 2004 the Netherlands had an accessible health care system. Still, the costs of health care rose substantially between 2000 and 2004. In terms of cost development, the Netherlands holds a position that does not strongly deviate from other EU countries: just above the EU-15 average. Internationally, the quality of a number of Dutch health care services is above average. Yet much can still be achieved with respect to patient safety, integrated care pathways and the effectiveness of prevention and care.

The first DHCPR has a number of strong points (+), yet there are also a number of weaknesses (-) that need to be taken into account (*Chapter 5*):

+ The framework of indicators developed and used has a firm basis in the international literature
+ The system goals and indicator domains selected are in line with the policy of the Ministry of Health, Welfare and Sport

+/- The empirical measurements for the year 2004 show a broad but incomplete picture of the performance of Dutch health care
- The comparability of data in terms of time, place and policy standards is limited
- The interpretability of separate indicators leaves room for improvement with respect to relevance and usefulness for policy and everyday practice.

Since 2004, the Dutch health care system has undergone a number of major changes, with the introduction of the new health insurance system in 2006 being the most far-reaching event. Expectations for the new system are high, especially in terms of the quality-costs relationship, i.e. better value for money. In this respect the next DHCPR aims to provide a first systematic report on signals of quality, access and costs of the Dutch health care system following the introduction of the new health insurance system.

CHAPTER 1
BACKGROUND AND APPROACH

The commission

The Dutch Health Care Performance Report (DHCPR) is a product of 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 *Dutch Health Care Performance Report* which summarises the performance of the Dutch health care system in terms of quality, access and costs from a macro perspective.
- The website http://www.healthcareperformance.nl which presents the scientific underpinning of each indicator used and additional measurements and counts of the actual performance.

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 & Schouten, 1997). In this report, health care includes preventive, curative and care services for both somatic and mental conditions and complaints. At the request of the Ministry of Health, welfare was not included in the DHCPR.

The approach

In the period 2003–2004, the Ministry of Health identified 26 indicator domains for Dutch health care that are crucial to establishing its performance and the actual state of health care.

RIVM used the set of indicator domains of the Ministry as input for its definition report (Westert, 2004) and rearranged the domains under three system goals the health minister bears overall responsibility for: quality, access and costs. The underlying framework for the performance indicators is based on the report *Bakens zetten* (Delnoij *et al.*, 2002) and an extensive international literature review (Arah *et al.*, 2005 and 2006).

In the framework used health care was not divided into sectors, but instead four specific health care needs were identified: staying healthy (prevention), getting better (cure), living with illness or disability (long-term care), and end-of-life care. For each health care need, performance is presented and analysed in terms of quality, access and costs (*Figure 1.1*). *Table 5.1* in chapter 5 shows to what extent the first DHCPR has succeeded in doing so.

The indicator framework developed and used is internationally well accepted. The Organisation for Economic Cooperation and Development (OECD) has adopted this conceptual framework for the further development of the international comparison

of health care system performance. It has recently been published as the *OECD Health working paper, 23; HCQI Conceptual Framework Paper* (OECD, 2005c).

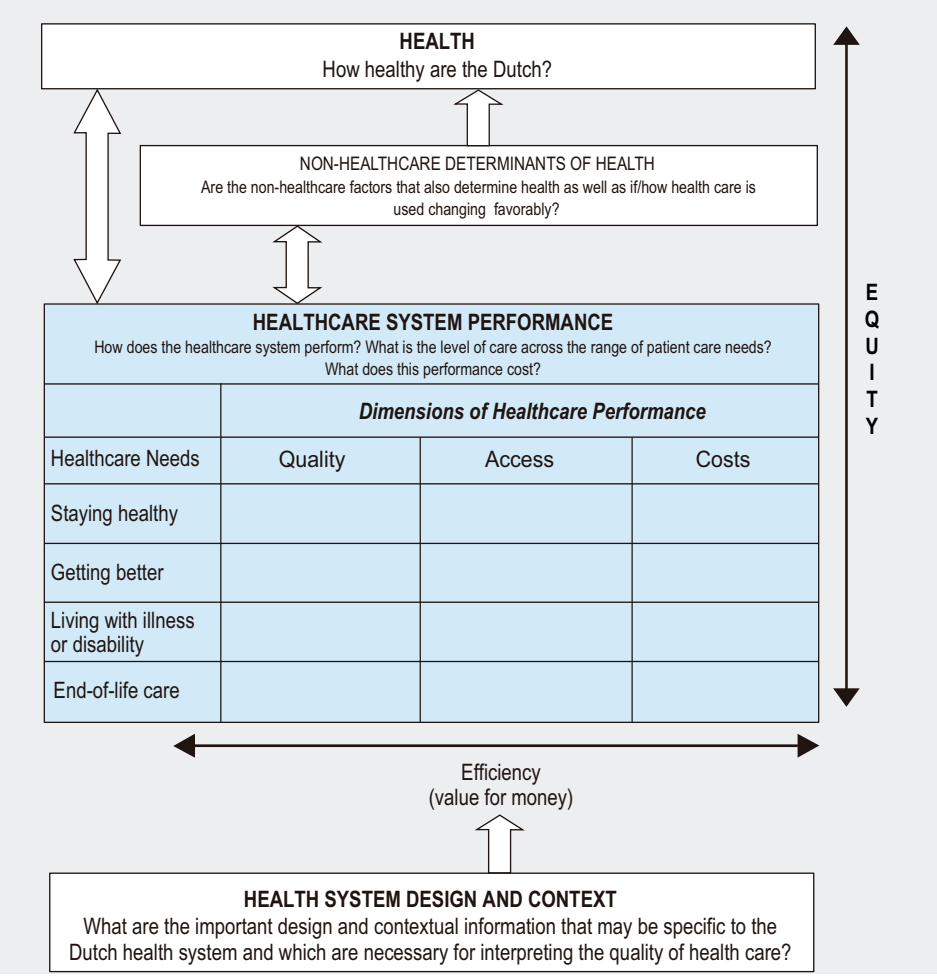


Figure 1.1: Conceptual framework for the performance of the healthcare system in relation to public health (Arah et al., 2006).

The structure of the DHCPR

DHCPR -> System goals (3) -> Indicator domains (15) -> Sections (20) -> Indicators (125) -> Key findings

The 26 indicator domains were classified under three system goals: quality, access and costs (*Figure 1.1*). The three system goals were then split up into four types of healthcare needs (which more or less correspond to the Dutch healthcare sectors).

On the basis of (international) literature the three system goals were divided into fifteen indicator domains, which are discussed in twenty sections. The indicator domains effectiveness, timeliness and personnel were subdivided again and discussed in several sections.

Quality

- Effectiveness, Safety, Patient-centeredness, Accreditation, Innovation

Access

- Freedom of choice, Timeliness, Social barriers, Financial barriers, Geographical barriers, Personnel

Costs

- Macro costs, Market orientation in health care, Productivity, Financial position of health care organisations

The selected system goals and indicator domains are in line with the policy of the Ministry of Health. The subdivision into functions and performance aspects enable a broad picture of health care to be presented and to fulfil a broad signalling function.
For each indicator domain a set of indicators was selected that have a signalling function for that particular domain. The domains are discussed in separate sections. The format is the same for each section:

- Key findings
- Why is this important?
- Indicators used to determine performance
- The current state of affairs in measurements and counts
- What we do not know

Each chapter starts with a section "What is ..." in which quality, access and costs of care are defined (*Section 2.1; 3.1; 4.1*). In each section indicators are used to examine a specific aspect of health care. The selection of indicators is primarily based on (a combination of) two criteria:

- the relationship with the aspect to be discussed in that section (on the basis of a literature review), and
- the availability of data.

The DHCPR presents about 125 indicators in measurements and counts, which explain a maximum number of aspects of health care. An indicator is a measurable aspect of care that gives an indication of a specific performance aspect (Colsen & Casparie, 1995). The ultimate goal of presenting all these measurements is to create a representative picture of the general system performance of Dutch health care.
In addition to Chapters 2, 3 and 4, this report includes an executive summary, which attempts to present an overview of the performance of the Dutch health care system.

CHAPTER 2
QUALITY OF CARE

2.1 Quality of care

Although quality may well be the most essential theme in the performance of a health care system, it is hard to measure (Sluijs *et al*., 2002). The American 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). From this definition, IOM inferred four major aspects of quality: effectiveness, safety, timeliness and demand orientation. In the international literature these aspects are considered to be the core aspects of quality (Arah, 2005). In the DHCPR two other aspects are also discussed: accreditation and certification of care services, and level of innovation. In the current chapter five aspects of quality are discussed. Timeliness will be dealt with in Chapter 3.

Quality
- Effectiveness
- Safety
- Patient centeredness
- Accreditation and certification
- Innovation

When exploring these core aspects three types of quality need to be distinguished: structural, process and outcome (Donabedian, 1966). This distinction can serve as the starting point for improvement processes. Structural quality relates to the conditions health care providers work under, process quality reflects their performance, and outcome quality represents the results obtained. Quality is a concept which can not be measured directly. Aspects or dimensions of quality can be measured through indicators. In the DHCPR the primary focus is on outcome indicators, because these allow for a better link between health care performance and public health or changes in the physical, mental and social health of patients. Process indicators can be controlled by health care, whereas outcome indicators only partially.

Effectiveness

The effectiveness of prevention, cure and care reflects the extent to which the health care provided achieves its objectives. Usually a distinction is made between efficacy and effectiveness. Efficacy denotes the health gains of health care interventions under ideal or theoretical circumstances and effectiveness denotes the actual health gains as a result of health care interventions (van der Meer & Schouten, 1997).

The DHCPR presents a suprasectoral picture of the effectiveness of care by means of a selection of core indicators for the sectors prevention, curative care, mental health care and long-term care.

Safety

Patient safety is aimed at the prevention of unintentional and iatrogenic harm in patients during or resulting from preventive or medical activities of care providers. IOM (2002) defines safe care as "avoiding injuries to patients from the care that is intended to help them". In the United States the IOM report *To err is human* (Kohn *et al*., 1999) spurred the interest in patient safety. The report estimates that each year between 44,000 and 98,000 people die as a result of medical errors, which makes it the number eight cause of death in the USA. Based on data from the Dutch Health Care Inspectorate, the DHCPR presents as comprehensive a picture as possible of patient safety in the Netherlands.

Patient centeredness

In principle two parties are directly involved in the care giving process, that is the care giver (the health care provider) and the care receiver (the patient). In this context, the notion of 'demand-oriented care' is relevant: "the joint effort of patients and care providers that results in patients getting the help they wish and expect to get and that meets professional standards" (van der Kraan, 2001). Demand orientation is a multi-faceted concept. In the context of the DHCPR, demand orientation is assessed by determining patient/client judgements of care received and people's trust in health care.

Accreditation or certification

The Dutch Quality of Care Institutions Act (Kwaliteitswet zorginstellingen (Kzi)) came into force in 1996. This law stipulates that health care institutions have to deliver responsible care on the basis of controlled self-regulation. To realise this, institutions have to organise their services in a certain way and give systematic attention to the monitoring, control and promotion of quality of care. A way to do this is through an integrated quality system (IGZ, 2002b). For individual health professionals such regulations are included in the Individual Health Care Professions Act (Wet BIG).

According to the Kzi a quality system is a cyclic process of quality control and improvement. Certification and accreditation are a means for third parties to judge the quality system of care institutions. In the DHCPR, whether and to what extent care institutions have implemented a quality system is explored.

Innovation

The application of innovations may enable a more effective treatment of existing conditions, thereby maintaining the health of the Dutch population at a high level over a larger number of life years. Care innovation can result in various types of improvement. First, improved diagnostic and treatment methods may enable quicker and more accurate diagnoses, quicker and more effective treatments, and a reduction of complications during recovery. These developments are considered product innova-

tions. Next, the present use of ICT in health care is explored and the contribution of the Netherlands in the fields of biotechnology and nanotechnology is investigated. Finally, process innovations, involving mainly the reorganisation of care processes, are dealt with.

2.2 The effectiveness of prevention

Key findings

- The percentage of smokers decreased from 34% to 28% in the period 1999–2004
- The participation rate of cervical cancer screening programmes increased from 61% to 66% in the period 2000–2003. The participation in breast cancer screening programmes remained at the same level of 79% in the period 2000–2002
- The vaccination rate of the National Vaccination Programme is above 95%
- About half of the diabetes patients have elevated HbA1c levels
- The effects of school-based prevention programmes are largely unknown
- 75% of large companies had implemented health promotion programmes in 2004
- The coverage of preventive child health care is about 90% for children aged 0–4 and largely unknown for adolescents (9-18 years)
- A number of perinatal mortality risks have increased

Why is the effectiveness of prevention important?

Prevention aims are to protect and promote health and to prevent diseases. As not all diseases can be prevented and because of the increasing prevalence of chronic diseases (partly due to people getting older) increasing attention is paid to the prevention of complications and the aggravation of illness. Theoretically great health gains can be achieved with prevention aimed at lifestyle factors like smoking and obesity. Therefore these factors have a high priority in present health policy. As to health protection, health gains have been obtained by the early detection of health-threatening factors. Health protection measures tend to be systematic and routine in character and are apt to monitor the present situation. Most of the health protection measures do not belong to the health care domain and are suprasectoral in nature. With regard to disease prevention programmes, like vaccination or cancer screenings, efforts have been made to promote the participation rate of these programmes and thereby their effectiveness.

Indicators of the effectiveness of prevention

Many countries and organisations are formulating indicators for public health and health care, including prevention. The most important initiatives in the field of prevention are the OECD projects and the European Community Health Indicators (ECHI) of DG-Sanco. On the basis of these international initiatives, the present selection of indicators was compiled by the Ministry of Health in cooperation with the RIVM. The list of indicators presented below has been discussed by the Committee of Prevention Policy

Information in which a broad group of field parties are represented. At a later stage, the indicator 'perinatal mortality' was added to the list, because effective perinatal and postnatal prevention and care affect this indicator. Yet, this indicator is also affected by many other autonomous factors.

- Percentage of (adolescent) smokers
- Percentage of (adolescent) people who are overweight
- Participation rates of population screening programmes
- Vaccination rates (National Vaccination Programme (RVP), influenza vaccination, hepatitis B vaccination)
- Percentage of patients with diabetes with good glucose control
- Effectiveness of lifestyle advice in primary care
- Percentage of schools that offer effective lifestyle programmes
- Percentage of employers (companies) that have a workplace health promotion policy
- Health protection: consumer trust in food safety, emergency treatment of home an leisure accidents and an indicator for medical assistance in accidents and disasters (GHOR)
- Percentage of adolescents at high-risk that is identified by preventive child health care
- Percentage of underprivileged neighbourhoods with an intersectoral public health approach (no information available)
- Perinatal mortality

Elsewhere in this report, a number of indicators that also contribute to the effectiveness of prevention are discussed. *Section 2.5* on the effectiveness of mental health care addresses the prevention of mental conditions. In *Sections 2.3* and *2.4* on the effectiveness of curative health care and long-term care services, decubitus prevention is discussed.

The current state of affairs

The percentage of smokers decreased from 34% to 28% in the period 1999–2004

The purpose of the prevention of smoking is to stimulate smokers to stop smoking, to prevent (young) non-smokers from starting to smoke and to prevent passive smoking. Numerous intervention programmes have been implemented to realise these aims, including raising the price of tobacco, advertisement bans, smoking bans at work and in public areas, and health education and mass media campaigns. The target of the Ministry of Health is to reduce the number of smokers by 25% in 2007. In recent years the number of smokers has gone down: in 1999 34% of the population smoked versus 28% in 2004 (*Figure 2.2.1*). In 2004, 24% of the population aged 10–19 smoked (Stivoro, 2004). International comparisons reveal that countries with a strong non-smoking policy, involving an integrated package of various measures, have fewer smokers. In countries with low smoking prevalences, a substantial budget is available for health education, research, and the compensation of the costs of smoking cessation support.

In these countries tax measures are used and there is a lack of exceptions to statutory smoking and advertisement prohibitions (VWA, 2005).

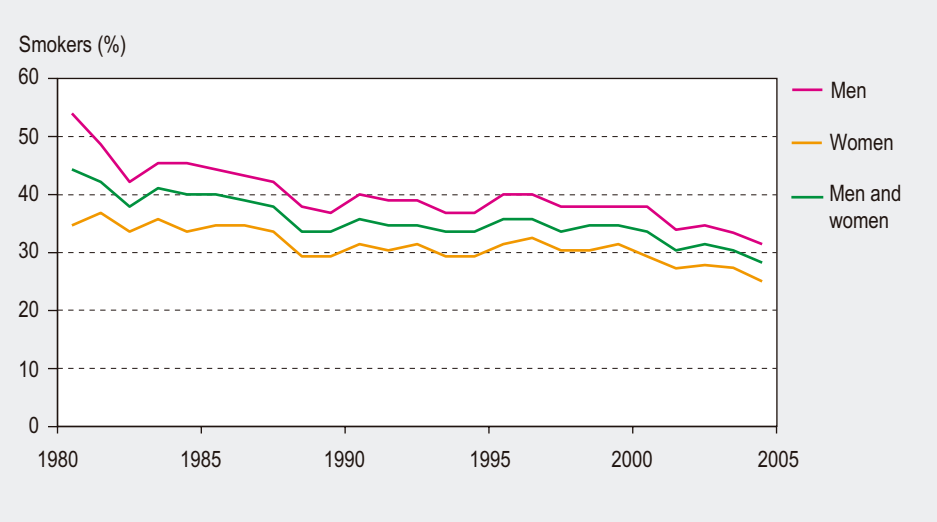


Figure 2.2.1: Percentage of adults who smoke, 1980–2004 (TNS NIPO, 2004).

Percentage of people who are overweight has increased

Over the past decades the number of people who are overweight or obese has increased considerably (*Figure 2.2.2)*. In the period 1998–2001 about half of the Dutch population was slightly overweight and one in ten was obese (Blokstra & Schuit, 2003). The number of overweight children doubled between 1980 and 1997. The percentage of children who are overweight varies, between 7.1% and 16.1% depending on age (Hirasing *et al.*, 2001; Frederiks *et al.*, 2000). The Ministry of Health aims at stabilising the percentage of adults who are overweight and decrease overweight among children aged 0–21 years. In recent years the number of prevention projects targeting overweight has clearly risen (Nijboer, 2004). However, little is known about the quality and effectiveness (in the long run) of Dutch interventions. Still, much research is currently being carried out into the effectiveness of interventions.

The participation rate of cervical cancer screening programmes increased from 61% to 66% in the period 2000–2003

In the period 2000–2003 the participation rate of the cervical cancer screening programme increased from 61% to 66%. The participation rate of the breast cancer screening programme remained at the same level of 79%, in the period 2000–2002 (*Table 2.2.1*). The aim of the Ministry of Health is to increase the participation rate in both screening programmes. Both programmes are cost-effective. The cost-effectiveness of cervical cancer screening is estimated at 12,500 euro per life year gained. For breast cancer screening the cost-effectiveness is estimated at 3500 euro per life year gained (ZonMW, 2005).

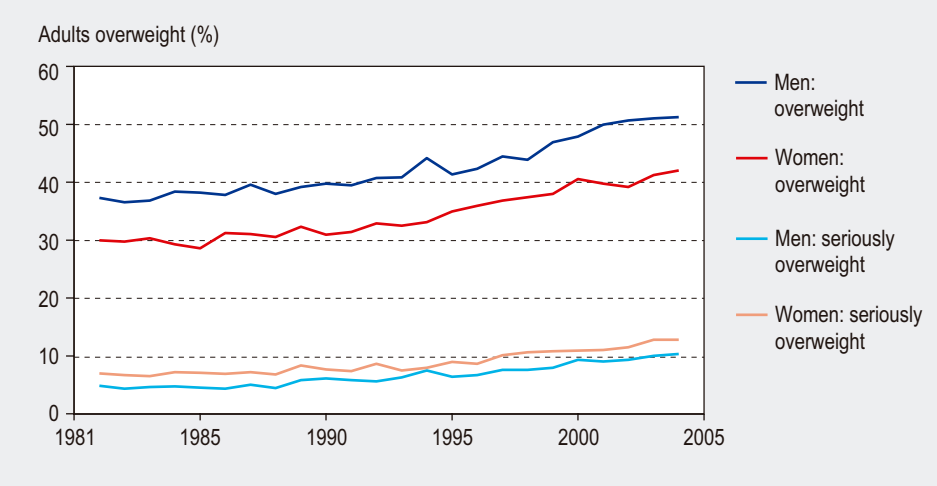


Figure 2.2.2: Percentages of men and women who are overweight (body mass index ≥ 25 kg/m²) and obese (body mass index ≥ 30 kg/m²), 1981–2004 (CBS-Statline, 2006b)

Data were obtained through self-reporting which is likely to result in an underestimation of the actual number of people who are overweight or obese.

The heel prick test is used to detect phenylketonuria (PKU), adrenogenital syndrome (AGS) and congenital hypothyroidism (CHT). The participation rate of the heel prick is almost 100% (*Table 2.2.1*). Each year 83 children with CHT, 23 with AGS and 17 with PKU are detected (Lanting & Verkerk, 2005). The sensitivity (the chance of people with the disease being discovered with the test) varies by disease from 99.5% for AGS to 98% for PKU to 96% for CHT. The Ministry of Health aims at maintaining this high level of participation.

In the national pre and postnatal screening programme (PPS) pregnant women are screened for Rhesus D and other antibodies, syphilis, hepatitis B and HIV (screening for Down's syndrome is not a part of this programme). The PPS is offered routinely to all pregnant women. For the year 2002, PPS coverage was estimated at 91%. As not all pregnant women are registered, this is an underestimation (TNO, 2005). In 2005 the registration system was improved.

Table 2.2.1: Participation of target groups in population screening programmes (%) (Lanting & Verkerk, 2005; Van Leerdam & van der Ploeg, 2004).

	2000	2001	2002	2003
Participation in cervical cancer screening (women aged 30–60)	61	62	64	66
Participation in breast cancer screening (women aged 50–75)	78.5	79	79.1	-
Heel prick (all newborns)	-	-	-	99.8

The vaccination rate of the National Vaccination Programme is above 95%

The National Vaccination Programme (RVP) protects children against diphtheria, whooping cough, tetanus, polio, haemophilius influenza type b, mumps, measles, rubella, meningococcemia C and specific risk groups against hepatitis B. The vaccination rate of the RVP is over 95%, which is high compared to other countries (Abbink *et al*., 2004). The vaccination rate of risk groups for influenza is 75% (Tacken *et al*., 2003). Compared to other European countries, the influenza vaccination rate of risk groups is high in the Netherlands (van der Wilk & Heijnen, 2004). All vaccines other than the tuberculosis vaccine, have a high level of protection. Due to these high protection levels, the vaccination rate can be used as a proxy indicator for the effectiveness of vaccination programmes. The Ministry of Health aims at maintaining or increasing the RVP and influenza vaccination rates.

It is not possible to present tuberculosis and hepatitis B vaccination rates for risk groups, because the size of the total risk group that is to be vaccinated is unknown. From 2002 until February 2005, 29,866 people were inoculated at least once for hepatitis B, 26,622 people twice and 12,464 people completed the entire series of inoculations against hepatitis B (van Vliet *et al*., 2005). After three inoculations over 90% of those inoculated are protected against hepatitis B (de Wit, 2002).

About half of the diabetes patients have elevated HbA1c levels

The number of diabetes patients is expected to rise with 32.5% between 2005 and 2025 (on the basis of demographic developments) (Baan & Feskens, 2005). This is due to the expected increase in the number of people with overweight and simplified methods of detection and screening of diabetes. The percentage of overweight people is a good indicator of the effectiveness of primary prevention of diabetes. Besides early detection through case-finding by the GP, a lot of attention is focussed on the prevention of the occurrence or delay of micro- and macrovascular complications of diabetes (tertiary prevention). About half of the diabetes patients have moderately or highly elevated HbA1c levels (an indicator for microvascular complications). Highly elevated HbA1c levels indicate a lack of properly controlled glucose levels. Some 45% to 50% of diabetes patients have high blood pressure (systolic blood pressure >140 mmHg). The number of diabetes patients with high blood pressure is an indicator of the number of macrovascular complications that (are likely to) occur (Baan *et al*., 2005).

Giving lifestyle advices to patients seems to be effective

Giving lifestyle advice to patients seems to have a positive effect on most risk factors. Yet it is difficult to present uniform or unambiguous statements about its effectiveness. The effect reached depends on the intensity of the health education, the extent to which health education is specifically targeted at the patient, the characteristics of patients (population), the follow-up period of the evaluation, and the type of advice (Bemelmans & Tiemersma, 2005). It is not known to what extent lifestyle advice is given to patients. *Table 2.2.2* presents information on national interventions of which their uptake is (partially) known.

Table 2.2.2: Uptake of lifestyle interventions in health care (Bemelmans & Tiemersma, 2005).

Intervention	Uptake of intervention
General lifestyle advice in primary care for high-risk patients with osteoporosis, diabetes mellitus type 2 or cardiovascular diseases	36% of the patients are seen by a dietician; in 50% of GP practices weight reduction is discussed
Minimal intervention strategy for smoking:	
- In GP practice (H-MIS)	32% of GPs use H-MIS; in 2000 about 1% of all smokers received the H-MIS
- For lung patients (L-MIS)	27% of lung specialists use L-MIS
- For heart patients (C-MIS)	25% of cardiologists use C-MIS

If a healthy lifestyle does not sufficiently lower cholesterol levels in people with high cholesterol, medication (statins) can be prescribed. Medication can lower the (total) cholesterol level by 20% to 50% (Knopp, 1999), reduce the risk of coronary heart diseases by about 30% and mortality risks by about 20% (LaRosa *et al*., 1999). In recent years there has been a dramatic increase in the use of statins. Between 2000 and 2004 the number of people who used statins rose from 600,000 to over 1 million (GIP). In the period 1998–2002 half of all the people that needed treatment according to guidelines were actually treated and in one in every three persons treated the cholesterol levels were reduced to normal (Mantel-Teewisse *et al*., 2004). It may be concluded that both undertreatment (people entitled to treatment do not get or do not get adequate treatment) and overtreatment occur.

The effects of school-based prevention programmes are largely unknown

At schools many prevention programmes and projects are offered. Sound and well-performed evaluation studies of school-based prevention programmes are scarce. At present only the national programme "De gezonde school en genotmiddelen" (aims at obtaining a healthy school in which students do not use stimulants) has been evaluated and found effective in terms of direct health measures. Students who participated in the project use less tobacco, alcohol and marihuana than students who did not participate (Buijs & Bouwens, 2005). Fifty per cent of the secondary schools offer this programme.

75% of large companies had implemented health promotion programmes in 2004

Health policy is just as much a component of personnel and social policy as employment conditions (NIGZ, 2005). The aim of implementing health promotion activities or integrated health management at the workplace is to have 95% of the employees who are healthy to remain healthy. In 2004 over 75% of the large companies had installed measures to promote a healthy lifestyle of their employees. These measures relate to smoking (55%), alcohol (33%), sick leave (30%) and physical activity (28%) (van Pelgrim, 2004).

The emphasis of health protection is on maintaining current situation

In the past great health gains were achieved in the field of health protection. The main target of health protection at present is to maintain the situation reached.

In the field of injury prevention health gains can still be achieved. The aim of injury prevention is to push back the number of accidents as well as the severity of the injuries by promoting safe behaviour and by taking measures to ensure a safe environment. The number of emergency treatments is a good indicator for the number of serious accidents. Three-quarters of the injuries are caused by home and leisure accidents. The majority of the remaining injuries are either caused by traffic accidents or are work-related. In the period 1999–2003, home and leisure accidents led to 690,000 emergency treatments. The target of the Ministry of Health for 2006 is to decrease the number of emergency treatments to 630,000.

Compared to 2003, consumers in 2004 have become less negative in their judgement of food safety (de Jonge *et al*., 2005). Over half of the consumers have complete trust in the safety of fourteen out of seventeen product groups. Consumer trust in food safety is based on the trust in government and various stakeholders in the food chain, recollections of incidents and/or media coverage of food safety issues.

The Health Care Inspectorate indicates that the Netherlands is not completely prepared for epidemics. In January 2006, only 15 out of 24 GHOR regions were sufficiently prepared for the outbreak of an influenza epidemic. Another five regions will be prepared in June 2006. One region is clearly not prepared for an influenza epidemic and data on three regions are lacking (IGZ, 2005b).

The coverage of preventive child health care is about 90% for children aged 0–4 and largely unknown for adolescents (9-18 years)

The percentage of adolescents at high-risk that are identified by preventive child health care (JGZ) is used as an indicator of the effectiveness of preventive child health care. This indicator will be redefined on the basis of the results of the *Youth Monitor* and the *Health benchmark*.

The coverage of preventive child health care for 0–4 year old children is reflected in the percentage of visits to the health services in the first four years of life (*Table 2.2.3*).

Table 2.2.3: Visits to preventive child health care in the first four years of life (%) (CBS-Statline, 2006a).

Year of visit	Total of visits	Visits by age				
		0	1	2	3	4
2001	90.0	100.0	98.4	90.4	81.0	82.0
2002	90.8	100.0	95.1	91.3	83.2	87.4
2003	90.6	100.0	98.7	92.9	85.5	78.4
2004	90.5	99.3	95.2	92.4	89.4	78.4

A number of perinatal mortality risks have increased

In 2004 there were 194,007 live births in the Netherlands. Perinatal mortality (stillbirths after more than 24 weeks of pregnancy and live born children who die within a week) was 1513 children in 2004. A total of 852 children died within the first year of life, 76% of whom died within the first four weeks of life. The fall in perinatal mortal-

ity levelled out in the Netherlands in the second half of the 1990s. Perinatal mortality is internationally used as an indicator of the quality of perinatal prevention and care. Effective lifestyle prevention strategies (adequate maternal folic acid intake, no smoking during pregnancy) as well as a good quality of health care before, during and after birth have a positive effect on perinatal mortality. Prevention and care can have no or only a limited effect on various risk factors. Higher perinatal mortality risks can be both child- and mother-related. Firstborns, boys, multiple births, premature born babies, low birthweight babies and babies with congenital abnormalities have an elevated mortality risk. Young mothers (aged 15–19), older mothers (aged 35 and over), mothers with a disease that can affect pregnancy or delivery (e.g., diabetes) and mothers from ethnic minorities have a heightened risk of complications and perinatal mortality.

In recent years some perinatal mortality risks have increased in the Netherlands. These risks include the relatively old age of first-time mothers and the risk of multiple births as a result of the use of medical technology (e.g., in-vitro fertilisation) for the treatment of fertility problems, the strong rise in the proportion of migrant mothers and the high prevalence of smoking in pregnant women. International comparative research suggests that in countries with very low perinatal mortality rates (Finland and Sweden) less 'substandard' factors in perinatal care occur. 'Substandard' factors are circumstances in and performance of preventive and curative care services that do not meet professional standards or indicate shortcomings in the mother's cooperation or in the care infrastructure (Achterberg, 2005).

What we do not know

The information available on several indicators discussed in this section is not optimal. Data on overweight (obtained by physical examination) are old, and data on preventive child health care and the intersectoral approach is still being collected (Health benchmark). There is a lot of information on the theoretical and practical effectiveness of vaccination and screening programmes. There is far less information on health promotion interventions, which often consist of one or more methods of which some have been proven to be effective but others have not. As data on the actual effectiveness of health promotion interventions are lacking, more general indicators, like the proportion of smokers and the proportion of overweight people, have been presented here. Changes in these general indicators can not solely be attributed to prevention. Therefore, better health promotion indicators need to be developed, in particular indicators for which the causal relationship between (parts of the) health promotion intervention and health outcome is well-established. This requires conceptual development together with empirical research. The next DHCPR will address interventions that have not yet been implemented, but that have been shown to be (cost-) effective by research.

2.3 The effectiveness of curative care services

Key findings

- In 68% of all cases GPs prescribe medication according to guidelines
- The GP referral rates dropped from 6% to 2.5% for medical specialists and from 3% to 1.6% for other primary care practitioners in the period 1987–2001
- The in-hospital mortality for heart failure, pneumonia and bypass surgery changed little in the period 1995–2004
- The in-hospital mortality rates corrected for case-mix decreased in the period 1995–2003
- The in-hospital mortality rates corrected for case-mix differ considerably between hospitals (factor 1.5 in 2000)
- 30-day mortality following acute myocardial infarction was 11% in the Netherlands in 2001; this is just below the OECD average of 11.3%
- 30-day survival rate following stroke in the Netherlands is below the OECD average
- The asthma mortality rate is 0.127 per 100,000 population, which is about half of the OECD average
- The breast cancer and colon cancer mortality, which are slowly decreasing in all OECD countries, are higher in the Netherlands than in many other OECD countries
- The cervical cancer mortality is lower in the Netherlands than in many other OECD countries
- The relative 5-year survival rates for breast cancer, colon cancer and cervical cancer in the Netherlands are about the OECD average
- About 80% of (over) 65-year-old hip fracture patients has surgery within 48 hours; the OECD average is 69%

Why is the effectiveness of curative care services important?

The primary goal of curative care for people with acute or chronic somatic diseases is to cure them, to alleviate pain, and, if cure is unattainable, to slow down the disease process in conformity with patient wishes and professional judgements. Indicators of the effectiveness of curative care services aim to provide insight into the extent to which health care providers succeed in reaching these important and crucial objectives. There are many organisations and health care professionals involved in curative care. However, due to the availability of good indicators on GP care and hospital care, this section mainly focuses on these two types of care which constitute the major part of curative care.

Curative care services get most of the money

Of all health care sectors, most of the money is allocated to curative care services. Within these services, most money is spent on hospital and specialist care, followed by medicines and GP care. Over 90% of the 'curative care' budget is allocated to those four categories (VWS, 2005e).

Use of curative care services increases slowly

In 2004 the average number of contacts between patients and GP practices was 6.7, that is 2.5 consultations and 4.2 other contacts. On average, GPs issued 5.9 drug prescriptions per patient in 2003. These numbers seem to have increased slowly over the years. This is also true for the use of hospital care. The percentage of patients admitted to a hospital rose to 6.4% in 2004 (CBS-Statline), and the number of examinations by medical specialists rose to almost 8.5 million in 2003 (Prismant).

Indicators of the effectiveness of curative care

GP care

- Percentage of cases in which GPs do not prescribe medication for a specific syndrome, consistent with guidelines that advise against these medications
- Percentage of cases in which GPs prescribe medication for a specific syndrome consistent with guidelines
- Percentage of cases in which GPs prescribe according to guidelines
- Percentage of referrals by GPs to medical specialists
- Percentage of referrals by GPs to other primary care professionals

Hospital care

- In-hospital mortality for heart failure
- In hospital mortality for pneumonia
- In-hospital mortality for bypass surgery
- Hospital Standardised Mortality Ratio
- 30-day mortality following acute myocardial infarction
- 30-day mortality following stroke
- Asthma mortality rate per 100,000 population aged 5–39
- Breast cancer mortality rate per 100,000 women
- Colon cancer mortality rate per 100,000 population
- Cervical cancer mortality rate per 100,000 women
- Breast cancer 5-year survival rate
- Colon cancer 5-year survival rate
- Cervical cancer 5-year survival rate
- Percentage of (over) 65-year-old hip fracture patients with surgery initiated within 48 hours
- Number of diabetes-related major amputations per 10,000 diabetics aged 18–75

The current state of affairs

In 68% of all cases GPs prescribe medication according to guidelines

Braspenning *et al.* (2004) investigated the prescribing behaviour of Dutch GPs. As GPs prescribe almost 80% of all medication (SFK, 2003), their prescribing behaviour matters. An important finding of the study was that in 75% of all cases GPs do not prescribe medication that is advised against in the guidelines of the Dutch College of General Practitioners (NHG), for example, antibiotics for fever and asthma in children. A second finding was that there is much gain to be achieved by prescribing according to guidelines. For example, GPs prescribe diuretics to only 33% of patients with uncomplicated high blood pressure as is recommended in the guideline and antibiotics are often not

properly prescribed. In 62% of all cases, GPs prescribe medication for a specific disorder as is recommended in the guideline (*Table 2.3.1*). In 68% of all cases, GPs adhere to the NHG guidelines in that they prescribe or do not prescribe when thus recommended (*Table 2.3.1*). There are large differences in these percentages between practices, which indicates room for improvement in a number of practices in this respect (Braspenning *et al*., 2004; Van den Berg *et al*., 2005).

Table 2.3.1: Percentages of cases in which GPs prescribe according to NHG guidelines, 2000–2002 (Braspenning et al., 2004).

Indicator	2000–2002
Percentage of cases in which GPs do not prescribe medication that is advised against for a specific syndrome	78
Percentage of cases in which GPs prescribe medication that is advised for a specific syndrome	62
Percentage of cases in which GPs prescribe according to guidelines	68

The GP referral rates dropped from 6% to 2.5% for medical specialists and from 3% to 1.6% for other primary care practitioners in the period 1987–2001

In 2001 GPs referred a lower proportion of patients to other health care professionals compared to 1987; so GPs handled more cases themselves (Cardol *et al*., 2004). Between 1987 and 2001 referral rates to medical specialists decreased from 6% to 2.5%. The referral rates to other primary health care practitioners, like physiotherapists, decreased from 3% in 1987 to 1.6% in 2001 (*Table 2.3.2*).

Table 2.3.2: General practitioners' referral rates, in 1987 and 2001 (Cardol et al., 2004; Groenewegen et al., 1992).

Indicator	1987	2001
Referral rates to medical specialists	6	2.5
Referral rates to other primary care professionals	3	1.6

The vast majority of (non-)referrals (89%) is in conformity with national standards (Braspenning *et al*., 2004). Still, similar to prescribing according to guidelines, there are considerable differences in referring between GPs (practices). Those with a relatively high referral rate to specialty A, also tend to have a high referral rate to specialty B, even if the two specialties have little to do with one another (Van den Berg *et al*., 2005).

Outcome indicators are appropriate measures of the effectiveness of hospital care

For those diseases that involve screening (e.g., breast cancer and cervical cancer) the indicators used relate to the effectiveness of the entire treatment process. They do not relate to hospital care only, as other organisations may also affect morbidity and mortality. Still, international projects have revealed that quality of care has a more pronounced effect on these indicators than other aspects (AHRQ, 2004b). That is why the set of indicators used in this section is internationally considered to be appropriate for measuring the effectiveness of curative care.

The in-hospital mortality rates for heart failure, pneumonia and bypass surgery changed little in the period 1995-2004

The annual in-hospital mortality rates following heart failure (12% in 2004), pneumonia (10% in 2004) and bypass surgery (3% in 2004) seemed to have changed little over time (*Figure 2.3.1*). Yet, there are indications that in-hospital mortality after heart failure has been decreasing since 2002. The percentages in the figure have been corrected for (differences in) age and gender.

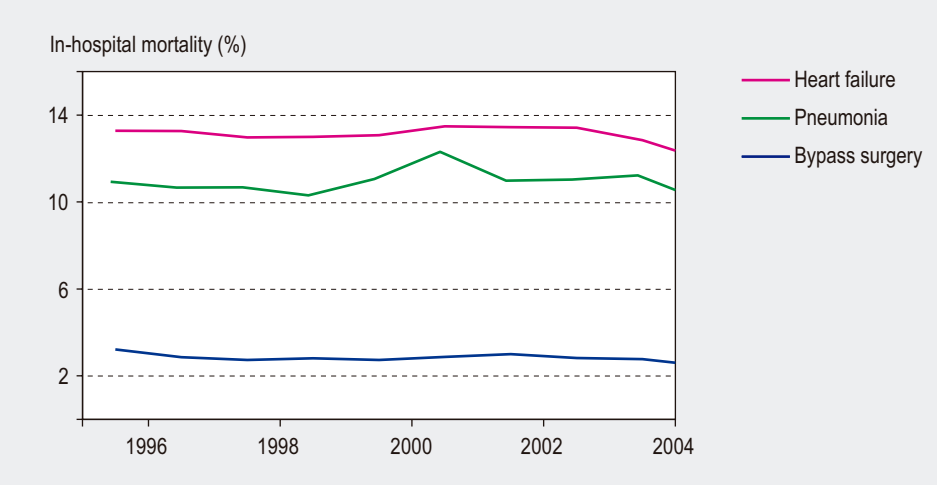


Figure 2.3.1: In-hospital mortality following heart failure, pneumonia and bypass surgery, 1995–2004 (LMR, 2005; CBS/Prismant, 2006).

The in-hospital mortality rates corrected for case-mix decreased in the period 1995-2003

The Hospital Standardised Mortality Ratio (HSMR) is a measure which expresses the chance of dying in a given hospital relative to other hospitals and allows a comparison between hospitals. The higher the HSMR of a hospital, the higher the chance of dying in that hospital. The index has been corrected for differences in case-mix, that is severity of illness and other factors that have an effect on patient care burden (Jarman *et al*., 1999).

In the period 1998–2003 the HSMR for Dutch hospitals decreased (*Figure 2.3.2*), that is the chance of dying in a Dutch hospital decreased. When the 2000 mortality ratio is set at 100%, the ratio fell from 102% in 1998 to 85% in 2003.

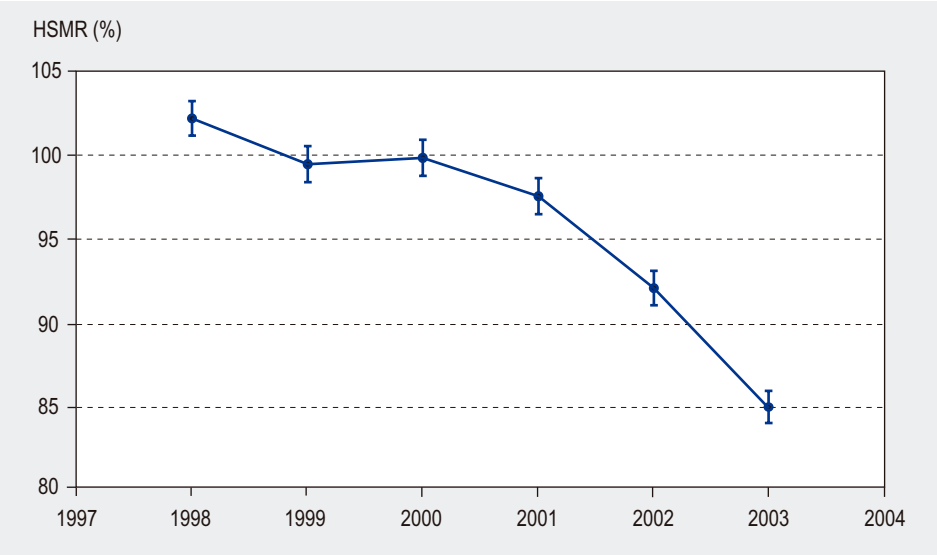


Figure 2.3.2: Average standardised in-hospital mortality ratio with 95% confidence intervals, 1998–2003 (2000=100%) (Prismant, 2005).

The in-hospital mortality rates corrected for case-mix differ considerably between hospitals

In 2000 the HSMR of individual hospitals ranged from 72% to 111%. By implication, there is at least one hospital where the chance of dying is 1.5 times that of the most favourable hospitals (Prismant, 2005).

International comparisons

30-day mortality following acute myocardial infarction was 11% in the Netherlands in 2001; this is just below the OECD average of 11.3%

In 2001 the 30-day mortality rate for acute myocardial infarction in the Netherlands was 11%, which is just below the OECD average of 11.3% (*Table 2.3.3*). It should be noted that due to measurements in different years, data comparability is not optimal.

30-day survival rate following stroke in the Netherlands is below the OECD average

The 30-day mortality rates for cerebral infarction (16%) and stroke (35%) are above the OECD averages of 10% and 24%, respectively. So, in the Netherlands the survival rates are lower than in many other OECD countries (*Table 2.3.3*).

The asthma mortality rate is 0.127 per 100,000 population, which is about half of the OECD average

Asthma mortality in the Netherlands is lower than the OECD average, that is 0.127 versus 0.251, and is still going down (*Table 2.3.3*).

Table 2.3.3: Indicators of hospital effectiveness compared to OECD averages (Mattke et al., 2006; CBS, 2005a).

Indicator	the Netherlands	OECD average
30-day mortality following acute myocardial infarction [a]	11.0%	11.3%
30-day mortality following stroke (infarction)	16.0%	9.8%
30-day mortality following stroke (haemorrhage)	35.0%	23.8%
Asthma mortality per 100,000 population aged 5–39	0.127	0.251
Breast cancer 5-year survival rate [b]	82.0%	81.6%
Colon cancer 5-year survival rate [b]	large intestines: 60.0% small intestines: 56.0%	59%[c]
Cervical cancer 5-year survival rate [b]	< 60: 76.0% > 60: 55.0%	71.3% [c]
Percentage of (over) 65-year-old hip fracture patients with surgery initiated within 48 hours [d]	80.4%	71.2%
Number of diabetes-related major amputations in 10,000 diabetics aged 18–75	35	not known

[a] Indicator is also used by the Health Care Inspectorate (IGZ, 2005a); [b] Year of diagnosis is 1993, on the basis of samples in the Eindhoven and Tilburg region; [c] Average excluding the Netherlands; [d] The Health Care Inspectorate uses surgery within 24 hours as an indicator (IGZ, 2005a); percentage within 48 hours allows international comparison.

The breast cancer and colon cancer mortality, which are slowly decreasing in all OECD countries, are higher in the Netherlands than in many other OECD countries

The breast cancer mortality rate is 28.8 per 100,000 women in the Netherlands, which is higher than in other European countries, except Denmark. As in most other countries, this percentage has fallen during the last decade (*Figure 2.3.3*). Thus, breast cancer mortality rates in the Netherlands remain comparatively high.

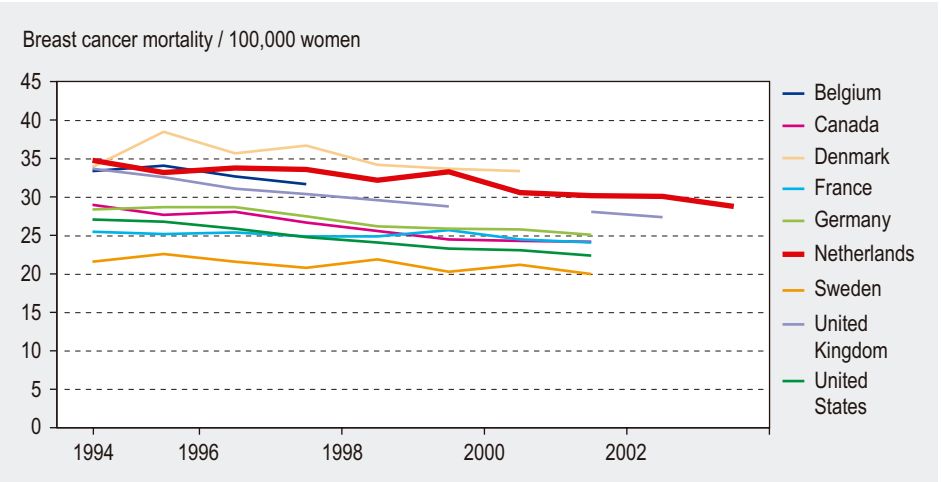


Figure 2.3.3: Breast cancer mortality rates in nine OECD countries, 1994–2003 (OECD Health data, 2005).

In the Netherlands the colon cancer mortality rate is also high (*Figure 2.3.4*); only Denmark and Germany have higher mortality rates. In the other OECD countries the rates are lower.

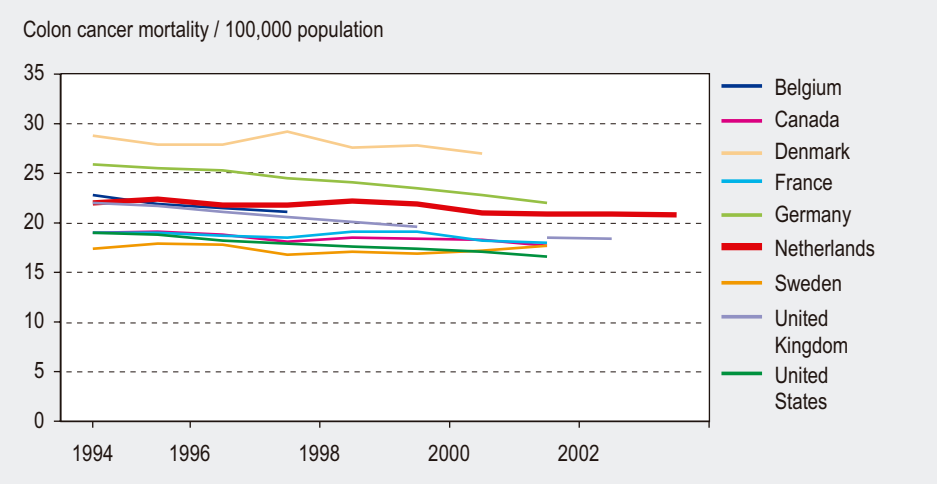


Figure 2.3.4: Colon cancer mortality rates in nine OECD countries, 1994–2003 (OECD Health data, 2005).

The cervical cancer mortality is lower in the Netherlands than in many other OECD countries

In contrast to the high breast cancer and colon cancer mortality rates, cervical cancer mortality in the Netherlands is low: 1.8 per 100,000 women in 2003. In many other OECD countries cervical cancer mortality is higher (*Figure 2.3.5*).

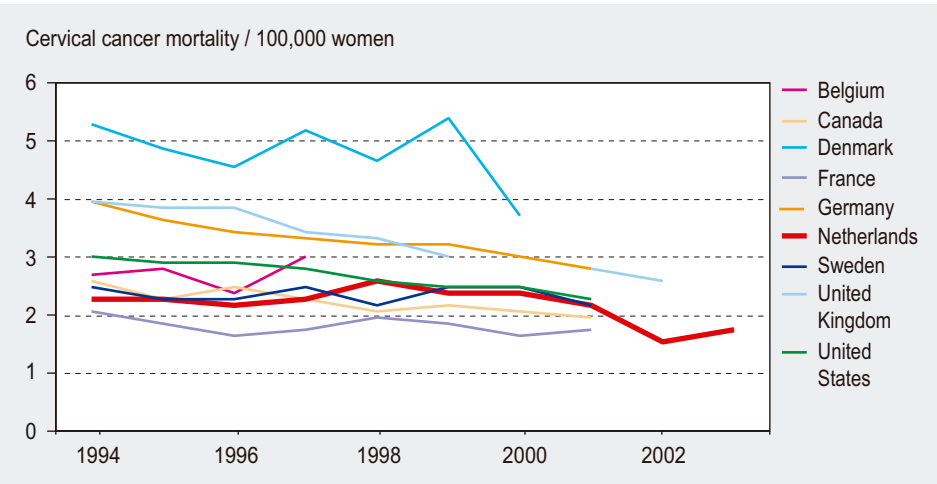


Figure 2.3.5: Cervical cancer mortality rates in nine OECD countries, 1994–2003 (OECD Health data, 2005).

The relative 5-year survival rates for breast cancer, colon cancer and cervical cancer in the Netherlands are about the OECD average
Internationally, the Netherlands assumes a mid-table position for the relative 5-year survival rates for breast cancer, colon cancer and cervical cancer. The Dutch rates for these three types of cancer are comparable to OECD averages (*Table 2.3.3*).

About 80% of (over) 65-year-old hip fracture patients has surgery within 48 hours; the OECD average is 69%
In total 80.4% of hip fractures in people over 65 years old are operated within 48 hours. This percentage is considerably higher than the OECD average of 68.8%. So in the Netherlands hip fracture surgery is initiated relatively quickly.

What we do not know

The effectiveness of curative care in the Netherlands has been judged by means of twenty indicators. In general, adequate data are available on both GP care and hospital care. For hospital care, data are available that allow international comparisons (OECD). There is little quantitative information, though, on the extent to which hospital physicians adhere to guidelines. More information on this subject is needed.

It appears that there are considerable differences in corrected mortality rates between hospitals. Data on possible changes in these differences over time are currently unavailable.
Present data on the number of diabetes-related major amputations do not allow international comparison, nor are there sound longitudinal data that allow comparisons over time. International research shows diabetes-related major amputations to be a good indicator (Mattke *et al.*, 2006). However, because of data on trends are lacking and international comparison is not yet possible, the Dutch figure is hard to interpret.

2.4 The effectiveness of long-term care

Key findings
- Two-thirds of the people with impairments indicate that medical aids solve entirely or to a large extent the problems they were prescribed for
- 40% of the people with a somatic indication returned to their home environment after a stay in a nursing home
- Clients receiving long-term care, ranging from nursing home care to care for the disabled, rated the various aspects of care with an average mark of 7.5 to just over 8
- The number of residential home and nursing home residents with problems, such as falls, depressive symptoms, multiple medication, unintended weight loss or insufficient pain management is indicative of a considerable care load and suggests room for improvement
- The number of patients with decubitus in residential homes, in nursing homes or with home care decreased in the period 1998–2004

- The Health Care Inspectorate concluded in 2005 that all nursing homes with low quality scores in 2004 had effected a large number of improvements; 15% of these nursing homes failed to meet the 2005 quality standards established by field parties and the Inspectorate
- 35% of home care recipients was admitted to a hospital at least once in 2004 versus 8% of residential home residents and 25% of nursing home residents
- The number of registered places in small-scale residential care facilities for psychogeriatric patients more than doubled in the period 2002–2005

Why is effectiveness of long-term care important?

About 10%–20% of the Dutch population is chronically ill and a large number of people have long-term disabilities. Disabled people often make long-term use of medical aids, home care, general care, nursing care or (help from) care for the disabled. Where curative care aims at full recovery, long-term care focuses on giving people help and support to maintain an optimal quality of life and independence and to enable them to stay at home or live in an alternative accommodation facility.

Effectiveness of care is about providing 'responsible care'. Responsible care is understood to involve supporting people so that they can live the life they want to and are used to and to do the things, given their abilities and limitations, they consider important and meaningful.
Responsible care is care that is effective, efficient, safe and patient-centred and is responsive to the real needs of the patient (Arcares, 2005a).

The Ministry of Health has placed long-term care high on its agenda. It has entered agreements with all long-term care sectors on how to render responsible care measurable (VWS, 2006b). As part of the modernisation of long-term care, field parties, client organisations and the government have decided on a set of up-to-date indicators of high-quality long-term care. The premise underlying the modernisation process is the notion that clients themselves determine what good quality of life is. Following this important development in quality thinking in long-term care, an evaluation framework, based on indicators, has been developed, which makes it possible to measure whether the desired levels of quality of life, care safety and organisational quality have been realised. The indicators relate to nursing and caring and are laid down in the report "Evaluation Framework for Responsible Care" (Toetsingskader voor verantwoorde zorg) (Arcares, 2005b). Most of the evaluation data are not available at present.

In the national and international literature many indicators of the effectiveness of care have been defined (AHRQ, 2003a; RVZ, 2004). The American National Quality Forum consensus panel has selected five core indicators. For two of those indicators Dutch data are currently available, that is the percentage of patients with decubitus and the percentage of home care recipients admitted to a hospital each year. The first indicator has also been included in the "Evaluation Framework for Responsible Care". The

second indicator has the advantage that it is based on basic administrative data and does not require any additional administrative efforts.

Indicators of the effectiveness of long-term care

- Percentage of people with disabilities in the general population who indicate that medical aids solve their problems
- Percentage of people with somatic complaints who return to their home environment after a stay in a nursing home (as an indicator of the magnitude of the temporary stay function of nursing homes)
- Client experiences with home care, residential homes, nursing homes and care for the disabled
- Magnitude of potentially preventable health care problems (such as falls) among residential home and nursing home residents
- Percentages of patients with decubitus in residential homes, in nursing homes or with home care
- Judgements of the Health Care Inspectorate on nursing home care
- Percentages of home care or nursing home patients admitted to a hospital each year
- Number of psychogeriatric patients living in small-scale residential care facilities

The care for people with long-term disabilities is very diverse and varies from less demanding forms of care (medical aids and light forms of home care for people with slight impairments) to intensive long-term care for severely disabled people and elderly people in nursing homes. This set of indicators is used to present a picture of both low-intensive and highly-intensive forms of long-term care. This set of indicators is limited to those indicators on which data are currently available. It therefore focuses on the nursing and caring sector and does not allow for a comprehensive picture of the effectiveness of all long-term care services.

The current state of affairs

Two-thirds of the people with impairments indicate that medical aids solve entirely or to a large extent the problems they were prescribed for

Medical aids may enable people with impairments and/or handicaps to live independently for a longer period of time and to return earlier from an institution to their own home (de Wit, 2005).

Measurements (*Table 2.4.1*) show that most people consider medical aids to be effective as they entirely or to a large extent solve the problems they were prescribed for. At the same time, one-third indicates that the problems are not or are not entirely solved by the aids. There are considerable differences in these percentages between medical aids and health insurers (*not shown in table*).

Table 2.4.1: Extent to which medical aids solve problems of people with disabilities, 2001-2004 (de Wit, 2005).

	2001	2003	2004
Solved to a large extent / entirely (% of patients)	64	67	65

40% of the people with a somatic indication returned to their home environment after a stay in a nursing home

In the past fifteen years the diversity of care demands and care load of nursing home residents has increased (IGZ, 2004e). Still, return to the home environment remains preferable to long-term admission both from a quality of life perspective and for effectiveness reasons. The percentage of discharged patients who after a nursing home stay return to their home environment is a rough indicator of the extent to which the care system is successful in this respect. Each year about 40% of the discharged clients with a somatic indication return to their home environment. With psychogeriatric patients this percentage is considerably lower, that is 7%. Despite the increased care load in nursing homes, these percentages were relatively stable in the period 2000–2003 (*Table 2.4.2*).

Table 2.4.2: Discharge destination of clients following a nursing home stay, 2000-2003 (%) (Matthijssen, 2004).

	2000		2001		2002		2003	
Residential situation	S	PG	S	PG	S	PG	S	PG
Own environment	38	6	35	4	37	4	40	4
Own environment plus day treatment	4	3	4	2	3	3	3	3
Total	42	9	39	6	40	7	43	7

S = somatic; PG = psychogeriatric

Clients receiving long-term care, ranging from nursing home care to care for the disabled, rated the various aspects of care with an average mark of 7.5 to just over 8

In 2003 a questionnaire survey was performed in a representative sample of 2000 clients in 100 facilities that participated in the benchmark study in residential homes and nursing homes (Arcares, 2004). The average score was 3 (on a scale of 0 to 4). The aspects care and housing scored slightly lower than aspects like introduction, meals, medical and paramedical care services and communication with the family.

In 2004 a written survey was carried out among 55,000 clients from 82 home care organisations. The composite score was 8.3 (on a scale of 1 to 10). Those parts of the survey that allowed comparison to the 2000 survey scored 0.5 higher (PWC, 2005) (see also *Section 2.6*).

In 2003, 25 organisations for the disabled participated in a trial benchmark study of care for the disabled. The people with a slight disability were interviewed. The composite score for both housing quality and daytime activities was 8.2. The least positive scores related to several aspects of the residential function: not being allowed to choose the persons one lives with, having to share toilet and bathroom facilities, and fixed mealtimes (PWC *et al*., 2005).

Parents of slightly and severely mentally handicapped people received a written questionnaire. Their scores, albeit a little lower, were still more than sufficient: 7.3 for housing and 7.7 for daytime activities. Parents of severely mentally handicapped people gave notably lower marks (PWC *et al*., 2005).

In a survey performed in 2004, 56,000 workers in care for the disabled gave the quality of services provided an average score of 7.2 (Bolhuis *et al*., 2004).

The measurement tools used differ between the various benchmarks and relate partly to different aspects of care. Consequently, the results of the benchmark studies are not comparable.

The number of residential homes and nursing home residents with problems, such as falls, depressive symptoms, multiple medication, unintended weight loss or insufficient pain management is indicative of a considerable care load and suggests room for improvement

The complexity of medical and nursing care in nursing homes and residential homes is clearly illustrated in *Table 2.4.3*. The table presents the proportions of nursing home and residential home residents that have a fall, have behavioural problems, are depressed, have unintended weight loss, are on multiple medication, are restrained, have decubitus or have inadequate pain management. Each of these problems is prevalent among considerable proportions of patients (in the respective risk group), ranging from 4% to 51%. Care providers try to alleviate these problems. In the Deltaplan Care for the Elderly (Deltaplan ouderenzorg) (Arcares, 2005) ideas about responsible care are translated into a plan of action.

Table 2.4.3: Clients who stayed in a nursing home or residential home for over a month, who had problems according to carers, in 2003 (%) (Arcares, 2004).

	Nursing homes	Residential homes
Falls	11	12
Behavioural problems in high-risk groups	51	30
Behavioural problems in low-risk groups	29	8
Depressive symptoms	33	20
Depressive symptoms without using antidepressants	21	14
Using nine or more medicines	19	24
Unintended weight loss	18	9
Using sleeping pills three times or more per week	21	27
Physically restrained daily	23	2
Decubitus in high-risk groups	24	20
Decubitus in low-risk groups	6	4
Inadequate pain management	26	27

The number of patients with decubitus in residential homes, in nursing homes or with home care decreased in the period 1998–2004

Good decubitus care promotes the quality of life of clients and is also cost saving (NVVA, 2003; Richardson *et al*., 1998). The prevalence of decubitus in care facilities is determined by the results of preventive measures and decubitus treatment. Although, decubitus is a good indicator of quality of care (IGZ, 2005d), the prevalence of decubitus in a care facility can be misleading, as it may well have been acquired in another facility (Halfens *et al*., 2005). A more appropriate indicator is the prevalence of facility-acquired decubitus, the so-called nosocomial prevalence. To obtain comparable

groups, the prevalence is measured in risk groups only and the least serious stage of decubitus (stage 1) is excluded. Stage 1 is excluded because it is hard to establish and there is no agreement as to whether or not it is a pre-stage of decubitus (Defloor *et al*., 2004; Halfens *et al*., 2001).
In the period 1998–2005 a decrease in the prevalence of nosocomial decubitus (stage 2–4) was realised in nursing homes, residential homes and to a lesser extent in home care (*Figure 2.4.1*), but not because of a lower percentage of risk patients. Reliable data from care facilities for the mentally handicapped are not available.

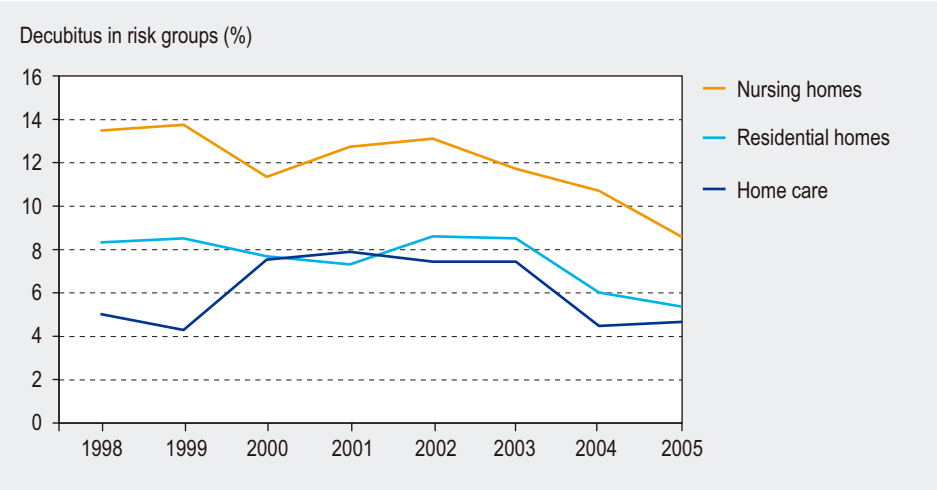


Figure 2.4.1: Rate of decubitus (nosocomial and excluding stage 1) in risk groups, 1998–2005 (Halfens et al., 2005).

The prevalence of decubitus in the Netherlands is similar to the prevalence in other European countries, with the exception of Germany. A comparison between the Netherlands and Germany revealed that the risk to acquire decubitus in a Dutch nursing home is threefold the risk in a German nursing home (Tannen *et al*., 2005).

The Health Care Inspectorate concluded in 2005 that all nursing homes with low quality scores in 2004 had effected a large number of improvements; 15% of these nursing homes failed to meet the 2005 quality standards established by field parties and the Inspectorate

In 2004, almost 80% of 60 nursing homes visited, failed to meet all of the ten quality standards that had been established in 2001 by branch, professional and client organisations in cooperation with the Health Care Inspectorate. These indicators are related to five areas: staffing (5), deviation from care plan (2), assistance with eating and drinking (1), recreation (1) and multidisciplinary meetings (1). At least a quarter of the nursing homes investigated failed to meet several of essential requirements of daily care. Nursing home residents had little opportunity to plan their days according to their wishes, little time to take a shower, and insufficient help during meals. Almost two-thirds of the nursing homes lacked sufficient permanent staff supervision on psy-

chogeriatric wards. As a consequence residents with dementia were sometimes physically restrained (IGZ, 2004e). In 2005 the Health Care Inspectorate visited the nursing homes with low quality scores in 2004. Within a short period of time, all of these nursing homes had effected a large number of improvements to better guarantee the ten quality standards. Only 15% of the nursing homes still failed to meet all of these standards (IGZ, 2005f). Recently, the Inspectorate has adopted a new system for monitoring nursing home care, that is a risk approach with an extended, partially changed, set of indicators (IGZ, 2005c).

35% of home care recipients was admitted to a hospital at least once in 2004 versus 8% of residential home residents and 25% of nursing home residents

Improvements in the quality and effectiveness of residential home and nursing home care as well as home care have resulted in a decrease in the number of hospital admissions in recipients of these forms of care. American research revealed that home care organisations with less hospital admissions also have higher scores on other quality criteria (AHRQ, 2005). It is impossible to prevent all hospital admissions by high-quality and effective long-term care, as chronic diseases deteriorate over time.

The percentage of patients admitted to a hospital at least once in 2004 differs considerably across nursing homes, residential homes and home care organisations. Some 35% of the people with home care was admitted to a hospital at least once versus 8% of nursing home residents and 25% of residential home residents. The relatively low percentage of nursing home patients admitted to a hospital may be explained by medical care being offered in nursing homes and not in residential homes. At present no trend data are available. American research shows that 28% of the people with home care were admitted to a hospital in 2004 (AHRQ, 2005).

Table 2.4.4: Residential home and nursing home residents and home care recipients admitted to a hospital at least once, in 2004 (CBS/Prismant/CAK-BZ).

	Number of persons[a]	Patients admitted to a hospital (%)	Variation between facilities (%)[b]
Home care	177,967	35.2	28
Residential homes	80,526	24.8	23
Nursing homes	44,848	8.3	61

[a] Only persons who received these forms of care during the entire year or until their death in that year are included; [b] Weighted variation coefficient (taking into account the number of facilities per form of care, the number of persons per facility and the coincidence fluctuations).

A measure for the variation between same type of care facilities is the variation coefficient. The variation coefficient shows that the percentage of patients with one or more hospital admissions varies more across nursing homes than across home care facilities and across residential homes (*Table 2.4.4*).

The number of registered places in small-scale residential care facilities for psychogeriatric patients more than doubled in the period 2002–2005

Living in small-scale residential care facilities as opposed to regular nursing homes has a positive effect on the quality of life of psychogeriatric patients (Wijntjes, 2004;

Huijsman & Ludwig, 1995). Psychogeriatric patients living in small-scale facilities use less incontinence material and less medication than psychogeriatric patients living in traditional nursing homes (Huijsman & Ludwig, 1995). They are also less apathetic, less anxious and more active.

Table 2.4.5: Total number of projects realised, dwellings and places in small-scale residential facilities for psychogeriatric patients, end of 2002 – end of 2005 (Aedes-Arcares, 2006).

	2002	2003	2004	2005
Projects	80	93	119	166
Dwellings	413	487	593	856
Places in small-scale residential facilities	1813	2321	3004	4422

In the period 2002–2005 the number of registered places for psychogeriatric patients more than doubled (*Table 2.4.5*). In 2004 this number was 8.4% of the total number of nursing home places (Aedes-Arcares, 2006).
These data are drawn from a database to which facilities contribute on a voluntary basis, resulting in underregistration, the size of which is unknown. The increase in the number of places in small-scale residential facilities is partially (presumably to a limited extent only) due to a decline in underregistration. The data in *Table 2.4.5* refer to the minimal number of places in small-scale residential facilities.

What we do not know

In this section data have been used from the Medical Aids Monitor, benchmark studies in home care, nursing homes, residential homes and care for the disabled, and from reports of the Health Care Inspectorate. Still, there are hardly any sound representative data that allow for a clear and comprehensive picture of the effectiveness of long-term care from a modern, client-oriented perspective, let alone to show trends. Indicators and statistical data that provide insight into an important policy goal like substitution of care are lacking.
The Ministry of Health attaches great value to rendering the quality of long-term care measurable (VWS, 2006b). Measurement instruments in nursing homes are presently being updated: 2006 is an in-between year in which the present modes of client consultation and the existing risk-assessment form of the HCI will partly be used. In 2007 the revised form will be fully implemented (Arcares, 2005b). In the disability care sector evaluation tools are also being revised to serve the sector-wide benchmark that is going to take place in 2006 (VGN, 2006).
Against this backdrop the “Year Document Societal Accounting” (Jaardocument Maatschappelijke Verantwoording) is particularly relevant. This document was implemented in 2003 (on a voluntary basis) in home care organisations, nursing homes and residential homes, in 2004 in curative care services and care for the disabled, and in 2005 care-wide. In 2006 the implementation of the document will be mandated for all care services. This enables services to meet the annual mandatory accountability demands in a single, integrated manner. The document is expected to generate a lot of data that, at an aggregated level, will come a long way towards meeting the data needs of the next DHCPR. It will then be possible to partly replace the indicators used in this section with these new indicators.

2.5 The effectiveness of mental health care and substance abuse care

Key findings
- There are mental health care prevention programmes that have proven to be effective; the uptake of these programmes is limited
- The percentage of clients with higher scores on the Global Assessment of Functioning scale after treatment in mental health care has increased
- The incidences of suicides and of suicide attempts declined in the period 1996-2003; the percentage of suicides known to care professionals increased
- One in every three Dutch adults with a mental condition sought help in the period 2000–2004; 33%–63% of opiate addicts and 1% of cannabis users were in treatment with substance abuse care in 2004
- The number of patients removed from the list of mental health care services decreased in the period 2003–2004; the number of people removed from the list of substance abuse services fluctuated

Why is the effectiveness of mental health care and substance abuse care important?

The number of potential clients of mental health care and substance abuse care is large. The annual prevalence rate of mental conditions (excluding alcohol and substance use-related conditions) in the Dutch population is 16% (2.6 million people) (Vollebergh *et al*., 2003; van Ginneken & Schoemaker, 2005). Over 40% of the Dutch population have at one time suffered from a mental condition (including alcohol and substance use-related conditions) (van Ginneken & Schoemaker, 2005) and 1.7 million people are estimated to be addicted (Ouwehand *et al*., 2005).
In this section in particular indicators are used that reveal something about the treatment of people with mental and/or social conditions in mental health care and about the treatment of clients in substance abuse care.

Indicators of the effectiveness of mental health care and substance abuse care

- Results of prevention measures and the uptake by target groups
- Changes in mental and social functioning of patients
- Development in the number of suicides and suicide attempts
- Percentage of the target group reached by care professionals
- Development in removal rates from mental health care and substance abuse care

The current state of affairs

There are mental health care prevention programmes that have proven to be effective; the uptake of these programmes is limited

For a limited number of prevention measures, there is something known about their effectiveness (Cuijpers *et al*., 2005). Participation in the course "*In the doldrums, out of the doldrums*" (*In de put, uit de put*), which is offered in 80% to 90% of the mental health care regions (Ruijter *et al*., 2005), results in a considerable drop in depressive

complaints (Allart-van Dam, 2003). This and similar programmes may even enable a decrease in the incidence of depression (Cuijpers *et al*. 2005). Both general and selective interventions for children tend to have a positive effect (Verdurmen *et al*. 2003). Finally, the National Support Function Prevention (Landelijk Steunfunctie Preventie) presents an overview of prevention activities by mental health services and addiction services carried out in the Netherlands (LSP, 2006).
At present, not enough data on the uptake of prevention measures in mental health care are available, but the general impression is that the uptake of effective interventions is very limited. Depression prevention measures are estimated to reach a few thousands of people (Rigter *et al*., 2002). Bearing in mind that each year about 2.7% of the Dutch population suffer from a depression (van Ginneken & Schoemaker, 2005), it is evident that the uptake of preventive measures is very small indeed.

The percentage of clients with higher scores on the Global Assessment of Functioning scale after treatment in mental health care has increased

The Global Assessment of Functioning (GAF) scale is an international instrument used to measure social and mental functioning. Treatment has been effective when clients' post-treatment scores are higher than pre-treatment scores. However, the GAF score needs to be interpreted with caution. The evaluation of a client's mental, emotional and social condition is directly expressed in only one figure by the client's practitioner, which makes it impossible to reconstruct or control the practitioner's subjective assessments and judgements. In addition, the practitioner's measurement is not independent and social and mental functioning is determined by a lot more factors than treatment alone. Consequently the figures in *Table 2.5.1* merely give an indication of changes in mental and social functioning.

Table 2.5.1: Difference in GAF scores pre- and post-treatment for all diagnoses, 2000-2004 (%) (GGZ Nederland, Zorgis).

	2000	2001	2002	2003	2004
Higher	21	23	26	29	31
Stable	72	69	67	63	61
Lower	7	8	7	8	8

Notably, the vast majority of patients function at similar levels pre- and post-treatment. Furthermore, between 2000 and 2004 there was a strong rise in the registration of the number of patients with higher GAF scores. Only a small, albeit stable, proportion of patients score lower after treatment.

The incidences of suicides and of suicide attempts declined in the period 1996-2003; the percentage of suicides known to care professionals increased

The number of suicides and suicide attempts can be determined by a lot of factors outside mental health care. Both social aspects and non-mental health care organisations may affect the number of suicides and suicide attempts in the Netherlands.
In general, the incidences of suicides and suicide attempts show a falling trend in many European countries, including the Netherlands (Eurostat). In 2000 the Dutch average was considerably lower than the EU average, that is 1.22 and 1.60 per 100,000

people, respectively. A rough estimate shows that about a fifth to a quarter of the suicide attempts is successful. In the period 2002–2004 the ratio of successful suicides to the number of suicide patients in mental health care was about 1:3 (*Table 2.5.2*). These figures suggest that over time mental health care remained equally effective in reaching suicidal people and in discouraging people from taking their life. When all mental health care services, as reported by the IGZ (*Table 2.5.2*), are included it appears that these services succeed in reaching a growing proportion of people who actually commit suicide.

Table 2.5.2: Nationally registered suicides and suicide attempts, 1996–2004.

	Successful suicides, absolute and (per 10,000 population)[a]	Suicide attempts per 10,000 population[b]	Suicides by mental health care patients[c], absolute	Suicides known to care services[d], absolute
1996	1577 (1.25)	6		
1997	1570 (1.24)	6		
1998	1519 (1.19)	5		
1999	1517 (1.18)	5		
2000	1500 (1.16)	6		443
2001	1473 (1.13)	7		377
2002	1567 (1.20)	4	420	562
2003	1500 (1.14)	4	494	505
2004	1514 (1.14)		465	648

[a]CBS-statline; [b]NIVEL Continuous Morbidity registration, 2003; [c]GGZ Nederland, Zorgis; [d]IGZ, 2005e, 2004b, 2002a, 2001 .

Research shows that there may be room for improvement in primary care. As not everyone communicates their suicide plans to their GP, GPs are not always able to refer them to the appropriate services. GPs recalled having discussed suicidal ideation in only 7% of the cases, and in retrospect estimated that they had foreseen suicide in 31% or suicide attempts in 22% of the cases. Making suicide a subject of discussion at an early stage, may contribute to more suicidal people getting help from care and support services (Marquet *et al*., 2005).

The number of new clients in mental health care has increased

In 1999 about a quarter of the Dutch population suffered from one or more mental conditions (van Ginneken & Schoemaker, 2005). There is no reason to believe that this number has increased strongly in recent years. Yet, the number of new clients to mental health care increased between 2000 and 2004 from 267,900 to 340,700 (*Table 2.5.3*). In that period the number of clients treated per year also rose, from 468,100 to 696,300. It is highly unlikely that the prevalence and incidence of mental complaints and the number of mental health care clients grew at the same rate. Rather, people seem to have become less reluctant to seek mental help. Furthermore additional resources for the elimination of waiting lists may also have been used to treat more patients. In addition, the Zorgis database (Care Information System of GGZ Nederland) is known to contain double counts due to people being registered with several services or several times per year because of readmission after discharge. GGZ Nederland (branch

organisation for mental health care institutions) estimates that the Zorgis database contains 11% double counts. However, the increase in the number of first-time registrations between 2003 and 2004 exceeds 11%. Hence the increase is assumed to be real although of unknown magnitude.

Table 2.5.3: Number of first-time and treated patients in mental health care, 2000–2004 (GGZ Nederland, Zorgis).

	2000	2001	2002	2003	2004[c]
First-time registered[a]	267,900	262,200	272,300	282,500	340,700
Treated[b]	468,100	499,400	547,500	581,200	696,300
First-time registered[b]				369,000	
Treated[b]				753,800	

[a] Mental health care, RIAGG, APZ; [b] Estimated for mental health care, RIAGG, APZ; [c] Same group as previous years plus RIBW, KJP.

One in every three Dutch adults with a mental condition sought help in the period 2000–2004

One in every three Dutch adults with a mental condition seeks professional help. People with a depression or anxiety disorder do so far more frequently than people with alcohol problems. Over half of the people with comorbid mental disorders seek help. Some 80% of those who seek help turn to primary health care (GP, social services, primary care psychologist), 45% seeks help with ambulatory mental health care and 30% with informal care or alternative care. Admissions to a psychiatric or other hospital are rare (1%) (RIVM/NEMESIS). So there is a considerable group of people who seek help with more than one health care service.

One in every six Dutch adults with a mental condition indicates a need for help but does not seek it (van Ginneken & Schoemaker, 2005). By implication about half of the adult Dutch population who, according to the definition, have a mental disorder (2 million people) and are therefore likely to need help, do not themselves contact a health care professional.

33%–63% of the opiates addicts and 1% of the cannabis users were in treatment for substance use in 2004

In 2004, 64,500 people were treated for their addiction to alcohol, opiates, cocaine, cannabis, gambling or other addiction. About 1,740,000 people are estimated to suffer from at least one of these addictions (Ouwehand *et al*., 2005). So, less than 4% of them are being reached by substance use services. There are huge differences between types of addiction, though. Between 33% and 63% of the people addicted to opiates receive substance treatment, while this is only 1% of people dependent on cannabis (*Table 2.5.4*). Some of the people not in addiction treatment may receive help from other services.

Table 2.5.4: Number and percentage of people addicted to substances using substance abuse care (Ouwehand et al., 2005).

	Estimated number of people addicted	Year	Persons in treatment of (ambulatory) addiction treatment services	
			Absolute	%
Alcohol (alcohol dependence and alcohol abuse[a])	820,000	1996	29,500	4
Opiates	22,000–42,000	2001	13,900	33–63
Cocaine(users)[c]	55,000	2001	10,000	18
Cannabis	30,000-80,000 [b]	1996	5500	7-18
Gambling	70,000	1998	3100	4
Other			2600	

[a] Nationale Drugmonitor, 2005; [b] Personal communication Trimbos Institute; [c] Not all cocaine users show problematic addiction-related behaviour and are therefore not considered addicted. This figure is an overestimation of the number of people addicted to cocaine. The number of cocaine users in treatment is an underestimation of the real number.

Shift from clinical care to combined care

Figure 2.5.1 shows that the duration of clinical treatment varied between 2001 and 2004 but declined in 2004. In contrast, the duration of treatment provided alternately by clinical and ambulatory services is on the increase. This points to a shift in type of treatment; if their mental condition allows it, people are more often provided treatment in an ambulatory setting. Again, these figures may be biased by the double counts in the Zorgis database. It is however impossible to determine whether this results in an under or overestimation of the average number of treatment days per patient.

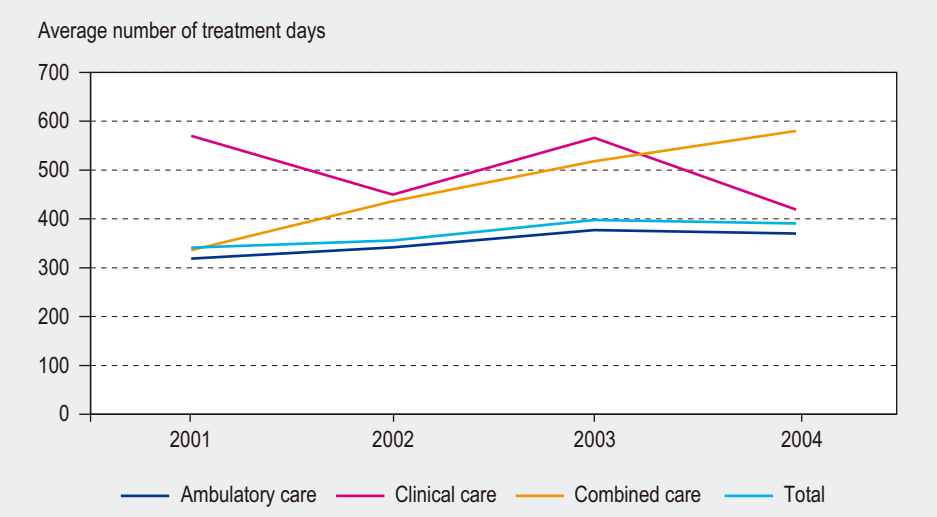


Figure 2.5.1: Average number of treatment days by type of treatment, excluding 'one contactors', 2001–2004 (GGZ Nederland, Zorgis).

The number of clients removed from the list of mental health care services decreased in the period 2003–2004

Between 2000 and 2003, each year a growing number of people was removed from the list of mental health care services, yet this number fell again to the 2001 level in 2004 (*Table 2.5.5*). Due to the growing influx of patients, the proportion of patients removed from the list after treatment went down.

Table 2.5.5: Clients removed from the list of mental health care services by type of care, 2001–2004 (GGZ Nederland, Zorgis).

	2001	2002	2003	2004
Total	140,700	161,500	191,700	141,000
Clients treated (%)	28	29	33	20
Ambulatory care	122,000	142,500	168,300	126,300
Clinical care	9700	7300	8200	3700
Combined care	9000	11,700	15,300	11,000

The number of people removed from the list of substance abuse services fluctuated

In 2004 over 17,000 people were removed from the list of substance abuse services, which is about 27% of the total number of people in treatment for substance abuse (*Table 2.5.6*). Compared to 2003 the efflux increased, while the influx remained more or less stable (21,259 in 2003 and 21,271 in 2004) (Ouwehand *et al*., 2005). Still, because of the increasing duration of treatment, that is from 303 to 338 days, the overall demand for substance abuse care increased.

Table 2.5.6: Clients removed from the list of substance abuse services, 2001–2004 (Ouwehand et al., 2005; 2004; 2003).

	2001	2002	2003	2004[a]
Removed (absolute)	21,800	21,600	16,000	17,300
People in addiction treatment (%)	15	40	26	27
Referred (%)	15	13	16	22
Not referred (%)	57	55	47	45
Different/unknown (%)	28	32	36	33

[a]Alcohol, opiates, cocaine, cannabis, gambling, other.

Notably, the proportion of clients removed from the list of substance abuse services fluctuates. In 2001, 15% of the clients were removed, the next year 40%, and in 2003 the percentage dropped to 26% again. The difference in absolute numbers may be due to the fact that after 2002 a number of services stopped providing data.

Of all people removed from the list of substance abuse services in 2004, 22% was referred to other support services, 45% was not referred, and the destination of 33% was unknown (*Table 2.5.5*).

What we do not know

The uptake of preventive mental health care campaigns among target groups is largely unknown. Depression prevention measures are estimated to reach just a few thousand people. This constitutes a very small, albeit unknown, proportion of the people who annually suffer from depression.

The reliability and validity of methods to quantify a patient's mental condition pre- and post-treatment would be enhanced by a measurement tool that measures different mental and social dimensions separately and is administered by someone other than the patient's practitioner. The latter is not just a technical matter, but is also a matter of being familiar with performance measurement in mental health care. A recent study of the implementation trajectories of quality instruments in two regional mental health care organisations, that is GGZ Eindhoven and GGZ Noord-Holland Noord, identified a number of accelerating and restraining factors (van Wetten *et al*., 2005).

According to GGZ Nederland, the Zorgis database contains about 11% double counts. Obviously, this affects the interpretation of data. As to absolute numbers of patients, the actual numbers for 2004 are assumed to be 11% lower than the figures presented in this section. Consequently, the differences reported here may be larger than the real differences. With a difference exceeding 11%, we may safely assume a real growth to have occurred. It is, however, impossible to establish the exact size of that growth. Data on patient averages, like the average number of days treated, may be biased too.

We do know how long people are in contact with substance abuse care, but for almost half of them we do not know how they are doing after treatment. To establish whether substance abuse treatment has been effective, information is needed on the extent to which (ex-)substance users succeed in living independently after treatment and without relapse.

We know that mental health care reaches about one-third of the people who commit suicide. Whether registrations involve the same people, is not clear as we are comparing data from various sources with concomitant problems: different definitions, possible double counts, possible omissions. To be able to give a straightforward answer to the question as to "What proportion of people who commit suicide is treated by mental health care?" would require that for all suicide cases it was registered whether or not those concerned were receiving mental health care treatment at that moment.

Multidisciplinary guidelines are currently being implemented in mental health care. The guidelines present tools for the treatment of specific diagnostic groups. Important goals of the guidelines are transparency and quantification of performance. It will probably be several years before all mental health care services work according to these guidelines. It would be useful to monitor the implementation process, to find out the scope of the information that will become available and to collect data at a macro level.

2.6 Consumer experiences with health care

Key findings

- 93% of the Dutch population has sufficient trust in Dutch health care; 36% faces the future of health care with less confidence
- Over 90% of the Dutch population has (very) high confidence in GPs and medical specialists
- Over 40% of the Dutch population is satisfied with the health care system, which is just above the average of fifteen OECD countries

- 87% of the Dutch care users rates ambulatory medical care with a mark of 7 or higher
- The scores for provision of information in hospitals are lagging behind in certain aspects
- Residential home residents are more satisfied than nursing home residents
- Home care scores an average mark of 8.3
- Chronically ill people are predominantly positive about their experiences with the GP and medical specialist
- Consumers rate health insurers with an average mark of 7.6

Why is the judgement of consumers important?

Consumers take a central position in health care. Evidently, consumer experiences and satisfaction are important measures of quality of care. In recent years the interest in measuring actual experiences of care consumers has increased, as shown in the growing number of benchmark studies. The information obtained enables care providers and health insurers to improve their services and supports consumers in making an informed choice of care provider or health insurer (Delnoij *et al*., 2005).

Indicators of consumer judgements of health care

- General consumer trust: do Dutch people have confidence in the health care system irrespective of their actual use?
- Consumer experiences: how do care consumers judge the care provided?

General consumer trust

Since 1997 consumer trust in Dutch health care has been assessed by means of a questionnaire survey among the members of the Health Services Consumer Panel. The consumer panel is a joint project of NIVEL and the Dutch Consumer Association. The questionnaire is used to find out to what extent the Dutch population has confidence in a range of health care providers and aspects of health care both now and in the future. The questionnaire is administered annually among 1500 Dutch households (Brouwer & Delnoij, 2004).

Consumer experiences

Consumer experiences can be defined in three ways:

- General consumer experiences: they include judgements (ratings) of health care received and process aspects of care received, like interpersonal conduct, respect, information and communication (Delnoij *et al*., 2005). It concerns experiences with care services used relatively frequently such as GP, dentist, pharmacist and health insurer. In the field of GP care, a few consumer surveys have already been carried out (Sixma, 2004).
- Sector-specific consumer experiences: they concern services used by a smaller part of the population. Experiences are investigated by client consultations in various benchmark studies, such as the Benchmark Home care and Nursing and Caring, the Hospital Comparing System and the Mental Healthcare Thermometer. Because

of differences in design and methods between the studies the outcomes are not comparable (Brouwer & Delnoij, 2004).

- Experiences of chronically ill patients and disabled people: experiences of specific patient groups are investigated again by questionnaires. Patients can be recruited through patient organisations or medical files.

The current state of affairs

General consumer trust

93% of the Dutch population has sufficient trust in Dutch health care; 36% faces the future of health care with less confidence

Most Dutch people rate health care as more than sufficient. On average Dutch health care is rated with a mark of 7 on a scale of 0-10 (*Table 2.6.1*). Compared to 2001 the level of trust rose slightly. Then health care was rated with a mark of 6.8. However, the Dutch population has less confidence in the future of health care (van der Schee & Delnoij, 2005).

Table 2.6.1: Mark of trust in Dutch health care (0-10), in 2004 (van der Schee & Delnoij, 2005).

	Average	Insufficient (%)
Health care	7.0	7.3
Future of health care	5.9	36.0

Figure 2.6.1 presents the proportions of the people that report to have confidence in a number of aspects of health care. The Dutch population specifically reports to have confidence in communication and information. Confidence is lowest in politics and policy. Confidence in professional expertise declined compared to earlier surveys.

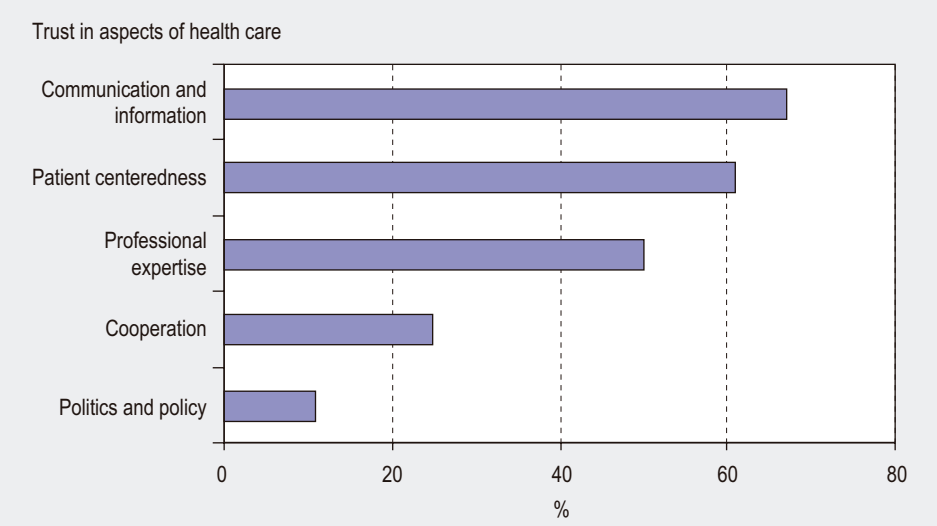


Figure 2.6.1: Trust in aspects of health care, in 2004 (van der Schee & Delnoij, 2005).

Over 90% of the Dutch population has (very) high confidence in GPs and medical specialists

Consumers have most confidence in GPs and medical specialists. More than 90% of the population trusts these health care professionals. For other regular health care professionals, such as dentists, pharmacists, nurses and physiotherapists, these percentages vary between 80% and 90% (*Table 2.6.2*). Consumers have less confidence in institutions, such as hospitals, than in individual care professionals, with the exception of practitioners of alternative medicine. A mere 8.2% of the population has confidence in alternative practitioners (without a medical degree).

Table 2.6.2: Consumer trust in curative care services (very much and much trust) (%) (NIVEL Consumentenpanel).

Curative care services	2002	2004
General practitioners	89.0	91.5
Pharmacists	91.4	88.3
Dentists	91.6	88.5
Physiotherapists	82.2	81.7
Medical specialists	91.8	91.4
Hospital care	75.3	75.4
Alternative practitioners	8.2	9.2

Over 40% of the Dutch population is satisfied with the health care system, which is just above the average of fifteen OECD countries

In 2002 consumers in fifteen OECD countries were asked how satisfied they were with the health care system in their country. *Figure 2.6.2* shows for each country the first two out of four answer categories. They represent the people who think that the system runs well and that (1) no or (2) only minor changes are needed. The Netherlands scores only just above the average of the fifteen OECD countries. In countries like Finland, Luxembourg, Austria, Belgium and France people are far more positive.

Consumer experiences

87% of the Dutch care users rates ambulatory medical care with a mark of 7 or higher

In 2004, 65% of the people who actually used care gave specialist care a mark of 7 or 8 and 73% gave ambulatory care a mark of 7 or 8 (*Table 2.6.3*). Almost 20% or the respondents gave a mark of 9 or 10 to their personal doctor (usually GP) and specialist (Delnoij *et al*., 2005).

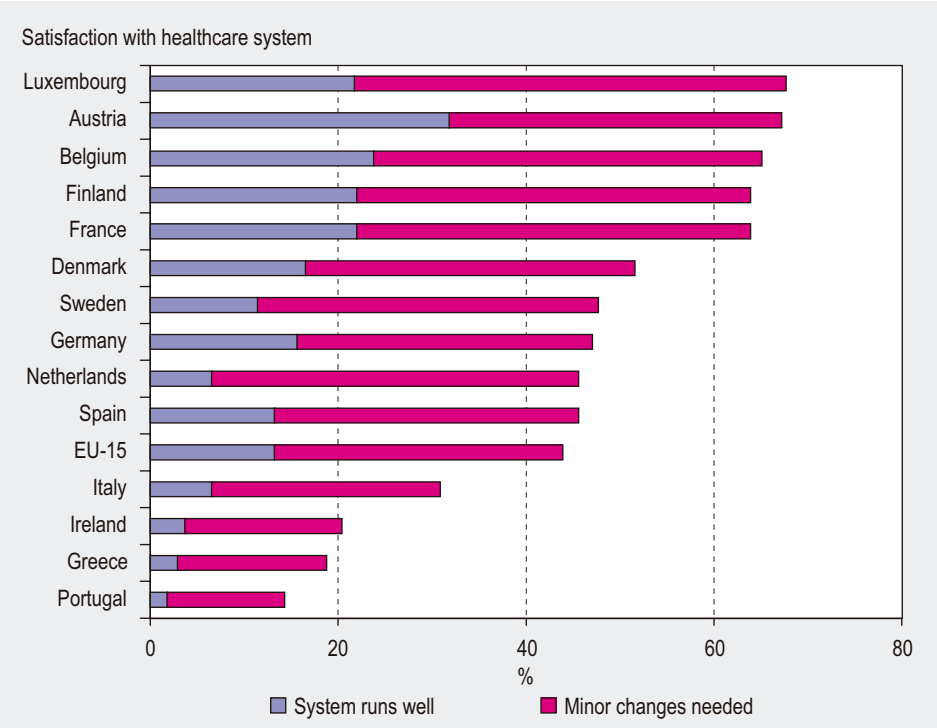


Figure 2.6.2: Percentage of the population that is satisfied with the health care system, in 2002 (Eurobarometer, 2003 (OECD, 2005b)).

Table 2.6.3: Assessment (0–10) of ambulatory medical care, specialists and personal doctors, in 2004 (%) (Delnoij et al., 2005).

Care (providers)	0–6	7 or 8	9 or 10
Ambulatory care received in past 12 months	13	73	14
Specialist	17	65	18
Personal doctor	11	70	19

Nearly all aspects of care provided, such as interpersonal conduct, patient-doctor communication and length of consultations, were experienced as positive (Delnoij *et al.*, 2005).

The scores for provision of information in hospitals are lagging behind in certain aspects

Patients highly value the provision and sharing of information between doctors and between doctors and nurses (Janse *et al.*, 2002). Many patients appear not to be well-informed about aspects of treatment and the discharge information is not optimal either (*Table 2.6.4 and Table 2.6.5*).

Table 2.6.4: Extent to which patients were informed about aspects of treatment or tests during their hospital stay, in 2001 (%) (Janse et al., 2002).

	Yes, I was well informed					
	Cardio-logy	Surgery	Gynae-cology	Internal medicine	ENT	Ortho-paedics
Information on goal	91	93	93	n.k.	96	96
Information on nature	82	84	87	75	87	90
Information on duration	56	61	66	51	77	73
Information on pain	58	62	72	58	72	70
Information on potential side effects or consequences	52	56	62	50	67	63
Information on other treatment options or tests	40	46	57	39	54	46

ENT: ear, nose and throat; n.k.: not known

Table 2.6.5: Views of patients on information at discharge from the hospital, in 2001 (%) (Janse et al., 2002).

	Yes, I was well informed					
	Cardio-logy	Surgery	Gynae-cology	Internal medicine	ENT	Ortho-paedics
What to do in an emergency	63	54	54	57	66	56
When to contact the general practitioner	69	57	63	62	62	58
Information on follow-up treatment	60	60	58	54	58	75
After-care instructions	61	63	61	60	72	63
Information on use of medication	87	72	66	83	78	79
Information on medical aids	52	59	44	56	57	74
Information on support	34	30	25	31	24	21

Residential home residents are more satisfied than nursing home residents

Residential home residents are more satisfied than nursing home residents. Between 2001 and 2004 this difference as well as overall satisfaction remained constant. The Client & Quality Foundation (Stichting Client & Kwaliteit) conducts surveys among residential home and nursing home residents on a yearly basis (*Table 2.6.6*).

Table 2.6.6: Mean scores (0–4) for care and services in nursing homes and residential homes, 2001–2004 (SCK, 2005).

	2001	2002	2003	2004
Nursing homes	2.53	2.64	2.59	2.60
Residential homes	2.77	2.75	2.77	2.77

Table 2.6.7 gives mean scores for an array of quality criteria. Again, residents of residential homes report higher levels of satisfaction. Autonomy, in particular, scores high. In nursing homes the provision of information scores relatively low. In both facilities client participation is rated relatively low.

Table 2.6.7: Mean scores (0–4) on the basis of quality criteria, in 2004 (SCK, 2005).

	Residential homes	Nursing homes
Information	2.59	2.26
Client participation at the client's initiative	2.48	2.43
Client participation at the organisation's initiative	1.95	2.16
Evaluation	3.06	2.84
Expertise	3.02	2.88
Organisation	2.79	2.52
Interpersonal conduct	2.99	2.81
Autonomy	3.30	2.89

Home care scores an average mark of 8.3

Clients rate home care with an average mark of 8.3. They are most satisfied with aspects like reliability of carers, interpersonal conduct and expertise (*Table 2.6.8*).

Table 2.6.8: Client judgements and interest per dimension of care quality in home care and for medical aids (0-10) (PWC, 2005).

Dimensions	Interest	Client judgement
Reliability of carers	7.4	9.4
Reliability of organisation	7.3	8.5
Expertise	7.1	9.1
Attention for safety	7.1	6.1
Planning and delivery	7.0	8.4
Interpersonal conduct	6.9	9.1
Access	6.8	8.2
Information	6.7	7.5
Flexibility	6.6	9.0
Client-centeredness	6.2	8.4
Communication	6.2	8.3
Communication care plan	6.0	6.7
Support	6.0	8.3

Chronically ill people are predominantly positive about their experiences with the GP and medical specialist

Chronically ill people are predominantly positive about their experiences with various aspects of GP care and medical specialist care. They are particularly positive about the content of care but less so about the organisation of care. Client judgements remained constant in the period 1998–2002 (*Table 2.6.9*) (Rijken & Spreeuwenberg, 2004).

Table 2.6.9: Judgements (0–100) of chronically ill people of aspects of care provided by general practitioner and specialist, in 2002 (n=1930) (Rijken & Spreeuwenberg, 2004).

	The general practitioner I consulted in the past year	The specialist I consulted most frequently in the past year
Process	87.6	88.0
Structure / organisation	80.6	79.5

Consumers rate health insurers with an average mark of 7.6

Health insurers are rated on an average mark of 7.6 (*Table 2.6.10*) (Hendriks *et al*., 2005). The mean marks are slightly lower than the marks for care provided, specialist and personal doctor (*Table 2.6.3*). Clients are most negative about the delay of care due to waiting for the health insurer's consent and about obtaining the care provided by a care professional not contracted with their health insurer.

Table 2.6.10: Client judgements (0–10) of health insurers, in 2004 (%) (Hendriks et al., 2005).

	0 to 6	7 or 8	9 or 10
Health insurer	15.4	65.4	19.2
Provision of information	5.3	25.1	69.6
Access to customer service	10.5	25.3	64.2
Care delay due to waiting for consent	39.6	45.5	15.0
Use of non-contracted care	28.8	31.7	39.4

What we do not know

Consumer experiences cover a wide area. Users and potential users can be asked about their experiences with numerous aspects of an array of health care services. In this section a selection has been made of a few core indicators that represent both consumer trust and experiences of chronically ill people. Important sources of information are NIVEL Health Services Consumer Panel (www.nivel.nl/consumentenpanel), which reports periodically, and the National Panel of the Chronically Ill and Disabled (www.nivel.nl/npcg). Information on experiences with mental healthcare is currently lacking. In the future the Mental Healthcare Thermometer may provide the necessary data.

At present consumer research in health care is booming. A growing number of benchmark studies are being performed in care facilities which include patient and client surveys. In 2004 the first large-scale national and comparative survey was carried out among clients of all health insurers (Hendriks *et al*., 2005). If these benchmark studies have a similar format and are carried out regularly, the next DHCPR will be able to discuss trends and provide more adequate comparisons between care sectors.

The present DHCPR presents indicators aggregated at the highest level. Underlying scores will be provided in background documents. For most of the indicators, standards, target values and/or other possible comparative material are lacking. In addition, it is not always clear whether and to what extent clients consider the aspects questioned important. Interpreting the significance of indicators is therefore difficult, if not impossible.

2.7 Patient safety

Key findings

- Over 90% of pharmacists and GPs participates in Pharmacotherapeutic Consultations
- Despite pharmacovigilance, a small proportion of the patients is dispensed a combination of potentially interacting medicines; elderly people in particular are at risk

- 57% of hospitals performs less abdominal aortic aneurysm operations than is the norm; for oesophageal and cardiac resections this is 26% of hospitals
- According to the Transfusion Reactions in Patients registration the incidence of serious transfusion reactions in 2004 declined substantially compared to 2003
- The percentage of surgical site infections differs considerably between hospitals
- The prevalence of decubitus in general hospitals decreased from 14.8% to 8.1% in the period 1998–2005; in university hospitals the prevalence fluctuated around 11%

Why is patient safety important?

Both nationally and internationally patient safety is becoming an increasingly important issue (Cuperus-Bosma *et al*., 2005). As far back as 1986 the National Council for Public Health (NRV) stated that safety is an important dimension of the broader concept of 'quality' (NRV, 1986). Patient safety can be defined as 'the (near) absence of (the risk of) patient injury due to the substandard performance of health care professionals and/or by shortcomings in the health care system' (Cuperus-Bosma *et al*., 2005; www.ahrq.gov). Patient safety can be compromised by drug interactions due to polypharmacy, adverse events, medical errors, incidents and medical complications as unintended outcome of care processes (AHRQ, 2003b). The cause of adverse events is often an accumulation of events, human activities or the absence of activities. A further analysis shows that adverse events stem from ill-managed care processes, which in turn are affected by the organisation of the care system (Cuperus-Bosma *et al*., 2005).
In the Netherlands the prevalence of these unintended effects is not known, nor are the nature and magnitude of patient harm and the concomitant costs (Willems, 2004). To limit the harm greater insight is needed into the causes of unintended effects and the opportunities for prevention (Habraken, 2005; RGO, 2005). According to the Health Care Inspectorate, 1500 to 6000 people are estimated to die each year as a consequence of incidents that could have been prevented (IGZ, 2004d). This estimate is based on the IOM report "To err is human" (Kohn *et al*., 1999).
Worldwide many patient safety indicators have been developed (ACHS, 2005; www.ahrq.gov; OECD, 2004b). One of the objectives of the DHCPR is to present an international comparison of the indicators presented in this section, for example, with the OECD patient safety indicators. To this end, indicators have been selected which are currently registered in the Netherlands and which are in line with indicators as defined in the literature.

Indicators of patient safety

- Percentage of GPs and pharmacists who participate in Pharmacotherapeutic Consultations
- Pharmacovigilance in pharmacies
- Volume of high-risk surgery in hospitals
- Incidence of serious adverse effects of blood transfusion
- Prevalence of postoperative surgical site infections

- Prevalence of decubitus in hospitals
- Prevalence of decubitus in long-term care facilities

The current state of affairs

Over 90% of pharmacists and GPs participates in Pharmacotherapeutic Consultations

Pharmacotherapeutic Consultation (FTO) is a local consultation between pharmacists and GPs with the aim to promote the quality and safety of medication dispensing. For both pharmacists and GPs participation in FTOs is an accredited form of continuing education. Over 90% of all Dutch GPs and pharmacists participates in the FTO. They are organised in over 800 FTO groups. Four quality levels of functioning of FTO groups are distinguished, with 4 being highest and 1 being lowest. The Ministry of Health considers the performance of the groups an important indicator of the regional efficiency of the provision of medication and aims for at least 80% of the FTO groups to function at a level 3 or 4 in 2007. Regular FTO surveys to monitor the quality of the FTOs are conditional to establish whether this aim is being realised.
The surveys, the first of which was performed in 2002, show that the number of FTO groups functioning at a level 3 or 4 has been steadily increasing (*Table 2.7.1*).

Table 2.7.1: Pharmacotherapeutic Consultation groups functioning at a level 3 or 4, 2002–2005 (%) (DGV, 2006).

	2002	2003	2004	2005
Pharmacotherapeutic Consultation groups level 3 or 4	36	41	43	47

Despite pharmacovigilance, a small proportion of the patients is dispensed a combination of potentially interacting medicines; elderly people in particular are at risk

Pharmacies play an important role in pharmacovigilance. Advanced software for pharmacovigilance warns pharmacists when an undesired combination of medicines is dispensed. Despite pharmacovigilance, potentially risky combinations of medicines are still being dispensed. Between 1 January 2001 and 31 October 2002 community pharmacies dispensed over 74 million medications, 8401 (0.011%) of which concerned the nine most risky drug-drug combinations. In the same period dispensing physicians dispensed almost 7 million prescriptions, including 1265 (0.018%) of the same risky combinations (IGZ, 2004d). It may be concluded that annually ten thousands of patients are dispensed a potentially risky combination of medicines. The estimated number of risky combinations is likely to be a considerable underestimation of the actual number. It is only a few tenths of a percent of the total amount of drugs dispensed by pharmacies, but the consequences can be very serious for the patients concerned. Elderly people in particular are at risk: one in every five of the independently living elderly is annually prescribed at least one potentially hazardous prescription. This may concern medicines that are unsuitable for elderly or that should be prescribed in a smaller dosage (IGZ, 2004d).
The quality of out-of-hours pharmacy services is below standard. The main reason for the substandard services is the fact that pharmacies do not have access to the patient's

entire medication history. This poses a great risk for patient safety, because patients may get medicines that interact with other medicines or cause allergic reactions (IGZ, 2005g).

57% of hospitals performs less abdominal aortic aneurysm operations than is the norm; for oesophageal and cardiac resections this is 26% of hospitals

The prevalence of decubitus in general hospitals decreased from 14.8% to 8.1% in the period 1998–2005; in university hospitals the prevalence fluctuated around 11%. To keep surgical expertise up to standard and to promote safety, surgeons and hospitals should perform a minimum volume of surgical procedures, in particular high-risk surgery. From 2003 onwards data have been collected on two high-risk surgical procedures: abdominal aortic aneurysm (AAA) surgery and oesophageal and cardiac resections (OCR). For these two procedures it is known from the literature that the mortality rate is lower in high-volume hospitals (IGZ, 2005d). The proportion of low-volume hospitals decreased in 2004 for OCR procedures but increased for AAA surgery (*Table 2.7.2*).

Table 2.7.2: Percentages of general and university hospitals with zero, average or less than the norm number of surgical procedures (n=94) (IGZ, 2005d).

	Percentage of hospitals with zero operations		Average number of operations per hospital		Percentage of hospitals with less than the norm operations	
	2003	2004	2003	2004	2003	2004
AAA [a]	1.1	5.3	37.2	42.8	46.8[a]	57.4[a]
OCR	40.4	49.0	12.8	12.8	32.0[b]	25.5[b]

[a] The norm for the minimal number of AAA procedures is 300. The AAA procedures in this table are all open procedures; [b] The new Dutch norm for the minimal number of OCR procedures is 10.

According to the Transfusion Reactions in Patients registration the incidence of serious transfusion reactions in 2004 declined substantially compared to 2003

The mission of the National Bureau for Haemovigilance TRIP (Transfusion Reactions in Patients) is "to receive and analyse reports of transfusion reactions and to promote haemovigilance in the widest sense, in order to contribute to improved transfusion safety in the Netherlands" (www.tripnet.nl). The value of a nationwide registration depends on the number of actively participating hospitals (degree of participation) and on the quality of the data registered. When in 2004 it became known that participation in TRIP registration was to be included in hospital performance indicators (IGZ, OMS and FPU), the proportion of participants rose from about 50% to 89% (IGZ, 2005d). Registration data show that in 2004 the number of serious transfusion reactions per 1000 patients and per 1000 transfusion units dropped by over 80% (*Table 2.7.3*).

Table 2.7.3: The incidences of serious transfusion reactions, in 2003–2004 (IGZ, 2005d).

	2003	2004
Transfusion reactions per 1000 patients	4.3	0.6
Transfusion reactions per 1000 transfusion units	0.7	0.12

The percentage of surgical site infections differs considerably between hospitals

Hospital infections can be highly uncomfortable to patients and lead to considerable extra costs. About half of the complications in clinical patient care are surgical complications and most of these are surgical site infections. Surgical site infections lengthen the hospital stay by on average eight days, increase the chance of readmission by five-fold and double the mortality risks.

Although not all hospital infections can be prevented, the risk can possibly be minimised by targeted preventive measures. PREZIES (a Dutch acronym for "prevention of nosocomial infections by surveillance") is a network for the registration of nosocomial hospital infections, including surgical site infections. Surveillance is used as a quality tool by the participating hospitals, as it allows them to compare their data with national averages. The averages are corrected for the most important patient-related risk factors for an infection, namely case-mix. Data of individual hospitals may warrant the implementation of activities to improve patient care. The fourth and fifth PREZIES surveillance years, in particular, appeared to show significant reductions in surgical site infections (Geubbles *et al*., 2006).

Five surgical procedures were investigated. They all show inter-hospital variation in infection rates. The variation is largest with femur or total hip replacement and knee operations (*Figure 2.7.1*). The large variation in femur surgery might partly be explained by calculations being based on the least number of hospitals that registered relevant data.

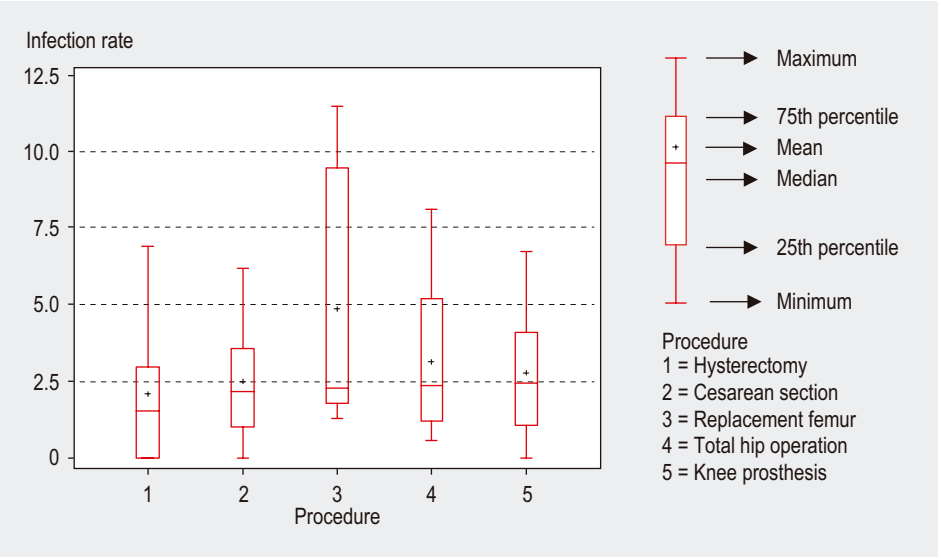


Figure 2.7.1: Inter-hospital variation in surgical site infections for five surgical procedures (mean and pooled numbers for 1996–2004) (PREZIES, 2006).

The prevalence of decubitus in general hospitals decreased from 14.8% to 8.1% in the period 1998–2005; in university hospitals the prevalence fluctuated around 11%
The prevalence of decubitus in hospitals is an indication of the quality of post-operative care. Many cases of decubitus can be prevented by taking measures like special mattresses and other pressure redistributing devices (Bours *et al*., 2003). To assess the quality of decubitus care, it is recommended that only the nosocomial prevalence of decubitus is measured (Halfens *et al*., 2005). For a proper interpretation of data, only the prevalences in comparable risk groups are measured and decubitus stage 1 is excluded from measurements, as it is hard to establish.

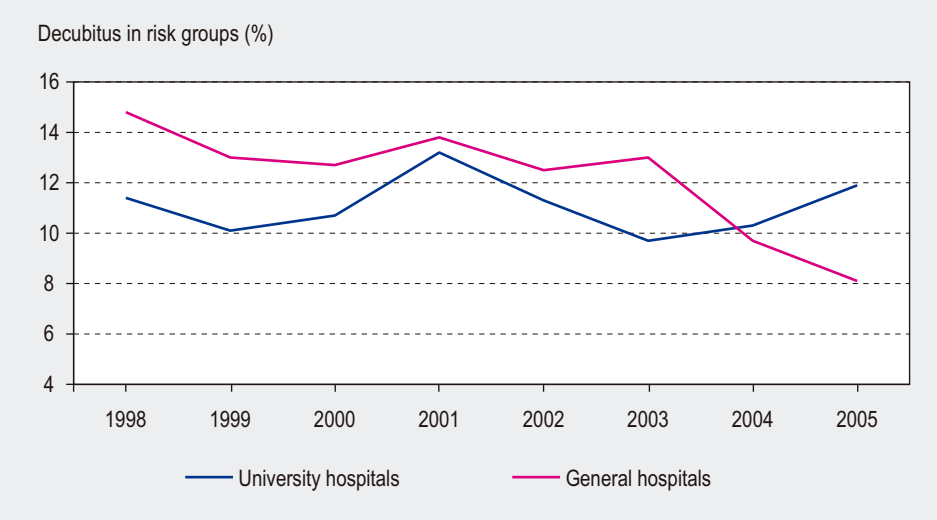


Figure 2.7.2: Prevalence of nosocomial decubitus, excluding stage 1, in risk groups, 1998–2005 (%) (Halfens et al., 2005)

Figure 2.7.2 presents the prevalence of nosocomial decubitus, excluding stage 1, in risk groups. Between 1998 and 2005 the prevalence in general hospitals decreased from 14.8% to 8.1%. In university hospitals the prevalence fluctuated around 11%. In 2005 decubitus was most prevalent in university hospitals. Remarkably, the decrease in general hospitals set in in 2004, while the causes of the decrease remain unclear. It may be that the introduction of decubitus as a hospital performance indicator by the Health Care Inspectorate in 2003 led to the decrease in decubitus prevalence (Halfens *et al*., 2005; IGZ, 2005d).

The prevalence of decubitus in long-term care
Internationally decubitus is considered a reliable indicator of the quality of nursing care in long-term care facilities. This indicator is discussed in *Section 2.4*.

What we do not know

The magnitude of preventable harm in care is as yet unknown in the Netherlands (IGZ, 2005e; Willems, 2004). Data on patient safety related incidents are also lacking, as

these are not registered systematically. The existing registrations of incidents and complications in hospitals are primarily based on voluntary reporting and depend on the willingness of the care professionals involved to report. Only by bundling the reports on incidents, can report committees play a major role in the promotion of patient safety (Leistikow *et al*., 2005).
Data on medication safety in mental healthcare, residential homes and nursing homes are as yet unavailable. A systematic registration of off-label prescription (prescribing a medication for an indication the medication is not registered for) is lacking. Furthermore, the information on medication control by pharmacies is not optimal. In this section a one-time source is used, that is a study by the Health Care Inspectorate. The variation in surgical site infections is based on PREZIES data, as data at the national level are not available.
Safety in health care has recently been placed high on the political agenda (VWS, 2004a). Consequently, many diverse patient safety initiatives, pilots and projects have been set up involving care facilities and organisations as well as health care providers. Research in the field of patient safety in the Netherlands is still too fragmented and lacks continuity and coherence (RGO, 2005). If the results of patient safety research in the Netherlands are to be compared with international results, the use of uniform and unambiguous definitions is crucial (Wagner & van der Wal, 2005).
In 2005 NIVEL, in cooperation with EMGO, started a patient safety research programme to explore the Dutch situation. As part of this programme a pilot study was carried out in 2004 (Wagner *et al*., 2005a). Recently a National Platform Patient Safety (NPPV, 2005) has been appointed with the aim to promote patient safety in all health care sectors. To realise this aim the Health Care Inspectorate made it mandatory for all Dutch hospitals to have implemented a certified safety management system (VMS) by 1 January 2008. The VMS should comprise risk assessment, incident analysis and a management system to plan and monitor improvements (Willems, 2004). The VMS can be a tool to promote safety systematically and structurally, as part of a hospital's quality policy and practice. VMS data are expected to be a rich source of information for the next DHCPR.

2.8 Quality systems in health care

Key findings
- Not all care institutions were certified or accredited in 2005
- Nearly all care institutions had a detailed quality policy or were developing it in 2000
- Slightly less than half of the care institutions had developed special protocols or guidelines outlining procedures for critical moments in care processes and for the cooperation with or the transfer to other care providers in 2000
- Less than half of the care institutions used feedback of patients and clients to systematically adjust their quality policy and practice in 2000

Why are quality activities important?

In the 1990s a number of laws came into force that serve as a frame of reference for quality control of care delivery and for enhancement of patient centeredness. The Care Institutions Quality Act (Kwaliteitswet zorginstellingen (Kzi)) stipulates that care institutions ought to provide responsible care on the basis of controlled self-regulation. The Health Care Complaints Act (Wet Klachtrecht cliënten zorgsector) and the Client Representation Act (Wet medezeggenschap cliënten zorginstellingen) were enacted to guarantee the participation of patient and consumer organisations. This legal framework requires care facilities to organise their services in such a way that they pay systematic attention to surveillance, control and promotion of quality of care. An indicator of quality of care is the availability of a quality system (IGZ, 2002b). Certification and accreditation are tools to externally evaluate care institutions with respect to their quality system.

Indicators of quality activities in health care

- Percentage of institutions that have been certified or accredited
- Percentage of institutions that have the necessary documents on quality policy
- Percentage of institutions that use special protocols or guidelines outlining procedures for high risk or complex processes
- Percentage of institutions that use systems or subsystems for feedback from patients and clients

The current state of affairs

Not all care institutions were certified or accredited in 2005

Accreditation by the Netherlands Institute for Accreditation of Hospitals

In August 2005, 17% of all Dutch hospitals were accredited by the Netherlands Institute for Accreditation of Hospitals (NIAZ), that is 16 of the 94 general and university hospitals. Another 16 hospitals were partly accredited (www.niaz.nl).

Accreditation by the Foundation Quality Assessment/Accreditation of Laboratory in Health Service

In August 2005, 134 medical laboratories were accredited by the Foundation Quality Assessment/Accreditation of Laboratory in Health Service (CCLK). That is about 34% of all medical laboratories (www.cclk.nl).

Certification by the HKZ Expertise Centre on Quality Review in Health Care

The level of HKZ certification is highest in dialysis centres (73%), ambulance posts (45–50%) and home care (42%) (*Table 2.8.1*).

Table 2.8.1: HKZ-certified institutions, August 2005 (www.hkz.nl).

	Certified institutions[a]		Schemes[b]
	absolute	%	
Prevention			
Breast cancer screening	0	0	In 2006
Medical aid in case of calamities and disasters (GHOR)	3	12	In 2004
Prevention and control of infectious diseases	7	18	In 2002 (to be included in Public Health Collective Prevention Act (WCPV))
Public health care WCPV	1		(is being set up)
Cure			
Ambulance care	23	45	In 2002 (provisional)
Call-centre for medical emergency services	12	50	In 2003 (provisional)
Dialysis centres	41	73	In 2003
Primary care psychologists practices	0	0	End of 2004
Outpatient physiotherapy	4	0	In 2005 (group practices)
Community pharmacies	259	15	In 2003
Orthodontist practices	0	0	In 2005
Radiotherapy	7	33	In 2002
Dental practices	5	0	In 1999, in 2005
Dental prosthesis practices	0	0	In 2001
Care			
Care for the disabled	2	0	In 2002
National Care Assessment Centre (CIZ)	0	0	
Home care	73	42	In 2001 (new scheme for nursing and caring sector is being set up)
Residential homes	24		To be included in nursing and caring sector
Mental health care			
Mental health care (in cooperation with NIAZ)	18		

[a] See website for an overview of total number of institutions per care provider; [b] Year in which certification scheme was developed.

Nearly all care institutions had a detailed quality policy or were developing it in 2000

Less than half of the care institutions used feedback of patients and clients to systematically adjust their quality policy and practice in 2000Years ago the annual quality report was an unknown phenomenon in the health care sector. In view of the percentage of care institutions that currently publish an annual quality report the Kzi seems to have had an effect (*Table 2.8.2*).

Table 2.8.2: Percentage of institutions [a] with the following quality-related documents, in 2000 (n=1142) (Sluijs & Wagner, 2000).

	Yes	Being developed	No	Missing
Mission or vision on paper	88	9	3	-
Annual quality report	78	13	9	-
Quality policy on paper	51	39	9	1
Quality action plan	42	43	14	1
Quality handbook	19	50	30	1

[a] Care for the disabled, community health services, mental health services, social services, social pedagogical services, home care organisations, nursing homes, residential homes, hospitals.

Slightly less than half of the care institutions had developed special protocols or guidelines outlining procedures for critical moments in care processes and for cooperation with or the transfer to other care providers in 2000

In the majority of care institutions people use protocols or procedures (*Table 2.8.3*), in particular procedures for diagnostics and specific treatments. Notably, less than half of the institutions has developed procedures for critical moments in care processes and cooperation with or transfer to other care providers, as required by quality systems. Further only a few hospitals regularly evaluate whether protocols and guidelines are adhered to.

Table 2.8.3: Percentage of institutions [a] that used the following procedures or protocols, in 2000 (n=1142) (Sluijs & Wagner, 2000).

Procedures and protocols for	%
Specific treatments, medical procedures or support	84
Reserved activities	72
Routing of patient, client or resident from entry till closure	57
Medical aids	53
Health education of patient, client or resident	49
Critical moments in care and service processes	45
Specific target groups or diagnostic groups	44
Cooperation with and transfer to other care providers	44

[a] Care for the disabled, community health services, mental health services, social services, social pedagogical services, home care organisations, nursing homes, residential homes, hospitals.

Less than half of the care institutions used feedback of patients and clients to systematically adapt their quality policy and practice in 2000

A subsystem is a component of a quality system which enables the quality of specific care services to be monitored systematically through cyclic processes of measurement and improvement. *Table 2.8.4* shows which subsystem institutions use to acquire feedback from patients and clients and to what extent the outcomes are used to adjust process and policy.

Table 2.8.4: Percentage of institutions [a] that used the following subsystems completely, partly or not at all, in 2000 (n=1142) (Sluijs & Wagner, 2000).

	Yes completely	Partly	No (not applicable)	Missing
Client or family council	45	32	22	1
Client satisfaction survey	28	43	28	1
Client needs survey	5	23	64	8

[a] Care for the disabled, community health services, mental health services, social services, social pedagogical services, home care organisations, nursing homes, residential homes, hospitals.

Almost half of the institutions use the patient council to systematically adjust their policy and practice, while 28% of the institutions take full advantage of the outcomes of satisfaction surveys. The study of the needs of actual or potential clients (market exploration) does not appear to be common practice in the care sector.

What we do not know

This section presents an overview of the institutions that have been certified or accredited by the HKZ, NIAZ and CCKL. Due to the wide variety of audit systems used in health care, a complete overview of certified and accredited institutions is lacking and the meaning of certification or accreditation is by no means clear. Furthermore, until now it has not been shown whether certified or accredited institutions perform better than institutions that have not been audited. More information and better insights are needed if this indicator is to be useful for the next DHCPR.

Information on the three indicators — presence of quality documents, procedures for high risk processes and client feedback — is taken from the study by Sluijs and Wagner. This study is a postal questionnaire survey sent to care institutions. It indicates the extent to which care institutions had implemented a quality system. A follow-up study was performed in 2005, yet due to its more limited scope, it is hard if not impossible to compare trends. The results of 2005 were not yet available for this DHCPR.

2.9 Innovation in health care

Key findings

- Dutch investments in research and development in health care are average compared to other high-income countries
- In the field of biotechnology the Netherlands is on a par with important international players, measured by the number of biotechnology patents
- Over a period of ten years the diffusion of a number of minimal and non-invasive surgical techniques had been such, that by 2004 they were utilised in all Dutch hospitals
- There are large regional differences in the utilisation of thrombolysis in integrated CVA care
- ICT is applied in an increasing number of health care services in the Netherlands
- About half of the GPs uses the Electronic Prescription System regularly
- Innovations have contributed to an increase in the rate of surgical day-treatments

Why is innovation important?

The utilisation of innovations can lead to a more effective treatment of existing conditions and thereby to maintaining the health of the Dutch population at a high level for more years of life. Improved treatment modalities can result in more rapid and better diagnoses, less time-consuming and more effective treatments, and less complications during convalescence. Innovation is a broad concept that is used to refer to anything new and novel. This section focuses exclusively on product and process innovations. Product innovations include all new techniques and materials used in care. Process innovations refer to organisational reforms in care processes. In practice this distinction can be hard to make.

Indicators of innovation in health care

- Investments in research and development in the care sector; international comparison
- Number of biotechnology patents granted to the Netherlands
- Utilisation and speed of diffusion of minimal and non-invasive surgical techniques
- Use of process innovations, such as integrated care pathways and CVA integrated care
- Application of ICT in various areas of the health care sector
- Development in the rate of surgical day-treatments to the total number of surgical treatments

The current state of affairs

Dutch investments in research and development in health care are average compared to other high-income countries

In 2001 the Netherlands invested 0.16% of its GDP in research and development (R&D) in the health sector, which is average compared to other high-income countries. The United States leads with 0.28% (*Table 2.9.1)*.

Table 2.9.1: Investments in research and development in the care sector in six high-income countries, in 1998 and 2001 (GFHR, 2004).

	1998 mln US$	2001 mln US$	2001 % GDP
Reported by funders [a]			
United States	19,527	28,600	0.28
Germany	2393	2297	0.12
France	2242	2448	0.19
United Kingdom	1789	1692	0.12
the Netherlands	542	605	0.16
Belgium	-	117	0.05

[a] Funders: 1) Public sector (government), domestic aid organisations; 2) Private sector (for-profit: pharmaceuticals, genomics, biotechnology, nanotechnology, medical instruments companies; not-for-profit: foundations, NGOs, private universities); 3) International: multilateral and bilateral agencies.

In the field of biotechnology the Netherlands is on a par with important international players, measured by the number of biotechnology patents

The number of patents is a good indicator of the number of inventions in a certain field. Over the last few years the number of biotechnological patents has rocketed. Although the number of patents in the Netherlands has also gone up, the increase is less dramatic than for example in Germany, which was lagging behind. In 2000 the Netherlands were granted 3.0% of the total number of biotechnology patents in the world (OECD, 2004a). Relative to the size of the population, this percentage is quite high compared to France and the UK for example (*Figure 2.9.1*).

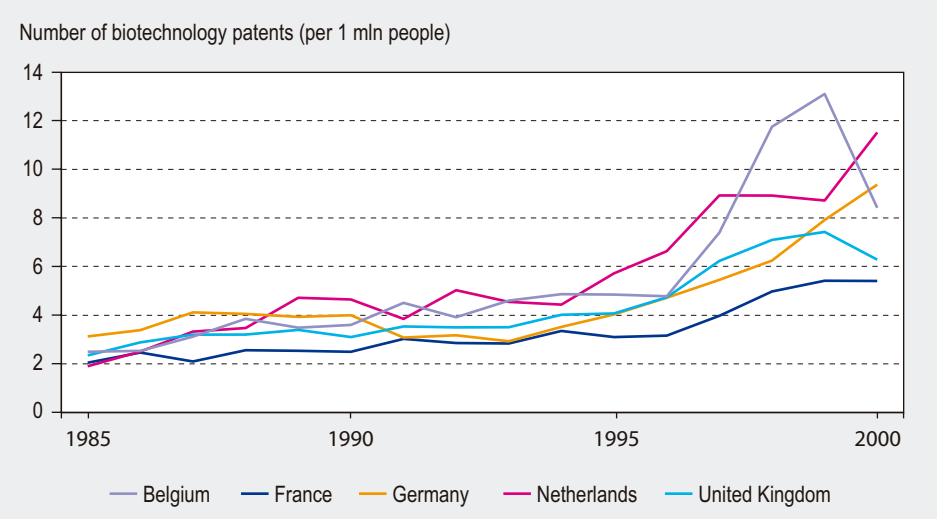


Figure 2.9.1: Number of biotechnology patents per million people in five high-income countries, 1985—2000 (OECD Patent database, 2004a; OECD Health data 2005).

Over a period of ten years the diffusion of a number of minimal and non-invasive surgical techniques had been such, that by 2004 they were utilised in all Dutch hospitals

An international comparison shows that the number of laparoscopic gall bladder procedures performed in the Netherlands is high (*Table 2.9.2*). This procedure is far less burdensome to the patient than conventional open surgery. It is not clear why the figures for the UK are much lower than for other countries. This may be due to a difference of opinion about the desirability of the new method.

Table 2.9.2: Rate of laparoscopic gall bladder procedures to all gall bladder surgical procedures in four Western-European countries, 1995-2003 (OECD Health data 2005).

	1995	2000	2001	2002	2003
the Netherlands	62.7	74.7	75.6	78.1	80.4
United Kingdom	15.8	15.0	13.7	13.7	12.4
Belgium		81.8	82.8	84.5	
France		76.0	77.8		

In the Netherlands, the use of minimal and non-invasive techniques has rapidly increased over the past ten years. Almost all hospitals are currently able to perform laparoscopic gall bladder and colon procedures. The laparoscopic kidney removal can be performed by just over 30% of the hospitals. As to non-invasive diagnostics, 70% to 80% of the hospitals have an MRI unit (*Figure 2.9.2*).

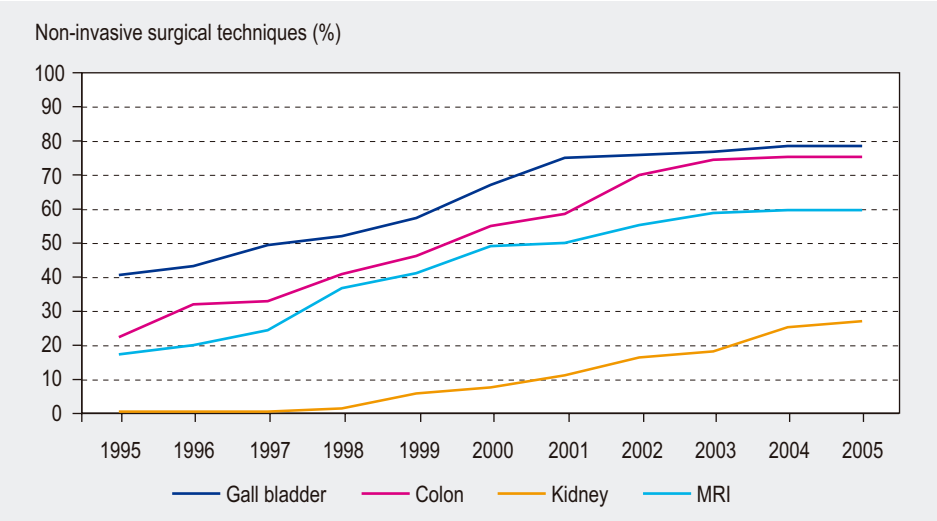


Figure 2.9.2: Use of minimal and non-invasive techniques in Dutch hospitals, 1995—2005 (Blank & van Hulst, 2005).

Use of stents is high and getting higher

A stent is a tiny mesh tube used to treat blockage or narrowing of the coronary arteries. Over 75% of the total volume of coronary surgery in the Netherlands involves stenting. This is a high percentage compared to other developed countries; only Germany has a similar stenting rate (*Figure 2.9.3*).

Process innovations are very profitable, but there are large regional differences

Gains achieved by treatment pathways

Dutch hospitals have implemented a variety of disease-related 'care pathways' with the aim of speeding up the care process for distinct patient groups. Examples are the vein care pathway, cataract care pathway and pelvic floor pathway. In 2004 over half of the hospitals had a cataract care pathway (RVZ, 2005b).

A care pathway is centred at a single hospital department and involves the patient being routed through the various stages of treatment within a short period of time, tests being combined and unnecessary follow-up visits being banned. Process standardisation and a separate patient flow result in a higher turnover. Moreover, as more patients go home directly after treatment, they do not occupy hospital beds.

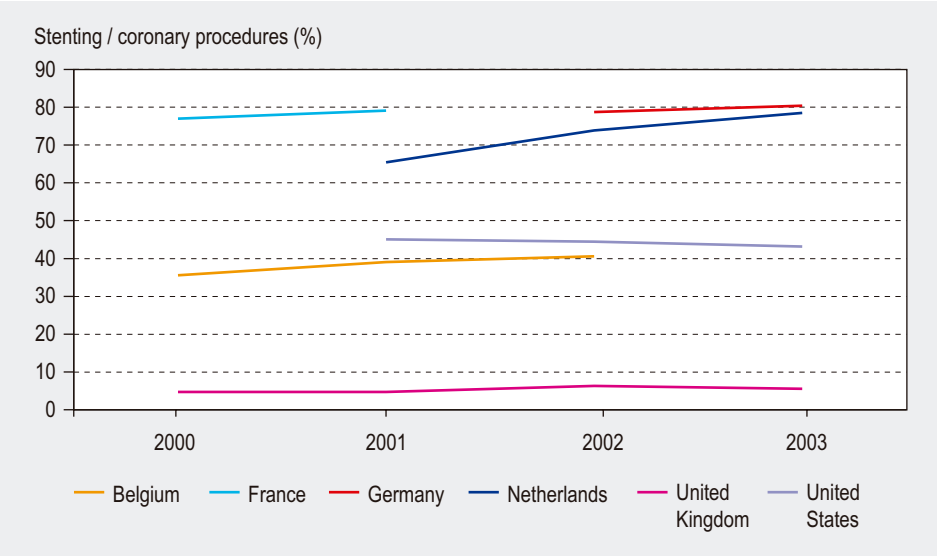


Figure 2.9.3: Rate coronary stenting to all coronary surgical procedures, 2000-2003 (OECD Health data 2005).

Most hospitals have implemented integrated CVA care, but there are large regional differences

Integrated CVA care, namely stroke units and stroke services, is an example of process innovations in health care. In 2004 most Dutch hospitals had implemented some form of integrated CVA care (RVZ, 2005b). To gain insight into the functioning of stroke services and to realise continuous improvement of care delivery, a benchmark study was conducted (Nieboer *et al*., 2005). A benchmark provides care providers and managers with best practices to measure their performance against and enables quality improvements (Nieboer *et al*., 2005).

There are large regional differences in the utilisation of thrombolysis in integrated CVA care

One of the key indicators of the CVA benchmark is the use of thrombolysis in stroke patients. A prerequisite to a timely and successful thrombolysis is to harmonise the activities of all specialists. There are large regional differences in the use of thrombolysis (*Table 2.9.3)*.

Table 2.9.3: Percentage of stroke patients that is thrombolysed in stroke services in various hospitals (Nieboer et al., 2005).

Hospital[a]	1	2	3	4	5	6	7	8	9
%	1	17	8	4	10	3	7	0	7

[a]1: Goes; 2: Maastricht; 3: Arnhem; 4: Sittard; 5: Land van Cuijk; 6: Almere; 7: Amsterdam (OLVG); 8: Tiel; 9: Rotterdam (Erasmus MC, St Franciscus Gasthuis, MC Rotterdam-Zuid and Ikazia).

ICT is applied in an increasing number of health care services in the Netherlands

ICT in prevention works

In specific cases, personalised patient education by ICT appears to be more effective than general education; people respond better to the advice given. A big advantage of this kind of patient education is that it involves very little extra work for the GP (Maes *et al*., 2005). This ICT application is still in a test phase.

Another ICT application in health care is the use of routinely collected computerised and standardised information to facilitate, for example, the selection of high-risk patients in targeted prevention campaigns (Tacken, 2005).

About half of the GPs uses the Electronic Prescription System regularly

In 2002, 84% of the GPs could gain access to the Electronic Prescription System (EVS). The proportion of GPs that actually used the EVS on a daily basis was 48% with 17% indicating that they used the system over ten times a day (Wolters *et al*., 2003).

The use of internet makes care more efficient

Increasingly faster Internet connections mean that Internet can now be used for imaging techniques. For example, a care provider can communicate with the patient by means of a video connection. Another successful ICT application is teledermatology. A dermatologist is sent photos via e-mail together with a completed case history form, which enables him to diagnose the skin disease. The great benefit of this procedure is that the patient does not need to travel and does not have to wait for six weeks for a diagnosis. This application is used in many places and has resulted in a decline in referrals to the dermatologist (Mulder, 2004).

The term ‘domotics’ in care denotes ICT applications in the home. Safety applications, such as movement detectors or gas detectors, enable older and disabled people to live longer and safely in their own homes.

Innovations have contributed to an increase in the rate of surgical day-treatments

In the period 2002—2003, the rate of surgical day-treatments to the total number of hospital admissions for surgery increased in several European and high-income countries. Innovations may be one of the causes of this rise, as they make surgical procedures less burdensome to patients and less patients need to be hospitalised (for many days). The United Kingdom and Denmark are in the lead, with the Netherlands in third place (*Table 2.9.4*).

Table 2.9.4: Rate of surgical day-treatments to all surgical treatments (OECD Health data 2005).

	2000	2001	2002	2003
the Netherlands	46.3	48.0	49.5	47.3
Belgium	33.5	35.0	36.9	
Luxembourg	39.9	39.5	39.4	39.4
United Kingdom	52.5	52.7	53.1	53.0
Ireland	40.9	42.0	44.5	45.5
Denmark	45.4	46.8	51.0	52.6
Finland	34.6	35.4	37.4	37.8
Italy	20.8	24.2	28.7	32.9
Portugal	6.4	7.0	10.4	12.6
Spain	21.9	24.8		
Hungary	1.5	1.7	2.0	2.1
New Zeeland	37.5	37.5	35.7	35.8

What we do not know

It is not known whether R&D resources are invested efficiently in the care sector. With the exception of biotechnology patents, no international information was found. The use and diffusion time of product and process innovations differ considerably between countries. It is of great importance that more data become available that allow a comparison of the use of innovations between the Netherlands and other countries.

The use of care innovations is not necessarily a good indicator of health care improvements; a 100% use may not be the optimal level for all (stages of) diseases. For a number of innovations health care professionals are still searching for the optimal level of utilisation. The purpose of most process innovations is to make work processes run more efficiently. It may well be possible to find out to what extent process innovations have been implemented, but it is much harder to determine whether they result in higher levels of efficiency and effectiveness.

CHAPTER 3
ACCESS TO HEALTH CARE

This chapter focuses on the access to health care and the possibilities for patients to make their own choices. Relevant questions are: 'How accessible is health care in the Netherlands'?, and 'Do Dutch people have any choice?' There is a broad societal consensus on the notion that health care must be accessible. In recent years, choice in care has become an important issue, partly due to care innovations and the introduction of the new health care system that aims at introducing more market and consumer driven elements within the system. *Section 3.1* presents definitions of access and choices, various relevant aspects of these concepts and the relationship between them. It concludes with an outline of the chapter.

3.1 Access to health care

An important premise of most European health care systems including the Dutch is an equitable distribution of available services for the entire population (equal access).

Accessible care implies that for people who need care, access to care is timely and without great barriers (Smits *et al*., 2002; AHRQ, 2006). Whitehead (1991) defines equal access as "equal access to available care for equal need, equal utilization for equal need, and equal quality of care for all". The notion of 'equal utilization' as used by Whitehead may be considered as an indicator of equal access. Equal quality of care implies that this may not vary because of personal characteristics like age, ethnicity, socio-economic status or geographic location (Whitehead, 1992; AHRQ, 2004a).

Access to care may be limited by numerous factors, such as waiting lists, a lack of services, personnel shortages, geographical distance or financial, social and cultural restraints. As care costs money, statutory and actual access to health insurance is a prerequisite for the access to care.

Choices in health care

The Dutch Consumer Association (2005) defines choices in care as 'the extent to which people can choose the way they want to be insured against health care costs and by whom or how care is provided'. So having choices needs to be assessed at the access to health insurances and at the access to good-quality care services, care providers and treatments.

There are two main reasons for government and patients to value choices in health care. First, the conviction that care will improve if patients have more choice and are therefore able to choose personalised care or care tailored to their personal needs.

Second, the belief that having more choice will promote competition between health insurers and between care providers, thereby curbing the growth in costs.

There is a straightforward relationship between access and the ability to choose. First, access is a prerequisite for having choices. If the supply of care services is limited, there is little to choose. Second, the ability to choose is related to the notion of quality. Equal quality entails personalised care tailored to patients' needs (Whitehead, 1992). So having choices not only requires access to care but also access to care that suits patients needs and desires.

Outline of the chapter

Health care needs to fulfil many requirements to be accessible and for patients to be able to choose. This chapter deals with the uptake of some new choices in care, waiting times for emergency and regular care, the extent to which care meets the needs of vulnerable populations, and financial and geographical access to care. Adequate levels of knowledgeable and skilled staff are required to guarantee the access to care and the ability to choose. This chapter therefore concludes with a section on staffing and a section on developments in the training system and professional structure (see *Text box*).

Access

- Choices (*Section 3.2*)
- Timely emergency and regular care (*Sections 3.3 and 3.4*)
- Social access: care according to needs; health care disparities (*Section 3.5*)
- Financial access (*Section 3.6*)
- Geographical access (*Section 3.7*)
- Staffing and training and professional structure (*Sections 3.8 and 3.9*)

3.2 Choice and access to health care

Key findings

- The number of people with a personal care budget increased from 10,000 to 70,000 in the period 1998—2004
- The percentage of people with public health insurance who changed insurer decreased from 2.6% to 2.4% in the period 2001—2004
- 10% of people with health insurance seriously considered changing insurer in the past three years
- 9.1% of people with private health insurance who considered changing insurer did not do so because the alternative insurer(s) refused them

Why is choice important?

In recent years an important policy goal in health care has been to extend the possibilities for patients and other stakeholders to make choices. The underlying premise is that the quality of care improves if patients have more choice and are able to choose

the care that meets their needs. In addition, increased choice is supposed to promote competition between health insurers and between care providers and hence curtail the growth in costs.

Indicators of choice in health care

- New choices: personal care budget and health insurance
- People's wishes with respect to choice: care provider, source of information and residential care services

For a number of years people have been able to choose a personal care budget (PGB). Since 1 January 2006 people have got an extended choice with respect to health insurance. In this section data are presented on health insurance mobility for the period 2001—2005. Setting these data against those from 2006—2007 will enable a trend analysis in the next DHCPR.
The notion of 'choice in health care' has a wider connotation than just access to care. This is illustrated by a few examples of people's wishes with respect to choices in health care. These priorities differ according to age, which is explained by different examples for different age groups. The examples may serve as a frame of reference for the development of a balanced set of performance indicators for the next DHCPR. However as patients' priorities are not the same as performance indicators, they have not been included in the key findings.

The current state of affairs

The number of people with a personal care budget increased from 10,000 to 70,000 in the period 1998-2004

All people who due to illness, disability or old age need AWBZ care (Exceptional Medical Expenses Act) are entitled to a PGB (VWS, 2005c). This PGB allows people to choose their care provider and to determine the moment of care provision. Between 1998 and July 2004 the number of people with a PGB grew from 10,000 to almost 70,000 (*Figure 3.2.1*).

Some 63% of the people with a PGB indicated that the care purchased with it meets their needs, 36% indicated that the care purchased partly meets their needs and 1% indicated that the care completely fails to meet their needs. When asked whether the PGB is better organised now than it used to be, 48% of the respondents indicated that the organisation was more adequate and 44% that little had changed. However, the use and administration of a PGB are reportedly very burdensome (van de Wijngaart & Rademakers, 2005).

The percentage of people with public health insurance who changed insurer decreased from 2.6% to 2.4% in the period 2001—2004

In 2005, the movement between health insurers of people with public health insurance increased significantly compared to previous years. A questionnaire survey among a representative sample of 2000 people with public health insurance showed that the proportion of people who had changed insurer in the permitted three-month switch-

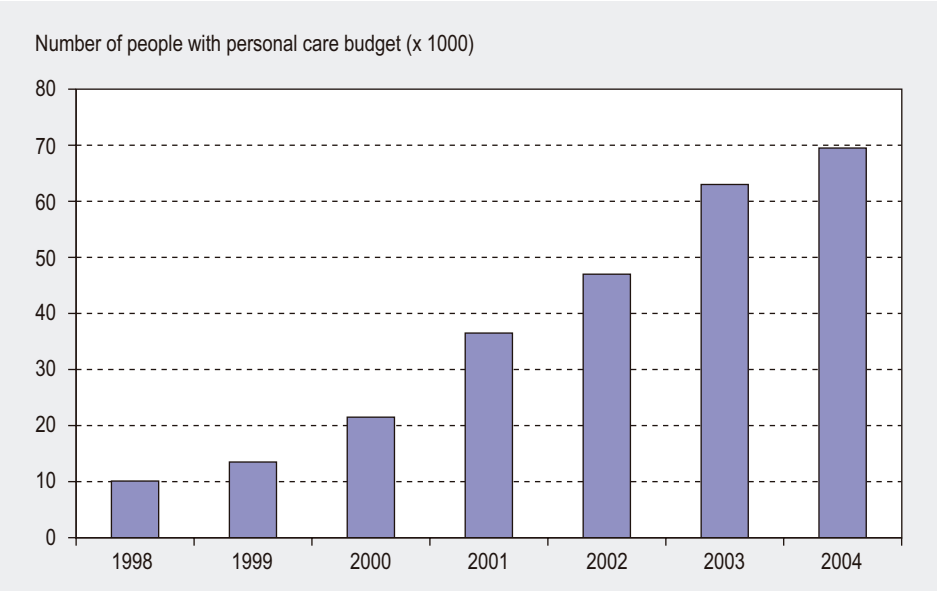


Figure 3.2.1: Number of people with a personal care budget, 1998—2004 (VWS, 2005c).

over period increased from 2.6% in the period 2001—2004 to 4.2% in 2005 (Laske-Aldershof & Schut, 2005).

People with private health insurance are more mobile than people with public health insurance. In 2005, 8.7% of the privately insured people changed insurer (*Table 3.2.1*). Over half of them did so because their employer had entered a collective contract with another insurance company. The proportion of people changing insurer at their own initiative is more or less the same for people with a private or a public health insurance, that is around 3% in 2005 (not shown in table). The main reason for changing health insurer is the costs of the nominal premium and the premium for supplementary insurance.

Table 3.2.1: Proportion of people who changed health insurer (%) (Laske-Aldershof & Schut, 2005).

	People with public health insurance				People with private health insurance[a]		
	2001	2003	2004	2005	2001	2003	2005
In previous three months	2.6	2.8	2.4	4.2	6.6	8.6	8.7
In previous three years	10.8	10.3	10.4	12.1	23.6	23.1	24.0

[a] In 2004 no survey was carried out among people with private health insurance.

10% of people with health insurance seriously considered changing insurer in the past three years

Between 2000 and 2005, the majority of people with health insurance did not consider changing insurer. In 2005, over 75% of the people with public insurance and over 65% of the people with private insurance did not give changing a thought (*Table 3.2.2*). Important reasons for not changing health insurer included satisfaction with present insurer, not knowing which insurer to choose, and the expected inconvenience.

Table 3.2.2: People with health insurance who did or did not consider changing insurer, 2001–2005 (%) (Laske-Aldershof & Schut, 2005).

	People with public health insurance				People with private health insurance[a]		
	2001	2003	2004	2005	2001	2003	2005
Seriously considered to change	6.2	10.4	12.5	10.7	7.6	8.7	9.3
Did not consider to change	83.0	79.2	77.1	77.2	68.9	68.2	66.7

[a] In 2004 no survey was carried out among people with private health insurance.

9.1% of people with private health insurance who considered changing insurer did not do so because the alternative insurer(s) refused them

The individual experience of freedom of choice is particularly influenced by how many people are refused by health insurers because of their health or age, and how many people allow their behaviour to be affected by the assumption that they will be refused. This assumption had a greater effect on the behaviour of people with private insurance than those with public insurance (*Table 3.2.3*).

Table 3.2.3: Experienced barriers to access to health insurance, in 2005 (%) (Laske-Aldershof & Schut, 2005).

	Assuming to be refused		Refused
	Health	Age	
Reason for not changing health insurer after ample consideration			
- people with public health insurance	9.4	3.9	0.0
- people with private health insurance	9.1	6.5	9.1
Reason for not considering to change health insurer			
- people with public health insurance	5.9	4.2	n.a.
- people with private health insurance	6.7	12.7	n.a.
Reason for not taking out supplementary insurance			
- people with public health insurance	4.4	1.8	1.8
- people with private health insurance	6.2	2.3	1.2

n.a.: not applicable

Just over 9% of the people with private insurance who considered changing, but did not do so, were actually refused by the new health insurer, in all cases because of health. None of the people with public insurance were refused, because public health insurers were obliged to accept new applicants for basic health insurance.

Of those people not considering switching health insurer, higher proportions of people with a private health insurance than with a public health insurance indicated that they did not consider this because they assumed that they would be refused on grounds of health (6.7% private and 5.9% public) or age (12.7% private and 4.2% public).

Of those people with public insurance who did not take out supplementary insurance in 2005, 4.4% assumed they would not be accepted because of age and 1.8% because of health; 1.8% were actually refused. Of those people with private insurance who did not take out supplementary insurance in 2005, 6.2% assumed they would not be accepted because of age and 2.3% because of health; 1.2% were actually refused.

Most people want to have choices in health care

A survey among 1000 respondents about their opinion on the ideal health care in the Netherlands revealed that 95% would appreciate the option to choose their GP, dentist or other care provider, 90% would like the care provider to suggest alternative treatment options which would allow them a choice and 82% would like to have access to primary care during out-of-office hours (van Linschoten *et al*., 2004).

The need to have choices in health care is confirmed by a study among health care clients in the Netherlands, Belgium, United Kingdom, France and Germany (RVZ, 2003) (*Table 3.2.4*).

Table 3.2.4: Need to have choices (%) (RVZ, 2003).

	the Netherlands	Average of five countries[a]
Choice of diagnostic tests	90	74
Choice of care provider	84	80
Choice of care location (elective)	83	81
Choice of care location (chronic)	78	87
Choice of rehabilitation process	73	92

[a] Belgium, Germany, United Kingdom, France, the Netherlands; the average score was reweighed for the size of the populations of the participating countries.

This international survey also provides background information that enables a more adequate interpretation of clients' preferences. Only Dutch respondents would like to have more choice than they currently have. They expressed dissatisfaction with the gatekeeper system and that they would like to have direct access to specialists and hospitals. Choice of rehabilitation is less important to Dutch people, but if they are allowed to choose, they favour treatment at home by the physiotherapist. If people have more choice, they also appear to appreciate it more. If people have the opportunity to choose between a visit to the GP or the specialist, they do not necessarily choose the specialist.
Dutch respondents were relatively positive about innovations in care (e.g. new drugs) and about treatment abroad. They are willing to travel, not only for better access but also for better quality. Despite existing co-payments, clients also express a readiness to pay more for treatment, provided it has an added value. Of all interviewees, the Dutch are most willing to pay for more choice and better access (RVZ, 2003).

However, there may be quite a discrepancy between stated and actual willingness. If people were to feel it in their purse, it may well be that they would be less apt to live up to their stated willingness. Still, questionnaires provide valuable insights into the areas where greater choice is or is not desired.

Young people prefer far more often than elderly people to get information through the Internet

Young people indicate more often than older people that they prefer to get information through the Internet. Yet, the care provider is still the most popular source of information for all age groups (*Table 3.2.5*).

Table 3.2.5: Source of medical information preferred by Dutch people, by age (%) (RVZ, 2003).

	Age 18–34 n=734	Age 35–54 n=941	Age 55+ n=851
Medical care providers	62	65	69
Pharmacists	45	44	43
Internet	45	36	12
TV / newspapers / magazines	36	36	34
Medical reference books	26	25	20
Patient organisations	5	6	5
Government	7	8	4
Pharmaceutical industry	4	4	5
None of those	2	3	7

Elderly people prefer to receive care at their own home or apartment with care services

The wishes of the present generation of senior citizens with respect to housing and care seem to be changing strongly. Residential homes and nursing homes are no longer a future option for the younger senior citizens (*Table 3.2.6*). Especially the middle- and high-income senior citizens appear to be turning their backs on the traditional types of care (Provoost & Delfgaauw, 2003).

Table 3.2.6: Preferred future type of residence at an advanced age (%) (Provoost & Delfgaauw, 2003).

	Age < 55	Age 55-70	Age > 70
Own home	44	46	53
Apartment with care services	24	44	38
Residential home	22	17	12
Nursing home	12	7	3
Luxurious care villa	2	6	7
Nursing hotel	0	3	2

What we do not know

The data in this section are based on surveys among the general public, care consumers and people with health insurance. The Monitor Mobility of Insured, which was set up in 2001, is a valuable source of information for monitoring trends in insurance behaviour and reasons for changing or not changing insurer. Recently, questionnaires have included more questions on patient wishes and patient choice. An example is the NIVEL Consumer panel, which could include more explicit questions about the choices desired. There is little insight into the underlying processes of choice behaviour of the general public, patients and the people with health insurance.

The most important questions that the DHCPR can pose pertaining to choice in care from a client and policy perspective are:

- does choice in care increase, decrease or remain stable?
- are changes in choice in accordance with peoples' wishes?
- are people responsive to new choices offered?
- what are the effects of having more choice?

This DHCPR provides an answer to the third question by counting the number of people who "vote with their feet". The focus on new choices means that choice restrictions are not being addressed and therefore the picture might be incomplete.

3.3 Access to acute and life-saving care

Key findings

- 8.2% of the ambulances failed to meet the 15-minute emergency response time target in 2001
- 2% of the population lived more than a 30-minute drive from an emergency service in 2005; in 2001 this was 0.8%
- 340,000 people had to travel over 30 minutes to reach a central GP post
- 11% of the people calling a central GP post in an emergency had to wait more than one minute to get a health care professional on the phone in 2004
- 1400 people waited for donor organs in the past years

Why is access to acute and life-saving care important?

Waiting too long for care can have minor as well as major consequences for the patient. The more there is at stake, the more waiting (too long) for care is experienced as a problem. Adverse consequences of waiting too long are classified in order of decreasing severity as: death, disease, disability, discomfort and dissatisfaction.

Acute and short-term threats to life are important issues in many areas of health care: acute care, obstetric care, (cardiac) surgery, oncology, acute mental healthcare, organ transplants and disasters. The present DHCPR focuses on two areas in particular: the access to core services in acute care (ambulances and emergency care) and the demand for donor organs. Together they will not provide a full picture of acute and life-saving care, but they may have an important signalling function. The core services in acute care serve a great number of people annually and the majority of people needing acute care come into contact with these services. The demand for donor organs concerns a much smaller number of people (circa 1400), to whom organ transplant is potentially life-saving, who need high-level technical care and who depend on the supply of donor organs.

The dividing line between acute, life-saving and regular care is by no means clear-cut. Acute care may also concern non-life threatening events and an important part of regular care, for example (cardiac) surgery and oncology, involves patients with a life-threatening condition. A threat to life is often acutely felt when in need of an organ transplant. The access to regular care is dealt with in *Section 3.4*.

Acute care can be divided into acute services that come to the patient (ambulances, trauma helicopter, midwifes) and services patients go to (hospital emergency department and central GP posts). In recent years efforts have been made to streamline acute care in order to create an effective quality chain.

Recurring problems in acute care are driving times of ambulances exceeding norm times, the access to hospital emergency departments (HED) and the access to central GP posts during out-of-office hours (IGZ, 2004a).

Indicators of access to acute and life-saving care

Acute/emergency care

- Percentage of urgent ambulance rides that is on site within specific response times
- Number of urgent ambulance rides that exceed the 15-minute response time norm
- Number of people who are able to reach the nearest HED or central GP post by car within 30 minutes
- Number of urgent callers to central GP posts who get to speak a health care professional within one minute

Life-saving care

- Number of people waiting for a donor organ

The current state of affairs

8.2% of the ambulances failed to meet the 15-minute emergency response time target in 2001

The average number of ambulance rides per day is 2200. In 2001, over 60% of the ambulance rides were emergency rides (category A1 or A2), the rest of the rides were scheduled rides (category B). Over 40% of the emergency rides are A1 rides.

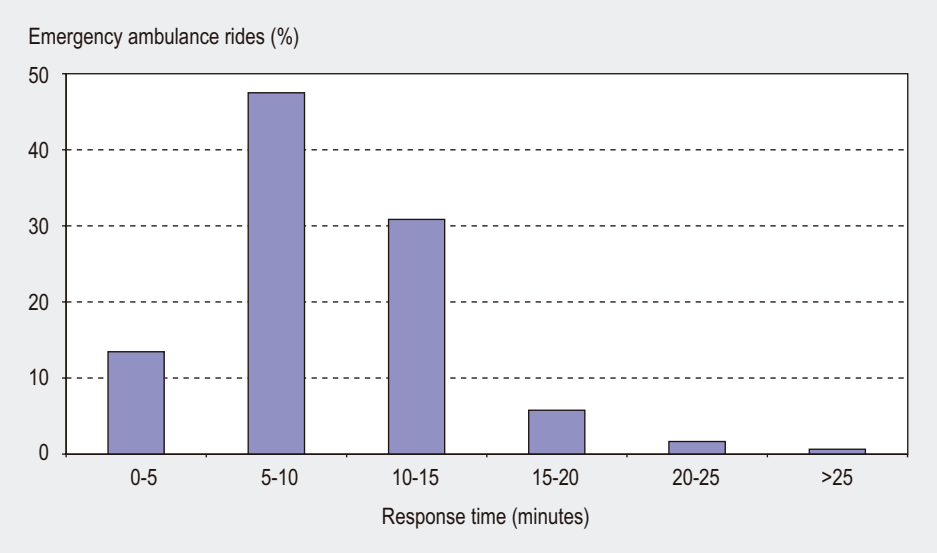


Figure 3.3.1: Percentage of emergency ambulance rides (A1 rides) that meet specific response time targets, in 2001 (Kommer et al., 2003).

Policy rules dictate that in an emergency situation, the ambulance response time should not exceed 15 minutes. The most recent study on the number of ambulances that exceeded that norm is based on data from 2001. In that year 8.2% of the ambulances failed to meet the norm (*Figure 3.3.1*). Parties involved consider an excess of 3% to 5% per year acceptable, provided the causes are incidental in nature. A comparison with earlier or later years is not possible, because of changes in registration methods. Instances of exceeding the norm are often due to a combination of factors, like insufficient availability, insufficient distribution of central ambulance stations and force majeure.
In planning models of the distribution of ambulance stations, the 15-minute response time is divided into 2 minutes turn-out time and 13 minutes driving time. In 2003, 7.2% of the Dutch population (over 1.1 million people) lived in an area where the 13-minute norm could not be met. In 2005 this percentage decreased to 5.6% (over 900,000 people). Areas outside the 13-minute catchment area of an ambulance station are thinly populated areas and border regions.

2% of the population lived more than a 30-minute drive from an emergency service in 2005; in 2001 this was 0.8%

Over 1 million people are estimated to receive treatment in a HED each year following an accident or violence. The utilization of emergency services is highest in the big cities. In 2001, there were 109 HEDs versus 106 in 2005. Closures are met by other HEDs in the immediate vicinity.

Most people come to the HED with their own transport, only for a minority is an ambulance called in. In 2001, 99.2% of the Dutch population could theoretically reach a HED within 30 minutes by private car. Approximately 0.8% (128,000 people) lived over a

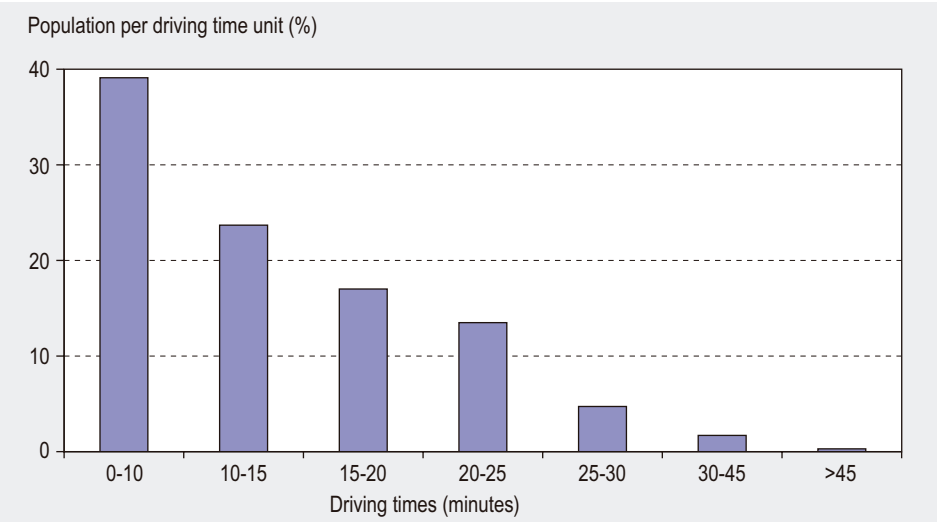


Figure 3.3.2: Percentage of population theoretically able to reach a hospital emergency department within a specified driving time by car, in 2005 (RIVM, 2005a).

30-minute drive away from the HED, in particular, in thinly populated areas (RIVM, 2005a). In 2005, this proportion had risen to 2% (318,500 people) (*Figure 3.3.2*). There are no data on actual driving times.

340,000 people had to travel over 30 minutes to reach a central GP post

Within a period of two years (circa 2002–2004) an almost nationwide network of central GP posts has come into existence in the Netherlands. As a consequence the GP share in emergency help is expected to grow (IGZ, 2004a).

The unbalanced distribution of central GP posts in some regions may lead to a moderate accessibility of care. About 340,000 people have to drive more than 30 minutes. In the white areas (*Figure 3.3.3*) the out-of-office services are still provided by cooperating GPs. To what extent a good physical accessibility affects the choice to go a HED or to call a GP is currently unknown (IGZ, 2004a).

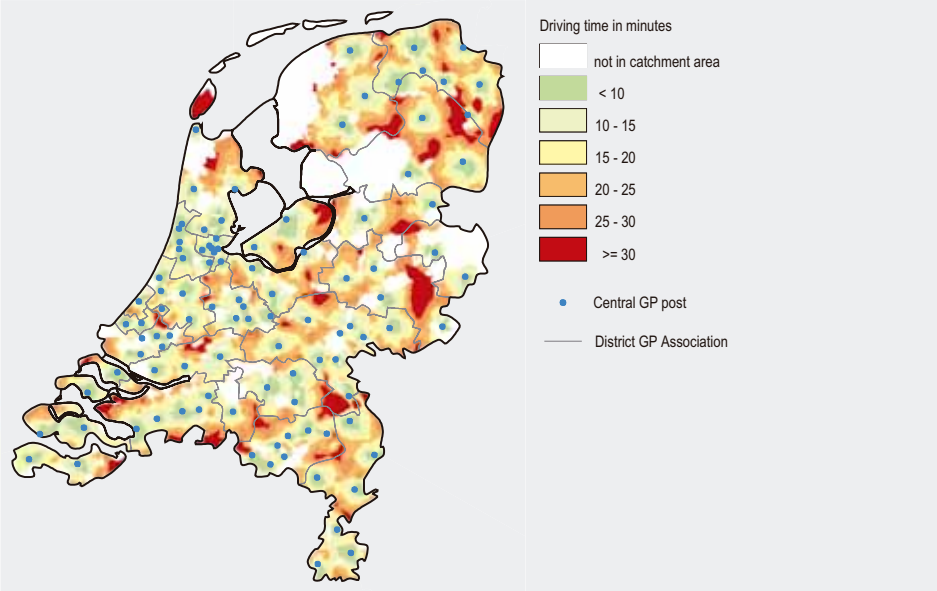


Figure 3.3.3: Calculated driving time to nearest central GP post by car, in 2003 (RIVM, 2004a).

11% of the people calling a central GP post in an emergency had to wait more than one minute to get a health care professional on the phone in 2004

At the end of 2004 there appeared to be a large variation in waiting times for patients who called a central GP post for a professional practitioner to speak to them. Of all emergency calls, 51% was answered personally within 30 seconds and 89% within one minute. The Health Care Inspectorate judges the extent to which GP posts can be reached by phone to be reasonable, but with ample room for improvement. The Health Care Inspectorate considered it unacceptable that 11% of the emergency calls were not answered by a professional practitioner within one minute and 1% not even within five minutes (IGZ, 2005i).

1400 people waited for donor organs in the past years

On 1 March 2004, 1381 Dutch people were waiting for a donor organ: 1156 for a donor kidney and 225 for another organ (*Table 3.3.1*).

Table 3.3.1: Number of Dutch patients waiting for a transplant, by organ (NTS, 2006).

	1 March 2004	1 March 2005
Kidney	1156	1143
Liver	127	156
Heart	35	37
Lungs	63	85
Total	1381	1421

Over 200 renal patients die each year because they do not get a new organ in time. The average waiting time is 4.5 years. Each year 225 matching kidneys become available in the Netherlands (NSN, 2004).

In December 2003, 4.9 million people were on the Donor register, which means that 39% of the Dutch population over 18 years old have entered their will in the register. In total, 46% of the people registered have given their complete consent and 8% their partial consent (Friele *et al*., 2004).

With 13 donations per 1 million people, the Netherlands takes a bottom position compared to nine other Western European countries. This position is strongly related to the Netherlands being a relatively safe country, with a low prevalence of traffic accidents and thereby a low number of donor organs becoming available. Regarding donor efficiency – the actual number of donor organs per million people divided by the potential number of donor organs – the Netherlands scores better, that is average (Coppen *et al*., 2002). Even in Spain, the country with the highest donor efficiency, a large number of potential donor organs do not come available for transplant, which suggests that there is considerable room for improvement.

What we do not know

The available data provide a picture of the time it takes for people with acute health problems to reach an emergency service or for an ambulance to reach them. They also give a picture of actual response and call out times of ambulances. However, they do not reveal anything about the actual time it takes people to get to an emergency service.

The ambulance response time data used for the analyses are old data from 2001. Over the last few years there has been no continuity in the provision of information in the ambulance sector. In 2005 the branch organisation took the initiative to set up a new national registration system (AZN, 2005).

The information presented in this section does not give an overview of potential bottlenecks in the cooperation between HEDs and central GP posts, triage and access

to patient files in GP posts. According to the Health Inspectorate, over the next few years attention will focus on improving integrated care, accessibility of emergency phone numbers and of GP posts, and the quality of emergency care (IGZ, 2004a,c; 2005i). These issues will have to be addressed in the next DHCPR. Various organisations, including NIVEL and RIVM, are presently involved in the development of relevant valid indicators.

3.4 Waiting times for regular care

Key findings

- 60%—70% of the care users report to be seen on time by their GP and/or specialist during office hours in 2004
- Patient satisfaction about GP accessibility during out-of-office hours fell from 60% to 42% in the period 1997-2003
- The number of people waiting for clinical hospital admission fell by nearly 17% in the period 2002—2004; waiting for elective hospital care was problematic for 20% of the waiting list at the end of 2002
- The number of people waiting for mental health care increased by 6% in 2004
- The number of people waiting for nursing and caring decreased by 30% in the period 2001—2003; the average waiting time decreased by 7%—19%, but in home care this increased by 13%—43%
- Almost 65% of people waiting for nursing or caring received interim care in 2003
- The median waiting time for care for the disabled dropped by approximately 90% in the period 2000—2003; the average waiting time for those still waiting dropped by over 40%

Why is it important to reduce waiting times for regular care?

Long waiting times are indicative of scarcity, limited choice and reduced access. Long waiting times can adversely affect adequate care delivery and pose a serious threat to the health and well-being of patients. They may also have a negative effect on patient and client satisfaction. Within certain limits, waiting times do not necessarily have to be problematic and may even be useful in that they allow patients time to (re)consider and improve logistics through a more efficient use of resources.

Indicators of waiting

Primary care

- Percentage of patients who are satisfied with the speed with which they can see the GP, specialist or dentist

Hospital care, mental health care and long-term care

- Number of people waiting (length of waiting list)
- (Expected) time till treatment (waiting time)
- Number of people waiting longer than the so-called Treek norm

In recent years, an attempt has been made to limit waiting list analyses to people who experience waiting as problematic. This is because from a medical point of view, waiting is not necessarily a problem for every person on a waiting list. People may be on a waiting list by way of precaution, they may be on several waiting lists, or they may have cancelled treatment offered. Various indicators are used to get an impression of the length of the 'real' waiting lists. In hospitals, which patients are waiting for longer than the Treek norms without a plausible personal or medical reason is investigated. Treek norms are target norms set for non-emergency hospital services and refer to the maximum waiting times that are considered medically and socially acceptable and were agreed upon by hospitals, GPs and medical specialists.
In the nursing and caring sector, waiting is not considered problematic if people on a waiting list get interim care they are satisfied with. In mental healthcare and care for the disabled, the average or median waiting time is preferably calculated at the moment waiting is over and treatment commences. This waiting time is shorter than the waiting time of people who are waiting for care at a particular moment. This gives rise to the assumption (but not certainty) that a proportion of those who are waiting at a particular moment have less urgent problems. A picture of the number of people for whom waiting is problematic has only recently emerged.

The current state of affairs

60% —70% of care users report to be seen on time by their GP and/or specialist during office hours in 2004

In September 2004, members of the NIVEL Consumer panel were asked how long it took before their GP and/or specialist saw them. Some 60%—70% of the respondents reported always getting help as quickly as they wanted, while approximately 10% of the respondents indicated never or sometimes getting help as quickly as they wanted (Delnoij *et al*, 2005). In 2002 the Dutch Consumer Association concluded that waiting times for GP and dental care are no longer a problem; the majority of the interviewees considered the waiting times acceptable. Over half of them could see their GP that same day if they contacted the surgery in the morning (Consumentenbond, 2002).

Many GPs have fixed hours for consultations by telephone; 22% of patients consider the accessibility of the GP by phone below standard (Braspenning *et al*., 2004). Some years earlier, patients seemed to be slightly more positive. Then, nearly half of the people who phoned were answered by the GP without delay and over a quarter had to wait for a moment. The remaining callers had to wait a long time or had to phone several times before they could speak to the GP. Only 3.7% never got to speak to the GP (Consumentenbond, 2002; van der Schee *et al*., 2002).

Patient satisfaction about GP accessibility during out-of- office hours fell from 60% to 42% in the period 1997-2003

In 1987, 90% of the population reported that the GP was well accessible during evening en night hours, in 2001 this was 87%. Patient satisfaction with access to the GP during weekends and GP's holidays declined from 89% to 86%. Patients' concerns about accessibility of the GP during out-of-office hours grew from 8% to 12%. Satisfaction with GP's

willingness to make home visits fell from 93% to 84% (Braspenning *et al*., 2004). Another trend study showed that in the period 1997—2003, patient satisfaction with the accessibility and organisation of GP surgery hours was undiminished, but that their satisfaction with out-of-office services decreased from 60% in 1997—2001 to 42% in 2002—2003 (Engels *et al*., 2006). This patient judgement is confirmed by the GPs themselves. In 1987, 88% of the GPs indicated that generally patients could see them the same day. In 2001, 73% could see their GP that same day if they called in the morning (van den Berg *et al*., 2004).

There is a waiting time of two weeks to two months for 50% of the appointments with the dentist, with the exception of emergencies (Consumentenbond, 2002).

The number of people waiting for hospital admission fell by nearly 17% in the period 2002—2004

At the start of the millennium, the Netherlands had relatively long waiting lists for elective surgery, just like a number of other countries (Siciliani & Hurst, 2003). In 2004 a total number of 53,300 people were waiting to be admitted to a hospital, which is 10,800 (17%) less people compared to 2002. The reduction was particularly large in 2004. The number of people waiting for day treatment declined by 5% (*Table 3.4.1*).

Table 3.4.1: Number of people waiting for admission to a general hospital [a] (Prismant & NVZ, 2004).

	2002	2003	2004
Clinical admission	64,100	62,500	53,300
Day treatment	77,200	76,800	73,400

[a] From the 4th quarter of that year.

At the end of 2004 the specialties with the longest waiting lists for hospital admission were surgery (9800), orthopaedics (15,700), plastic surgery (7900) and otorhinolaringology (5200). The specialties with the longest waiting lists for day treatment were surgery (10,800), orthopaedics (11,200), otorhinolaringology (6000) and oral and dental surgery (18,100).

Expected waiting times for hospitals hardly changed

The expected waiting times for the first visit to an outpatient department and for clinical admission differed little across specialties between 2003 and 2004. The waiting lists for day treatment were slightly reduced. The mean expected waiting time was by far the longest for plastic surgery, that is 14 weeks for a first visit to the outpatient clinic, 17 weeks for day treatment and 26 weeks for a clinical admission (Prismant & NVA, 2904).

Waiting times exceeding the Treek norm in hospitals did not change

There are large differences across specialties in the percentages of patients who at a specific reference date have been waiting longer for hospital admission than the Treek norm. In 2004, specialties with less than 5% of the patients waiting longer were internal medicine, gastroenterology, cardiology, rheumatology and paediatrics. Yet there were specialties that required over half of the patients to wait longer than the norm: ortho-

paedics, plastic surgery, otorhinolaringology and ophthalmology. The Treek norms for hospital admissions are more frequently exceeded than those for day treatment. There is little difference between the exceeding rates between 2003 and 2004.

Waiting for elective hospital care was problematic for 20% of the waiting list at the end of 2002

At the end of 2002, Prismant carried out a study among the seven specialties with the longest waiting lists. Two groups of people were distinguished, those who waited at their own request and those who experienced waiting as problematic. 'Problematic waiting' refers to the group of patients who wait longer than the Treek norm for clinical admission or day treatment and who are unwilling to postpone treatment. The problematic waiting list for clinical admission and day treatment can be classified into two categories: the group of patients who for no apparent reason are still waiting for admission (can be scheduled directly) and the group of patients who for various reasons cannot be admitted immediately (cannot be scheduled directly). In total, 37% of the patients on the problematic waiting list appeared to belong to the second category. A fifth of all people on the waiting lists for the seven specialties waited longer than the Treek norm for treatment for no apparent reason; the majority of the treatments concerned can be planned, such as hip, knee and cataract surgery (Singeling, 2004).

The number of people waiting for mental health care increased by 6% in 2004

The number of people waiting for adolescent, adult and geriatric mental health care increased by over 4000 (6%) in 2004. The increase mainly occurred in the application stage, where the number of people waiting doubled (*Table 3.4.2*).

Table 3.4.2: Waiting list data [a] for mental health care (GGZ-Nederland, 2005).

	2004	2005
Number of people waiting		
- appointment	10,500	21,400
- intake	37,700	34,000
- treatment	18,000	15,000
Total	66,300	70,400
Mean waiting time at reference date (1 January) in weeks		
- appointment	7	7
- intake	17	5
- treatment	20	17
Mean waiting time of those who were eventually treated in that particular year in weeks [b]		
- appointment	3	
- intake	4	
- treatment	4	
Percentage of people who had waited longer than the Treek norm at the reference date [c]		
- appointment [d]	57	53
- intake [d]	82	76
- treatment [e]	71	68

[a] 1 January; [b] May be an underestimate; if the group of people who had to wait an extremely long time were to grow; [c] Partly caused by administrative contamination of the waiting lists; [d] Norm 4 weeks; [e] Norm ambulatory mental health care: 6 weeks; clinical mental health care: 7 weeks; protective accommodation: 13 weeks.

Mean (real) waiting time for mental health services remained constant in past years

The proportion of people waiting for mental health services who at a reference date waited longer than the Treek norm has continued to be high, between 50% and 80% (*Table 3.4.2*). This proportion is no longer considered a good measure. Waiting lists are clogged up by people who are still on the waiting list but are no longer waiting. A better measure, but of a different type, is the mean waiting time of those who actually receive care. For each of the three stages (*Table 3.4.2*) the waiting time is a mere 3—4 weeks; relevant trend data for 2004 are not (yet) available (GGZ-Nederland, 2005).

The number of people waiting for nursing and caring decreased by 30% in the period 2001-2003

Information on waiting lists for nursing and care have to be judged in terms of increasing demand, which shows an increase in the number of medical indications for care granted. In recent years this number rose strongly from 485,000 in 2000 to 745,000 in 2004 (*Table 3.4.3*). According to the VWS-budget 2006 all applications are processed within six weeks.

Table 3.4.3: Number of new indications for nursing and caring granted (HHM, 2005).

	2000	2001	2002	2003	2004
Total number of new indications granted [a]	485,000	548,000	600,000	688,000	745,000

[a] New indications granted have been corrected for indications for follow-up care.

Between 2002 and 2004 the waiting lists for nursing and caring decreased by 30%, despite the growing number of medical indications. For care with residential services the decline was 20% and for care without residential services the decline was 45%. The major decline occurred in 2003. In 2004 the length of the waiting list was more or less constant. On 1 January 2005 there were 52,000 people on the waiting list (2200 less than at the end of 2003), 34,200 of whom were waiting for care with residential services (*Table 3.4.4*).

Table 3.4.4: Number of people waiting for nursing and caring (CVZ, 2005b).

Number of people waiting for	1-11-2002 (various sources)	1-10-2003 (various sources)	1-1-2005 (AZR)
Care with residential services	42,547	34,786	34,305
Care without residential services	31,835	19,458	17,731
Total number of people waiting	74,382	54,244	52,036

AZR: AWBZ-wide care registration.

The average waiting time for nursing and caring decreased by 7%-19% in the period 2001-2003; in home care it increased by 13%—43%

The mean waiting time for people on waiting lists for AWBZ services (outdated system) also decreased, with the exception of home care (*Table 3.4.5*). The mean waiting time is about nine months, but varies across regions between four and thirteen months (van

Gameren, 2005). Thus, at the end of 2003, the mean waiting time for nursing and care was two to five times the Treek norm.

Table 3.4.5: Waiting times for nursing and caring and home care (HHM, 2001; 2004).

	Mean waiting times (in weeks)[a]		Change 2001—2003 (%)
	2001	2003	
Nursing homes			
- admission somatic patients[b]	30	28	-7
- admission psychogeriatric patients[b]	41	33	-19
Residential homes[c,d]	66	54	-17
Home care			
- caring[b]	23	26	+13
- nursing[b]	14	20	+43

[a] Reference date October; [b] Treek norm: 6 weeks; [c] Admission; [d] Treek norm: 13 weeks.

Almost 65% of people waiting for nursing or caring received interim care in 2003

In October 2003, over 54,000 people were waiting for nursing or caring. Nearly 35,000 of them (65%) received interim care, mainly home care, rendering waiting list problems far less urgent. Resolving the waiting lists for nursing home care would demand 7000 new places (van Gameren, 2005).

The number of people waiting for care for the disabled decreased by 12% in the period 2004—2005

The total number of indications for care for the disabled changed little between 2002 and 2003 (37,480 and 37,685 respectively). The number of people in treatment rose from 21,688 to 23,694 (CVZ, 2005a). The decrease in the number of people waiting was 400 persons in the care for the physically disabled and 1800 persons for care for the mentally disabled (*Table 3.4.6*).

Table 3.4.6: Number of people waiting for care for the disabled (CVZ, 2005b).

Number of people waiting for	1-1-2003 (ZRS)			1-1-2004 (ZRS)			1-1-2005 (AZR)		
	PhD	MD	total	PhD	MD	total	PhD	MD	total
Care with residential services	848	8694	9542	1008	7993	9001	924	7132	8056
Care without residential services	1124	6831	7955	1513	7088	8601	1158	6146	7304
Total number of people waiting	1972	15,525	17,497	2521	15,081	17,602	2082	13,278	15,360

ZRS: Care Registration System; AZR: AWBZ-wide care registration; PhD: physically disabled; MD: mentally disabled.

The median waiting time for care for the disabled dropped by approximately 90% in the period 2000–2003; the average waiting time for those still waiting dropped by over 40%

The median waiting time for care for the disabled declined dramatically, in particular for the disabled people who actually received care. For those people waiting times dropped to less than one week for day care and to less than ten weeks for residential

care (*Table 3.4.7*). Exceeding the Treek norm has become rare. Waiting times of those still on the waiting list are (much) longer, but are not assumed to be a very good indicator of the magnitude of urgent waiting problems (CVZ, 2005a).

Table 3.4.7: Median waiting time for care for the mentally handicapped [a] (in weeks) (CVZ 2001, 2004).

	2000	2003	Change (%)
31 December on waiting list			
Residential services	73	42	-40
Day care	45	25	-44
Persons receiving care			
Residential services	57	10	-82
Day care	26	1	-96

[a] Treek norm residential services: 13 weeks; Treek norm day care: 6 weeks

What we do not know

OECD analyses of waiting lists for specific surgical procedures are based on data from 2000; more recent information could not be found. Most of the waiting lists registrations started in 2000 and met with some introductory problems. Waiting list data are hard to interpret without further detailed information on the nature and seriousness of waiting. More fundamental research is needed to gain insight into the number of people waiting urgently (CVZ, 2005b). At the request of the Ministry of Health, the CVZ will monitor problematic waiting lists in long-term care from January 2006 onwards (VWS, 2005g).

Due to changes in legislation, registration methods, definitions, data linkage and modes of presentation, published data do not allow proper trend analyses, let alone comparisons of trends between care sectors. Within long-term care, the implementation of a uniform and standardized AWBZ-wide care registration (AZR) is in its final stage.

In the future national waiting list registrations will be needed to provide accurate figures, as waiting lists have proven to be a good indicator for monitoring access to care. There are, however, problems which pose a threat to the continuity of a number of waiting list registrations and are likely to hamper the interpretation of developments in waiting lists in the future. A case in point is the discontinuation of the national waiting list registrations in hospitals.

There is room for improvement in:

- Safeguarding the continuity of existing national waiting list registrations (e.g., waiting lists for hospital care)
- Further harmonisation of waiting list registrations and reports to enable a supra-sectoral picture to emerge
- Research into the assessment of the seriousness of (urgent) waiting lists in terms of adverse health and societal effects consequent to waiting (too) long.

3.5 Access according to needs

Key findings
- Health disparities between people with low and people with high educational levels have increased during the past fifteen years
- For most care services the utilization rates of people with low educational levels equals that of people with high educational levels; people with low educational level use less dental and psychosocial services and participate less in cervical screening programmes
- Overall, differences in care utilization according to ethnicity are small; there is underutilization in subgroups
- Access to care is particularly vulnerable in disadvantaged neighbourhoods and for marginal groups
- According to the Health Care Inspectorate medical care for asylum seekers is adequate; asylum seekers indicate that care professionals do not always take them seriously

Why is access according to needs important?

An adequate access to care is a prerequisite for health care to be responsive to patient needs. The other sections of this chapter mainly focus on barriers that could hinder the access to care. This section considers the result and whether patients get the help they need in view of their health status. If patients don't get the good-quality care they need, this indicates insufficient access (*Section 3.1*).

At a population level a frequently used measure of care accessibility is whether populations at an elevated risk of a worse health status (vulnerable groups) receive sufficient care. In so far as comparative data are available, health disparities according to socioeconomic status are relatively large compared to differences according to, for example, marital status, family composition and degree of urbanisation (Mackenbach & Verkleij, 1997). Life expectancy of people with the highest level of education is 3.5 years higher compared to people with the lowest level of education and on average they even feel healthier for sixteen more years of their lives (van Oers, 2002). Other populations with an on average lower or more vulnerable health status include elderly people living alone, immigrants, people living in disadvantaged neighbourhoods, homeless people, asylum seekers and illegal residents.

Indicators of access according to needs

- Comparison of care utilization by people with a low or high level of education, corrected for health disparities
- Comparison of care utilization by Dutch versus immigrant populations, corrected for health disparities
- Care utilization in disadvantaged neighbourhoods of big cities and by marginal populations
- Satisfaction of asylum seekers with medical care

This section focuses on a limited number of socially vulnerable populations. Together they may give an impression of the extent to which Dutch health care is responsive to their needs.

The current state of affairs

Health disparities between people with low and people with high educational levels increased during the past fifteen years

The second Dutch National Survey of General Practice (DNSGP-2), carried out in 2001, concluded that compared to people with a higher socio-economic status (measured by educational level), people with a lower socio-economic status feel less healthy and tend to report more acute complaints, more chronic conditions and a poorer subjective health (Braspenning *et al*., 2004). Compared to the DNSGP-1, carried out in 1987, socioeconomic differences in subjective and mental health and in the prevalence of diabetes mellitus have increased (Groenewegen *et al*., 1992). Among lower-educated people, the proportion of those with a moderate subjective health rose from 29% to 38%; among higher-educated people this percentage rose from 9% to 11%. The proportion of people with a poorer mental health (GHQ-score $\geq$2) rose from 17% to 26% in the population with a lower education, and from 19% to 24% in a population with a higher level of education. The proportion of diabetics (self-reported) increased from 5% to 10% in lower-educated people and from 1% to 2% in higher-educated people (van Lindert *et al*., 2004; RIVM, 2006b).

For most care services the utilization rates of people with low educational levels equals that of people with high educational levels

In view of the aforementioned health disparities it is to be expected that care utilization by lower-educated people is higher. This expectation is confirmed for GP care in particular (statistically significant) but also, though not statistically significant, for physiotherapists, medical specialists, home care, hospital admissions and prescribed medicines.

After correction for other demographic differences and for differences in subjective health, care utilization remains higher in lower-educated people for some types of care, but the differences between both groups become smaller (GP, physiotherapist, home-care). For other types of care, such as hospital admission, utilization in both groups becomes equal or even smaller in the groups with a lower educational level (medical specialist, prescribed medicines). None of the differences are statistically significant (*Table 3.5.1*). Overall, there proves to be little difference in care utilization according to level of education, after correction for subjective health.

In the scientific literature a debate is taking place about the accessibility of specialist care for lower socio-economic groups. A number of studies report lower specialist visiting rates for lower socio-economic groups (van der Meer, 1998; Doorslaer *et al*., 2004). The DNSGP-2 did not find any difference in the use of specialist care according to socio-economic group (Lindert *et al*., 2004). From an international perspective (1996

data), differences in accessibility of specialist care, corrected for subjective health, are small in the Netherlands (van Doorslaer *et al*., 2004).

People with low educational level use less dental and psychosocial services and participate less in cervical screening programmes

Some care services are used less by lower-educated than by higher-educated people. These services include dental care, psychosocial care and screening for cervical cancer (*Table 3.5.1*).

There have been signs of a decreasing use of dental services in recent years. The number of unfilled cavities in young people with public health insurance has increased (Abbink & den Dekker, 2005). Likewise, in the period 1995—2003 the number of hospital admissions for dental abnormalities (notably caries) rose by approximately 70%, although absolute numbers were low (CBS, 2005b). Half of them were children below 10 years of age, which may indicate a rise in the number of children with bad dental health.

Table 3.5.1: Care utilization by people over 25 years of age by level of education, in 2001 (%) (van Lindert et al., 2004).

	Level of education			OR	
	Low	Middle	High	Corrected for demographics [g,h,i]	Corrected for demographics and subjective health [g,h,j]
General practitioner [a]	51	42	36	**1.4**	1.2
Physiotherapist [b]	16	16	14	1.3	1.1
Home care [b]	14	6	3	1.3	1.1
Dentist [b]	39	76	86	**0.2**	**0.2**
Medical specialist [a]	26	21	19	1.1	0.9
Admission to hospital, nursing home or rehabilitation centre [b]	11	7	6	1.2	1.0
Psychosocial care [c]	15	20	30	**0.5**	**0.5**
Regional institutes for ambulatory mental health care [b,k]	2	1	1	-	-
General social work [b]	2	1	1	-	-
Independent psychologist [b]	1	2	3	-	-
Alternative medicine [b]	5	7	9	0.7	0.6
Prescribed medicines [d]	23	16	13	1.3	1.0
Prescribed medicines used [d]	70	47	40	1.2	0.9
Over-the-counter medicines used [d]	33	39	39	1.0	1.1
Influenza vaccination [c] (aged 45-64)	37	30	26	-	-
Influenza vaccination [c] (aged 65-74)	83	82	82	-	-
Pap smear [e] (women aged 30-59)	75	82	85	**0.5**	**0.6**
X-rays breast [f] (women aged 18 and over)	46	38	29	0.8	0.8

[a] Past 2 months; [b] Past year; [c] Ever; [d] Past 2 weeks; [e] Past 5 years; [f] Past 2 years; [g] OR >1: people with low level of education use *more* care than people with high level of education; [h] OR<1: people with low level of education use *less* care than people with high level of education; [i] Adjusted for gender, age, level of urbanisation, marital status, unemployed, incapacitated, housewife/househusband, insurance status and level of education; [j] Also adjusted for *subjective health*; [k] Also adjusted for GHQ score (indicator mental complaints); Bold: statistically significant p <0.05.

In summary, in the period 2000—2004 care utilization by Dutch people with a lower socio-economic status appeared to be lower for just a few care services.

Overall, differences in care utilization by ethnicity are small; there is underutilization in subgroups

Immigrants rate their health worse than Dutch people. This should be taken into account when assessing their health care utilization. In the DNSGP-2, four different immigrant populations were interviewed, namely Turks, Moroccans, Surinamese and Antilleans. During the two months prior to the survey, about 50% of these populations visited their GP versus about 40% of the Dutch population (*Table 3.5.2*). When adjusted for differences in age, gender, marital status, education and health, these differences decrease. Overall, only Turks and Moroccans appear to visit the GP more often (Droomers *et al*., 2005).

Table 3.5.2: Differences in care utilization (not adjusted) of people aged 18 years and over by ethnicity (%), 2001—2002 (Droomers et al., 2005).

	Dutch	Turks	Moroccans	Surinamese	Antilleans
General practitioner (past 2 months)	41.8	**52.2**	46.9	**53.3**	48.4
Medical specialist (past year)	41.3	**57.4**	44.3	**54.1**	**58.3**
Physiotherapist (past year)	16.4	13.9	**12.6**	20.2	11.4
Hospital admission (past year)	7.3	7.6	6,8	6.4	9.2
Home care (past year)	6.3	3.9	2.3	4.8	6,7
Prescribed medicines (past 2 weeks)	47.2	**38.4**	**35.9**	52.4	41.1
Over-the-counter medicines (past 2 weeks)	37.8	**31.3**	**31.1**	37.4	38,9

Bold: significantly different from the Dutch population

In the previous year, over 50% of the immigrant populations visited the medical specialist, versus 41% of the Dutch population (*Table 3.5.2*). The percentage of Moroccans visiting the specialist is relatively low. Older Turks and Moroccans visit the specialist less often than the Dutch aged 55 years and over, after adjusting for age, gender, education, income and health. For the first generation of immigrants, this could indicate unmet care demands. Earlier research revealed little to no difference in utilization of specialist care between immigrants and Dutch people, which seems to suggest that the situation has improved with the exception of older Turks and Moroccans (Droomers *et al*., 2005).

Immigrant populations, notably Moroccans, have lower utilization rates for physiotherapists, home care and medication than the Dutch population. The finding of a lower medicine use by immigrants is new, as earlier research tended to show a higher use of medicines. Presently there is no explanation for this reversal (Droomers *et al*., 2005). PHF-2006 will provide a more comprehensive picture of the (lower) care utilization by immigrants (RIVM, 2006).

Access to care is particularly vulnerable in disadvantaged neighbourhoods and for marginal groups

At the turn of the millennium, access to care for illegal residents appeared to be quite reasonable, according to a survey among 245 GPs, 110 midwifes and 72 HEDs (Kulu Glasgow *et al*., 2005). Still, the accessibility is vulnerable and variable. Not all health professionals are willing to help illegal residents. In urban areas where many illegal residents call upon care and support services, some practitioners never see illegal residents, while other practitioners see many of them. Some GPs and HEDs limit their services to medically necessary care or require a financial guarantee. As care for illegal residents depends on a small group of illegal-friendly practitioners, this form of care is quite vulnerable. Up to 20%—25% of the necessary referrals to secondary care are not realised (Kulu Glasgow *et al*., 2005).

It is hardly surprising that in disadvantaged neighbourhoods with large populations of vulnerable people (as to health and otherwise) health care delivery is of a larger magnitude, diversity and complexity than elsewhere and access to quality care is under pressure. It does not just concern people from disadvantaged areas but also marginal groups, like the uninsured, illegal residents and homeless people (Verkleij & Verheij, 2003). By 2000, 60% of the homeless people did not get the help they needed according to professionals (Wolf *et al*., 2002). Among deprived and marginalised people living at their own home, but living alone, in social isolation and without social support or control and among the lonely elderly, many individuals do not know where to seek care (Wolf *et al*., 2002; Hortulanus *et al*., 2003).

According to the Health Care Inspectorate medical care for asylum seekers is adequate

A few studies have been carried out into medical care for asylum seekers. Afghan, Iranian and Somalian asylum seekers and refugees report a far worse health status than the Dutch and immigrant populations. Medical files show care utilization to be comparable to the Dutch population (Gerritsen *et al*., 2005). The asylum seekers interviewed had on average 10.9 contacts per year with the medical care for asylum seekers (MOA) nurse and 3.2 contacts with the GP. Whether the contacts with the MOA nurse facilitated a more efficient use of GP care or constituted an extra barrier with a consequent underutilization is not clear (Gerritsen *et al*., 2005).

Another study revealed that asylum seekers use as many GP surgery minutes as Dutch patients with public health insurance. The Screening and Reception Centres (OCs) are an exception in that GPs spend twice as much time with asylum seekers. Care for the asylum seekers takes more organisational time and is much more demanding for the GP because of the high rate of mental complaints, difficult communication and emotional stress (van Oort *et al*., 2003).

In a study on the accessibility of MOA carried out in 2002, the Health Care Inspectorate reached an overall positive conclusion, although with some critical notes. Occasionally GPs decided on treatment on the basis of a telephone consultation only, without

offering the possibility of a consultation or visit in person. Agreements on the accessibility of GPs are insufficiently formalised and accessibility very much depends on the personal commitment of individual GPs (IGZ, 2003b).

The outcome of a pilot study indicates that some asylum seekers are dissatisfied with the access to MOA (opening times of MOA counter), the usefulness of information provided, the understanding for them and for their questions by MOA practitioners during personal contacts, and the results of personal contacts (Thomas & van Wieringen, 2002).

What we do not know

This section reports on the actual access to care for a number of vulnerable populations. It does not report on differences in quality of care provided. This would require far more elaborate analyses. An international example of such an analysis is the American National Health Care Disparities Report (AHRQ, 2004a). In the Netherlands the data needed are not available.

In 2001, the Committee Albeda concluded on the basis of ten years of research that the access to care for low socio-economic status populations was adequate and recommended to continue monitoring access (Programmacommissie SEGV-II, 2001). The Monitor Health Disparities could be the proper instrument, provided it also focuses on care utilization. Health surveys, like POLS, are a rich source of information for correlating and monitoring data on care needs, care utilization and socio-demographic data. POLS also enables trend analyses over the past few decades. In addition, linking databases is an important tool for generating new and important information.

In recent years sufficient good-quality incidental studies have been carried out to get an impression of the care utilization by immigrant populations. These studies should be repeated regularly and be extended to include other immigrant groups and a wider range of subjects. The existing surveys fail to provide information on the use by immigrants of preventive care, obstetric care, mental health care, nursing and care and care for the disabled or on the bottlenecks experienced in the delivery of care.

It is recommended that in the next DHCPR, developments in access to (primary) care should be traced in disadvantaged neighbourhoods and for marginal groups. Relevant incidental studies and analyses need to be repeated for this to be realised.

3.6 Financial access to care

Key findings

- Nearly the entire Dutch population had health insurance in 2003; the number of people without health insurance rose to 1.4% in the period 2000-2004

- The costs of care for the Dutch population rose by 58% in the period 1998-2004; the increase in volume of care per se would have led to a rise of 21%
- Chronically ill people spent on average 500 euro per year on illness-related costs over and above their health insurance premium in the period 1997-2003
- Some 56% of the chronically ill people who were eligible for tax deductions because of additional illness-related costs actually made use of this provision in 2004
- The richer half of the Dutch population pays about two-thirds of the health care expenditure

Why is financial access important?

Financial access is a basic condition for a health care system to function. When people forego necessary treatment because of costs, it may be detrimental to their health. Guaranteeing financial access to care has been an important goal of Dutch government policy for many years. Differences in income may not lead to unacceptable differences in access to care. At the same time, the costs of care must not pose too heavy a burden on the economy nor on people's purchasing power (VWS, 2003a; VWS, 2005a). In recent years, central government has increasingly shifted financial responsibility to the people themselves in order to curb the rising costs of health care. Hence, rising care costs will not always be fully compensated (VWS, 2003a).

In view of the aforementioned primary policy goal, this section focuses on the potential magnitude of financial barriers to care utilization. According to international definitions, care is financially inaccessible when people limit or delay the use of needed care services because of (too) high costs, or when people have to do without other necessities of life due to care services needed (US DHHS, 2000; Schoen *et al*., 2004, 2005b; Salganicoff *et al*., 2005).

In this section indicators are used that shed light on various aspects of financial access. First, having health insurance is an important safeguard for financial access to care. Second, the extent to which people do or do not experience the costs of needed services as a barrier to care utilization is examined. Internationally, this is seen as an important indicator. Third, the share of their net-income people have to spend (in)directly on illness-related costs, after compensatory government regulations is considered. Finally, the notion of financial solidarity expresses the level to which high-income people contribute to the costs of health care for low-income groups.

Indicators of financial access

- Insurance status of the population, including being uninsured
- Health care costs per capita
- Amount of co-payments and out-of-pocket payments
- Tax deduction because of illness-related costs
- Additional illness-related costs for chronically ill people
- Use of financial compensatory measures by chronically ill people

- Percentage of family income spent on health care costs by high and low-income groups
- Share of total health care costs in the Netherlands that is paid by high and low-income groups (income solidarity in health care)

The current state of affairs

Nearly the entire Dutch population had health insurance in 2003

In 2003 over 10 million people had public health insurance and 5.7 million people had taken out private health insurance. In 2004 the number of people without insurance coverage was estimated at 223,000, which is 1.4% of the Dutch population. This is twice as high as in 1995, when 103,000 (0.7%) people had no health insurance (*Figure 3.6.1*). Very little is known about the composition of this uninsured group; some are only temporarily uninsured, others have been refused by the health insurers due to arrears in premium payments or not being eligible. Over 5000 people have no health insurance because of religious reasons. Younger people, between 15 and 30 years of age, are most often not registered with a health insurer (Vektis, 2005a). According to the Ministry of Health Working Group Uninsured, currently the largest group of uninsured people consists of the self-employed, freelancers and millionaires, with homeless people making up only a very small proportion of those uninsured (VWS, 2005d). The working group does not provide figures on the constituencies of the uninsured population.

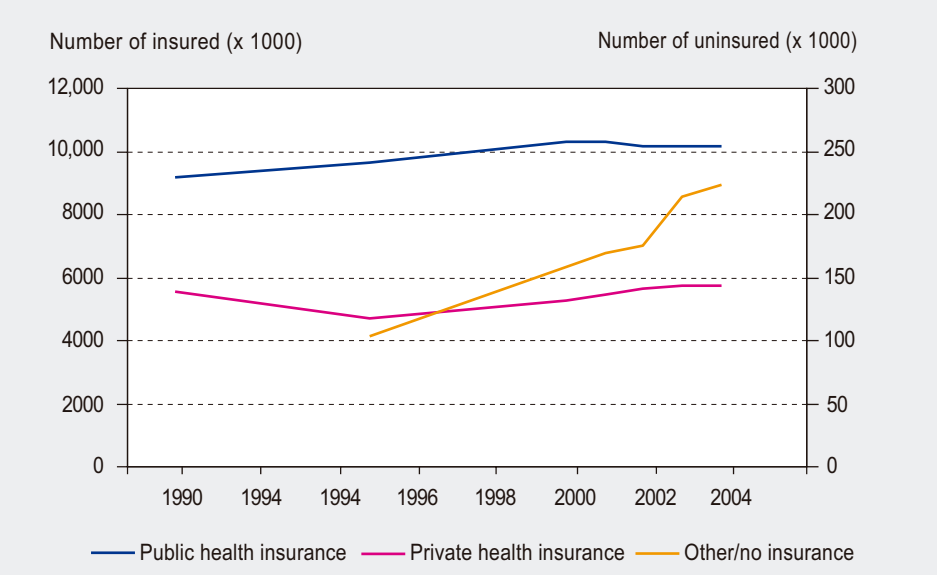


Figure 3.6.1: Number of people with(out) health insurance, by type of insurance, 30 June 1990-2004 (Vektis, 2004; CBS-Statline, 2005a).

The costs of care for the Dutch population rose by 58% in the period 1998-2004

In recent years health care costs have risen dramatically, both in absolute terms and in percentage of national income (see *Section 4.2)*. This is manifested in rising health

insurance premiums, in higher AWBZ premiums and in a rise of co-payments and out-of-pocket payments due to limitations in insurance packages. Between 1997 and 2003, the mandatory health insurance premium of employees with a modal income rose by almost 80%, while the income of this employee rose by a mere 25% (VWS, 2003a). According to the CBS Health Accounts, the growth in the volume of care per se between 1998 and 2004 caused the health care expenditures per capita to rise by 21% (CBS, 2006b). If price increases between 1998 and 2004 are also taken into account, these expenditures would have risen by as much as 58%.

The out-of-pocket payments increased in the period 1998—2004; out-of-pocket payments as a share of the total health care expenditure decreased slightly

Out-of-pocket payments (including co-payments) are part of the total health care expenditure. Out-of-pocket payments increased from 3575 million euro in 1998 to 5128 million euros in 2004. However, out-of-pocket payments as a share of total care expenditure decreased slightly: from 9% in 1998 to 8.5% in 2004 (*Figure 3.6.2*). This share is low compared to other EU countries like Spain and Italy where it was 25% in 1998 (VWS/FIN, 2003).

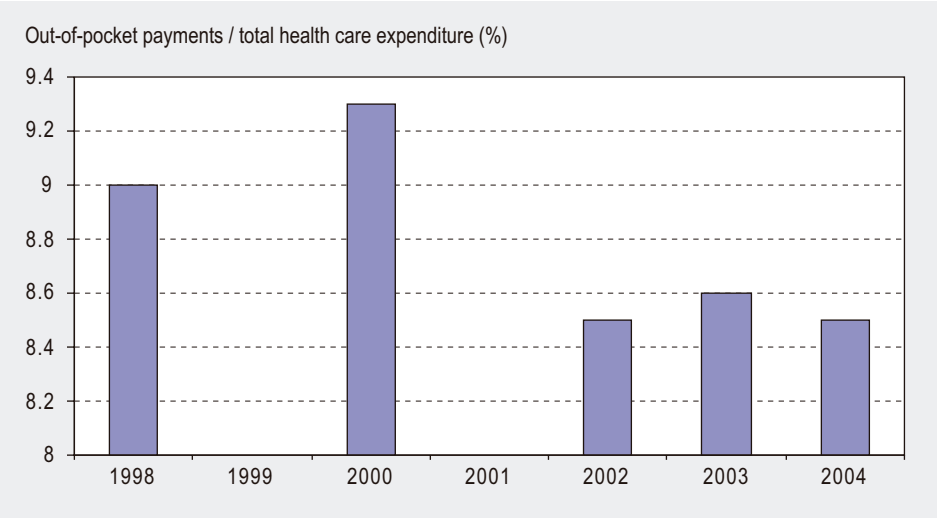


Figure 3.6.2: Out-of-pocket payments as a share of total health care expenditure (%) (Smit et al., 2006).

Chronically ill people spent on average 500 euro per year on illness-related costs over and above their health insurance premium in the period 1997—2003

In 2003, 80% of all chronically ill people had extra costs due to illness over and above their health insurance premium, including co-payments and costs of over-the-counter medicines, medical aids, transport, diet, extra energy and small presents for informal carers. These extra costs amounted to over 600 euro per year on average. If divided over all chronically ill people, it comes down to an average of 500 euro (Rijken, 2004).

Due to changes in the PPCZ questionnaire, long-term data can only be compared if the expenditure on medical aids and home adaptations are excluded. Over the period 1997—2002, care-related costs of chronically ill people fluctuated slightly without a distinctive rise or fall in out-of-pocket payments. In recent years the average income of chronically ill people has not or has hardly increased.

Chronically ill people with multiple physical limitations are financially vulnerable. Their income is lower, on average, than the income of other chronically ill people and they have higher illness- or handicap-related costs. In 2004, the average net equivalent income of chronically ill people with three of more physical limitations was 1130 euro per month versus 1370 euro for chronically ill people without limitations. And, in 2003 over 80% of the chronically ill people with more than three limitations spent an additional 800 euro due to their illness or disabilities (Rijken, 2004).

Some 56% of the chronically ill people who were eligible for tax deductions because of additional illness-related costs actually made use of this provision in 2004

The tax rebate for exceptional medical expenses is one of a set of measures to safeguard the financial accessibility of care. In 1998, an amount of 800 million euros was approved by the Dutch Tax Department as tax rebate for exceptional medical expenses. By 2001, this amount had run up to 1545 million euros (FIN, 2003). This increase is due to the rise in health care costs and may point to a growing number of people who are dependent on this compensation. Although the measure became more widely known and used in 2003, the use is not optimal. In 2003 and 2004, some 44% of the chronically ill and disabled people entitled to tax rebate failed to apply (Rijken, 2004; Janssens *et al*., 2005; Rijken & Janssens, 2005).

The richer half of the Dutch population pays about two-thirds of the health care expenditure

The Council for Public Health and Health Care (RVZ) concludes that with respect to sustainable solidarity over the past fifteen to twenty years, the level of income solidarity in health care has remained relatively stable (RVZ, 2005a). The Council also points to an increase in risk solidarity between 2000 and 2004. However, it is impossible to say anything about the performance of the Netherlands in this respect compared to other Western European countries, as current data are lacking. Analyses of data from the 1990s show that the financial solidarity with regards to health care cost was less strong in the Netherlands than in Western European countries like the UK, Finland, Italy Germany and Belgium, but stronger than in Switzerland, Poland and Greece (Jansen & Doorslaer, 2002; de Graeve & van Ourti, 2003).

What we do not know

In this section a variety of data sources have been used, including the Insurance Monitor, the PPCZ, the Budget Survey, the national health accounts and tax data. Nevertheless this was not enough to fully describe the indicators. There is only sufficient information on the financial barriers to the accessibility of care for chronically ill people. Proper time series and international comparisons are lacking. The effects of a limited

financial access on the actual utilization of care and the health status are not dealt with. There are a few studies that point in that direction, like the decreased use of home care after raising co-payments (Baanders, 2004; Vernhout *et al*., 2004) and the increase in discontinued treatments following the exclusion of physiotherapy from the basic insurance package (Swinkels & van der Ende, 2004; Swinkels *et al*., 2005).
On 1 January 2006 the new health care system came into force which includes many financial measures. The indicators put forward in this section are not sufficiently equipped to monitor the important changes concomitant to the new system in terms of financial access for financially-vulnerable groups. A number of alterations and improvements seem possible:

- Many parties are watching the development in the number of people without health insurance coverage with great interest. The government attaches great importance to monitoring this development (VWS, 2005d).
- To be able to distinguish the various types of uninsured, adaptations in the operational definitions of uninsured and underinsured in the Insured Monitor are desirable; at present data on the extent to which people have taken out supplementary insurance and the magnitude of own risk covers are lacking.
- It is not known to what extent the financial costs of health care constitute a barrier to care utilization for different insurance status and income groups. There are good examples of relevant international studies.
- Incidental studies into the care expenses of people relative to their income and the uptake of all national and municipal compensating measures are available, but these lack continuity. It would therefore be desirable to get a better picture of care expenses in relation to family income, specified according to health insurance costs (basic and supplementary insurance premiums) and co-payments. This will require insight into the utilization and magnitude of national and municipal compensation measures, such as an income-related health care allowance, no-claim system, tax deduction because of exceptional health care costs, the municipal supplementary benefits and the compensations under the WVG (Services for the Disabled Act) and the WMO (Social Support Act).
- Research into the effects of the health care system reforms and other financial measures on the actual utilization of care and the potential effects on health, seems desirable. This will require a systematic overview of the reductions and the extensions of the basic package.
- An up-to-date insight into income solidarity in care compared to other countries is lacking. The data and expertise to analyse the data are available. The composition and the interpretation of the solidarity index calls for adaptation if the basic package and the supplementary packages continue to diverge.

These subjects can only be adequately addressed by a combination of surveys and registrations together with the linking of databases. This list will also need to be prioritised.

3.7 Geographical access and regional distribution of care services

Key findings
- Health care services and health care providers in the Randstad and urban areas are in closer proximity to care users than elsewhere in the Netherlands
- The difference in supply between regions with the highest and lowest density is small for general practitioners, physiotherapists, dentists, residential homes and nursing homes; the difference factor across the regions varies between 1.3 and 2.4
- The difference in supply between regions with the highest and lowest density is much greater for midwifes, day care places in nursing homes and care for the disabled; the difference factor across the regions exceeds 4

Why are geographical access and regional distribution of care services important?

The higher the number of health care services in a certain area, the more accessible health care is for people in that area. If there is more than one health care service in close proximity, people can, in principle, choose between services.

Preferences and professional norms for geographical access and distribution of services differ by type of care. This has much to do with the kind of service and the number of patients that use it and the consequent optimal scale of the facilities. Services for acute care, primary care and preventive services with high utilisation rates need to be easily accessible (see *Section 3.3*).

Indicators of geographical access and regional distribution of care

- Proximity of services, expressed in actual travelling time, or number of care locations in an urban area or region
- Number of outpatient and inpatient services per region per 10,000 inhabitants

The current state of affairs

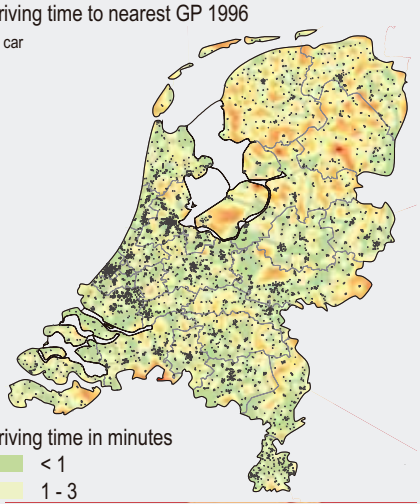
Health care services and health care providers in the Randstad and urban areas are in closer proximity to care users than elsewhere in the Netherlands

Figure 3.7.1 shows the proximity and locations of a range of health care services. The concentration of care services and care providers is highest in large towns and cities and in the Randstad. Consequently, travelling times of people living in these areas tend to be less. However, congested traffic and public transport systems will also affect people's travelling times, which will not necessarily work out in favour of city dwellers.

For hospitals, the rule of thumb is a maximum of 30 minutes travelling time by car to the nearest hospital. The House of Representatives favours this time and it is stipulated in the Health Provisions Act (Wzv) (CBZ, 2002). In 2001 for most Dutch people it took

Driving time to nearest GP 1996

by car



Driving time in minutes

- < 1
- 1 - 3
- 3 - 5
- 5 - 7
- 7 - 10
- 10 - 15
- ≥ 15
- GP

Hospitals 2005

- University hospital
- General hospital
- Decentralised outpatient clinic
- WZV region
- Hospital with multiple locations

Non-affiliated institutions 2005

- Rehabilitation centre
- Asthma centre/lung rehabilitation centre
- Epilepsy centre
- Dialysis centre
- Audiological centre
- Radiotherapy centre
- Other
- WZV region

Mental healthcare services 2004

- Multifunctional
- Clinical
- Ambulatory
- Residential
- Drug use
- Medical nursery
- Child and adolescent
- Forensic
- AWBZ region

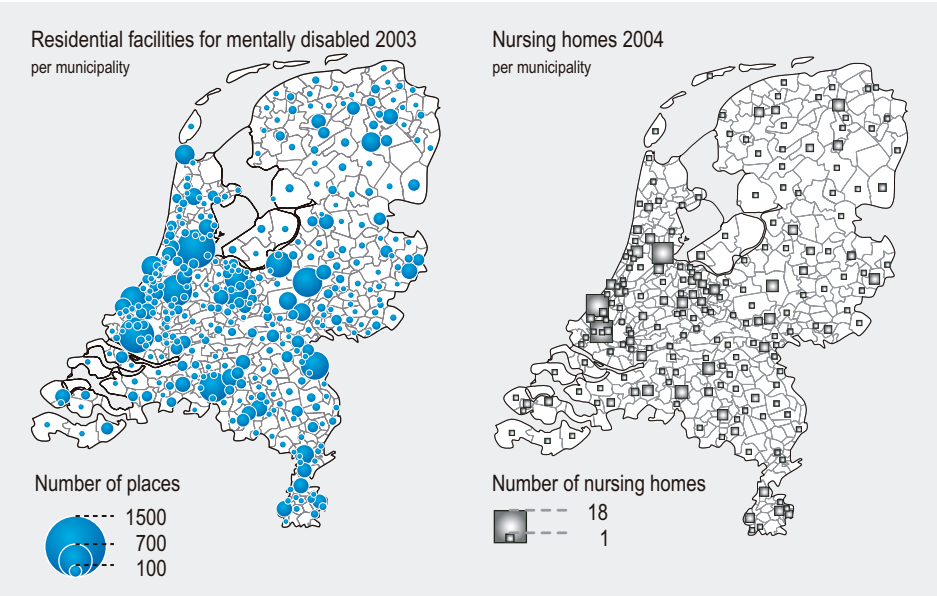


Figure 3.7.1: Proximity of care services by travelling time, or by number of locations of care services per region or municipality (RIVM, 2004b,c; 2005b-e).

far less than 30 minutes to get to a hospital; it was calculated by means of a model that 63% of the population would be able to reach the nearest hospital within 10 minutes and that it would take about 0.4% of the population more than 30 minutes to get to a hospital. Affected areas are the Wadden Islands, southeast Friesland and the north of Groningen.

The difference in supply between regions with the highest and lowest density is small for general practitioners, physiotherapists, dentists, residential homes and nursing homes; the difference factor across the regions varies between 1.3 and 2.4

Regional differences in the volume of care supply influence the geographical access of care services. *Table 3.7.1* presents an overview of a number of services. It is not possible to find a uniform classification of regions that suits all existing services equally. To enable a preliminary comparison, classifications of regions of comparable scale size have been selected. This scale size is rather large. GPs would require a smaller scale size such as GP-districts, municipalities or even neighbourhoods. At the scale used, regional differences in care supply appear to be relatively small for GPs (1.3), dentists (2), physiotherapists in fte (2.2), number of beds in nursing homes and residential homes (2.1-2.4), and the number of day care places for the mentally handicapped (2.3), all measured by the difference in supply between the regions with the highest and the lowest supply. The (maximum) difference factor for these services varies between 1.3 and 2.4. The difference factor is higher for midwifes (≥6), residential facilities for mentally handicapped people (4.4) and the care for physically and sensory handicapped people (≥4.6) (*Table 3.7.1*).

The difference in supply between regions with the highest and lowest density is much greater for midwifes, day care places in nursing homes and care for the disabled; the difference factor across the regions exceeds 4

The difference factor for midwifes may seem very high. However, no conclusions can be drawn from these data about possible regional shortages, as these depend on the demand in a particular region, the need for quick access to midwife services, and the presence of other care services that might deliver the same care (in the same or neighbouring region). Table 3.7.1 only compares the regions with the highest and the lowest concentration of services. The difference scores would be smaller if, for example, the three or five highest concentration regions were to be compared to the three or five lowest concentration regions.

Table 3.7.1: Regional differences in care supply.

	Region with highest supply	Region with lowest supply	Difference factor	Kind of Region[a]	Denominator (number of inhabitants)	Year
General practitioner	5.7	4.5	1.3	DHV	10,000	2003
Midwife	6	0	6-∞	WGR	10,000 women aged 15—39	2003
Physiotherapist (fte)[b]	11	5	2.2	WGR	10,000	2005
Dentist	5.8	2.6	2	NMT	10,000	2003
Pharmacist	c.a.n.v.					
Hospital	c.a.n.v.					
Mental health care	c.a.n.v.					
Residential home (beds)	58	27	2.1	AWBZ	1000 65+	2004
Nursing home (beds)	39	16	2.4	AWBZ	1000 65+	2004
Nursing home (day care)	9.3	0.8	11.6	AWBZ	1000 65+	2004
Care mentally disabled (residential care)	70	16	4.4	AWBZ	10,000	2003
Care mentally disabled (day care)	16.6	7.2	2.3	AWBZ	10,000	2003
Care for physically disabled (residential care)	6.9	0	6.9-∞	AWBZ	10,000	2003
Care for physically disabled (day care)	4.6	0	4.6-∞	AWBZ	10,000	2003
Care for sensory disabled	9.6	0.1	9.6-∞	AWBZ	10,000	2003

[a] 23 DHV regions, 42 WGR regions, 34 NMT regions, 32 AWBZ regions; [b] Source: NIVEL, 2006; c.a.n.v.: comparative analysis not available. DHV: Districts Huisartsen Vereniging (District general practitioners organisation); WGR: Wet gemeenschappelijke regelingen (Joint Regulations Act); NMT: Nederlandse Maatschappij tot bevordering der Tandheelkunde (Dutch Society for the Promotion of Dentistry).

What we do not know

This section is based on numerous registered data on locations of care services. However, these data change quickly; institutions merge, independent health professionals move to another practice, new care providers enter the field and others withdraw, or care institutions offer different care services at a certain location. It takes a huge

effort to keep these data up-to-date. More data on the distribution of care services are needed to be able to update and assess these distributions in terms of regional shortages/surpluses, geographical access and patient choice. Such data would include combined data on locations, opening hours, number of staff (in fte), resources (beds, surgery capacity, type of care supplied) and on care needs and care demands. Current registrations of actual locations of care institutions (postal code) and the types of care supplied do not suffice and need to be improved.

3.8 Personnel and staffing

Key findings

- The number of vacancies in health care that are difficult to fill has been decreasing since 2001
- Absenteeism of personnel in health care decreased each year in the period 2000—2003; it increased by 0.3% in 2004
- The supply and demand of medical specialist care is in balance
- Shortages of nursing and caring personnel may occur over the next few years
- About 99.9% of the Dutch population is registered with a general practitioner
- Over 1% of the population with their own teeth has no dentist, but would like to have one

Why is availability of staff important?

Shortage of personnel in health care is an important societal issue. Threatening shortages receive a great deal of attention from both the media and policy makers. It is quite understandable that society attaches so much importance to staffing in health care. For health care professionals provide services that touch on something that is valued most by most people: health. Furthermore, working in the health care sector requires complex knowledge and skills that can only be obtained by specific education and training. No wonder, many medical professions are protected by law. That is why it is often quite impossible to recruit people from other disciplines (SCP, 2002).

Shortages of personnel can lead to undesirable situations, like waiting lists in hospitals and patient stops with dentists and GPs. Some consequences of staff shortages have been dealt with in the sections on waiting times (*Section 3.4*), access (*Section 3.5 and 3.6*) and (*Section 3.3 and 3.7*).

Indicators of the availability of staff

- Number of vacancies in health care that are difficult to fill
- Personnel absenteeism rate
- Current unfulfilled demand
- Extent to which the current influx of personnel is matched to developments in care demands
- Number of people who are not registered with a GP or dentist

The current state of affairs

The number of vacancies in health care that are difficult to fill has been decreasing since 2001

The number of vacancies in health care is an indication of the need for personnel in the sector. The number of vacancies that are difficult to fill is an indication of the magnitude of shortages experienced as problematic. Evidently, the available budget also has an effect on the number of vacancies; a vacancy will not become official unless the salary for the post can be funded.

Figure 3.8.1 presents the total number of vacancies (that are difficult to fill) for all health care professions in the period 2000—2004. In 2001 the number of vacancies was at its peak, that is 22,200 vacancies with 11,800 difficult to fill. After 2001 the number of vacancies fell to 14,000 and in 2004 the number of vacancies that were difficult to fill had dropped to 1900. The decrease in the number of vacancies matched developments in other sectors, although in health care this decrease set in later. The vacancy rate (number of vacancies per 1000 jobs) was 25 in 2001 declining to 16 in 2004.

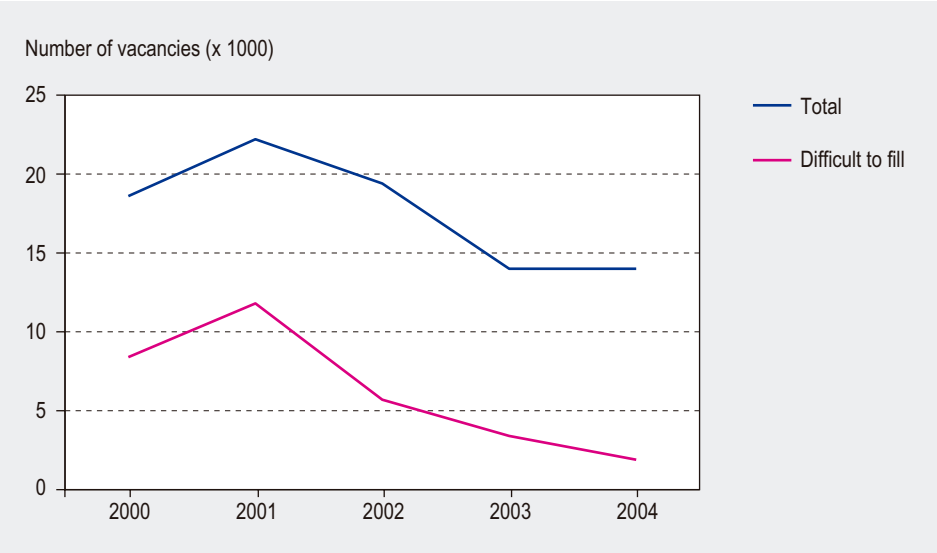


Figure 3.8.1: Total number of vacancies and number of vacancies that are difficult to fill in health care and welfare, 2000—2004 (CBS-Statline 2005b,c).

Absenteeism of personnel in health care decreased each year in the period 2000—2003; it increased by 0.3% in 2004

Personnel shortages are not only the result of a structural lack of personnel but may also be the result of absenteeism. In this section, the absenteeism data relate to five branches which together constitute a major part of the health care sector, that is home care, residential homes and nursing homes, care for the disabled, mental health care and general hospitals.

Figure 3.8.2 presents absenteeism rates for the first quarters of the years 2001—2005. The total absenteeism rate fell in the period 2001—2004, but increased again, by 0.3%, between 2004 and 2005 for the first time in years. Clearly, this is a trend reversal. This increase is due to an increase in short-term absenteeism.

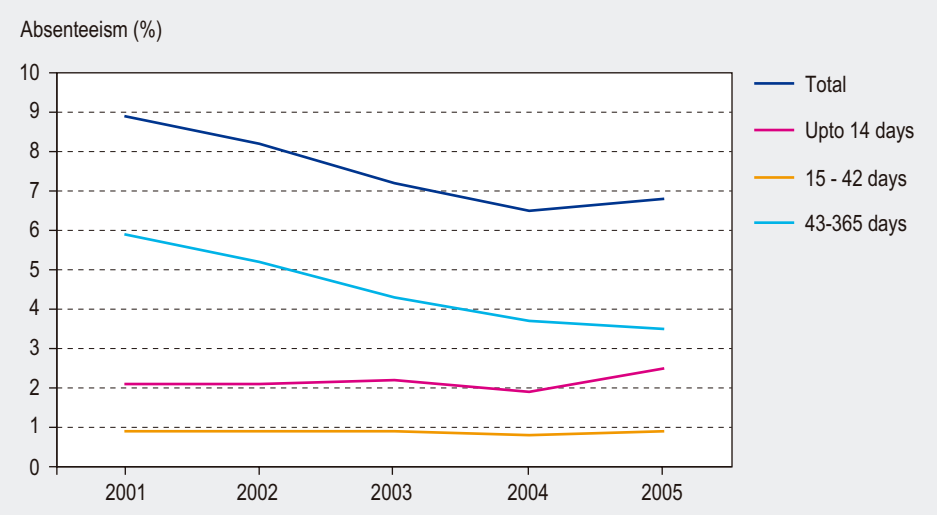


Figure 3.8.2: Absenteeism in health care by duration, 2001—2005 (%) (Vernet, 2005).

The absenteeism rates differ strongly between branches. *Figure 3.8.3* shows that the absenteeism rate is highest in home care: 8.3% in the first quarter of 2005. General hospitals have the lowest absenteeism rate but show the highest rise, from 5.3% in 2004 to 5.9% in 2005. In part, these differences can be explained by the number of women working in a particular branch. The absenteeism rates of women are considerably higher than those of men for all health care branches. For the entire health care sector, the absenteeism rate for women (excluding maternity leave) is a third higher than for men, 7.2% and 5.4% respectively. If maternity leave is included, the absenteeism rate for women is on average 63% higher than for men. In view of the feminisation of most medical professions, it is quite possible that absenteeism rates among physicians can be expected to rise.

No shortages in the short term with the current influx

The most recent projections for primary care are reported in "*Op één lijn*" (In one line) (Hingstman & van der Velden, 2005). In contrast to earlier projections of the Capacity Body (Capaciteitsorgaan), epidemiological developments have also been taken into account. In *Table 3.8.1* the shortages and/or surpluses are represented in a simplified manner, based on the average of the two scenarios used. For most primary care professions, no great shortages are being expected. The greatest shortages are expected for GPs: 1.5% to 9% in 2020 on the assumption of an unchanged policy.

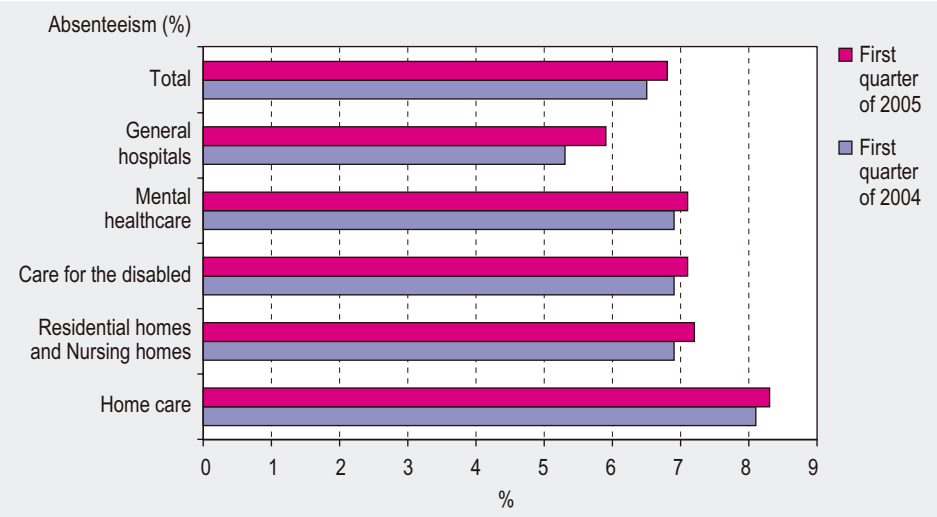


Figure 3.8.3: Absenteeism (excluding maternity leave) in health care in the first quarter of 2004 and 2005, by branch (%) (Vernet, 2005).

Table 3.8.1: Expected availability of various primary care providers, in the future (Hingstman & van der Velden, 2005).

	2010	2020
General practitioners	+/-	-
Pharmacists	+/-	++
Midwifes	++	++
Physiotherapists	++	++
Remedial therapists	+/-	+

-: shortage ≥2%; +: surplus ≥2%; ++: surplus ≥10%.

Shortages of nursing and caring personnel may occur over the next few years

The future supply of nurses, carers and social-pedagogical workers was estimated by Prismant (van der Windt & Talma, 2005). *Table 3.8.2* represents the estimates in a simplified manner. No or hardly any shortages are expected for 2006, with the exception of some shortages in mental health care and home care. However, if the influx of new personnel does not rise, shortages are expected in all branches in 2008. The shortages will vary from 1% in hospitals to 5% in home care. To maintain the same level of supply, the intake of students for all types of medical education and training needs to rise by approximately 10% compared to 2003. The greatest shortages are estimated to occur in jobs requiring the lowest levels of vocational education and training, that is level 1 and to a lesser extent levels 2 and 3. Prismant indicates that these shortages can easily be prevented. Many ROCs (Regional training centres) provide vocational training for both the health care and the welfare sector. For the welfare sector considerable supply surpluses are expected because of the large number of ROC graduates and because it is relatively easy to job hop from other employment sectors to welfare work, for example, by on-the-job training.

Table 3.8.2: Estimated supply of nurses, carers and social-pedagogical workers, in 2006 and 2008 (Prismant, 2005).

Branch	2006	2008
Hospitals	+/-	-
Mental health care	-	--
Care for the disabled	+/-	--
Residential homes and nursing homes	+/-	--
Homecare	-	--

-: shortage ≥1%; +: surplus ≥1%; --:shortage ≥2%; ++: surplus ≥2%.

Current unfulfilled demand

The current unfulfilled demand and the level to which the influx of care providers matches the care demand are based on the reports of the Capacity Body. The unfulfilled demand is the proportion of the demand that cannot currently be met. This is not a 'hard' fact but a well-considered estimate of various 'chambers'. These chambers consist of experts from the relevant professions, educational institutions, employers and occasionally health insurance companies. The unmet demand is also included in the estimates. The figures only relate to professions that are centrally planned and estimated.

The supply and demand of medical specialist care is in balance

Table 3.8.3 presents the percentages of demand that are unfulfilled in various medical disciplines. The most recent estimate, made in 2005, is placed alongside the estimates made in 2000 (Capaciteitsorgaan, 2005; van der Velden *et al*., 2003). In general, the percentages for both GP care and most medical specialties decreased from 5% to 2%. This decrease is mainly due to the growth in various medical professions and the employment of assisting and supporting disciplines (see *Section 3.9*). Four specialties are mentioned specifically, as they are estimated to have the highest unfulfilled demand. It is highest for nuclear physicians (17%) followed by gastroenterologists (12%), rehabilitation physicians (10%) and psychiatrists (7%).

Table 3.8.3: (Current) unfulfilled demand, 2000 and 2005 (%) (Capaciteitsorgaan, 2005; van de Velden et al., 2003).

	2000	2005
General practitioners	5	2
Medical specialists [a]		
- Gastroenterologists	5	12
- Nuclear physicians	5	17
- Psychiatrists	5	7
- Rehabilitation physicians	5	10
- Other medical specialties	5	2
Dental specialists		
- Dental surgeons	5	5
- Orthodontists	3	1
Social medicine		
- Occupational physicians/Insurance physicians	10	
- Nursing home physicians	5	1
Physicians for the mentally disabled		2

[a] In 2000 the unfulfilled demand for specialists in general was estimated at 5% without differentiation between professions.

About 99.9% of the Dutch population is registered with a general practitioner

The first reliable figures of people not registered with a GP were reported in 2005 (Poortvliet *et al*., 2005; IGZ, 2005b). These figures only relate to people with public health insurance (as at 2006 about two-thirds of the Dutch population). It is estimated that close to 10,000 people with public insurance (0.09%) are not registered with a GP although they would like to be. So, the problem is limited in quantitative terms. Additional surveys show that this population is not less healthy than the population that is registered with a GP. It also appears that many initiatives have been set up locally and most people seem to find their way to care when needed. Nonetheless, the absence of a GP, which is most likely to occur in the so-called VINEX locations (large new housing estates), may pose a problem.

The Health Care Inspectorate has expressed concern about the care for illegal residents, who because they are seldom registered with a GP are at risk of falling between the cracks. An increasingly stricter alien policy puts even more pressure on the care for this population (IGZ, 2005b).

Over 1% of the population with their own teeth has no dentist, but would like to have one

A presumably slightly larger number of people are not registered with a dentist. A survey among over 1000 respondents of the NIVEL Consumer panel showed that in 2001, 1.2% of the people with their own teeth were not registered with a dentist but would like to be (van der Schee *et al*., 2003).

What we do not know

Presently, by order of the Capacity Body estimates are being carried out for many medical professions on a regular basis. On the basis of these estimates, it is possible to anticipate the need for future care supply. For nurses and carers in particular, it is harder to make long-term estimates, as the supply of these professionals appears to be more sensitive to economic conditions.

To reach a better and more economic balance between demand and supply, the Ministry of Health is focusing on a rearrangement of tasks. Expectations with respect to new care professionals like nurse practitioners and physician assistants are high (RVZ, 2003b). However, further research into the productivity of those newcomers needs to be conducted for something to be said about the required influx (see *Section 3.9*).

It should be pointed out that the shortage of personnel as experienced by care providers, care institutions and patients is not always reflected in the data presented above. When there is no money to employ personnel, there will be no official vacancy. In addition, a balance between supply and demand at the national level does not necessarily imply an absence of regional deficits. Accurate assessments as to whether the supply of personnel is adequate, will in part need to be based on a careful monitoring of information from the care sector.

Finally, there is an important question with respect to the new health care financing system implemented on 1 January 2006: What effects will the new financing system have on the demand for care and the performance of care providers? All estimates published until now, have failed to take such considerations into account.

3.9 Health care professions and health care training

Key findings

- The number of active physicians in the Netherlands is low and the number of active nurses is high when compared to other European countries
- In community pharmacies in particular, the proportion of less-qualified personnel is increasing
- General practice assistants have been carrying out an increasing number of medical-technical activities over the last decade; this trend is expected to continue
- The number of new care professionals is increasing; presently there are seven training courses for nurse practitioners and five for physician assistants
- The percentage of Dutch people who provide informal care has remained more or less stable over the years, that is about 12.5%

Why are developments in the professional structure and educational system important?

If health care is to be kept accessible in the future, an efficient division of medical-technical tasks is crucial. Against this backdrop two questions arise: How can medical technical tasks be divided in an optimally efficient manner whilst safeguarding the quality of care and the safety of patients? And, what is the best possible way for the educational system to anticipate this development? Which professional performs which tasks in health care depends primarily on the specific expertise of each professional. In addition history and tradition also have a considerable influence on the division of tasks and not necessarily with an optimal result (RVZ, 2003b). The Council for Public Health and Health Care's (RVZ) advisory report *Taakherschikking in de gezondheidszorg (Task rearrangement in health care)* (2003b) has lent further impetus to the course set out by the Ministry of Health in which the reorganisation of the professional structure takes a prominent place.

The medical education and training system together with a more efficient division of tasks are currently important issues. On 1 April 2004 the Minister of Health appointed a steering group responsible for the modernisation of professional training in health care (Stuurgroep Modernisering Opleidingen en Beroepsuitoefening in de Gezondheidszorg (MOBG)). By government order, this steering group is tasked with reforming and modernising the professional structure and medical training into an integrated system with a matching administrative structure, within a five year period (MOBG, 2005). Two major concerns in the process of modernisation are the training of new care professionals, who can take over part of the tasks of other professionals, and mak-

ing the health system more flexible by, for example, vertical differentiation in medical training. This would enable anticipated shortages to be met by allowing students to change between different master courses more easily. Against this backdrop the following suggestions have been made: developing a bachelor of medicine programme, introducing a 'basic' specialist, and reducing the period of training for medical doctors by improving the alignment of graduate and postgraduate training (LeGrand-van den Boogaard, 2003; Meyboom-de Jong *et al*., 2002).

This section outlines the development of the professional and educational structure without presenting a complete picture. This is because it will take a long time to realise the intended changes, especially where completely new training programmes need to be developed. No relevant empirical data are available yet. So in the final section a number of indicators will be suggested which may provide a more complete picture in the future.

Indicators of developments in the professional structure and educational system

- Number of physicians and nurses per 100,000 population
- Professional ratios: number of care providers relative to another type of care provider (e.g., number of dental hygienists to dentist)
- Medical-technical tasks carried out by general practice assistants
- Number of practice nurses in GP practices
- Numbers of qualified physician assistants and nurse practitioners working and in training
- Percentage of Dutch people who provide informal care

The current state of affairs

The number of active physicians in the Netherlands is low and the number of active nurses is high when compared to other European countries

Compared to other European countries the number of physicians working in the Netherlands is low; 192 per 100,000 population (*Figure 3.9.1*). This is the lowest figure for 26 European countries with the exception of Rumania (not shown) and Switzerland. In Germany, France and Spain the number is 65% higher. In contrast, the number of nurses working in the Netherlands is relatively high: in 2002 (not shown) the number was as high as 1381 per 100,000 population. This is about 84% above the European average. Still, the nurse to population ratio varies widely across European countries, from 2168 in Finland to 424 on Cyprus. Alongside Denmark, Ireland and Finland, the Netherlands belongs to the countries with the highest number of nurses.

In community pharmacies in particular the proportion of less-qualified personnel is increasing

Figure 3.9.2 shows four professional ratios for a period of six years. To enable comparison, the ratios are represented as index numbers with the first measurement being set at 100. Pharmacies in particular show ongoing developments. Between 1998 and 2002 the pharmacy assistants to pharmacist ratio in community pharmacies rose from 3.5 to

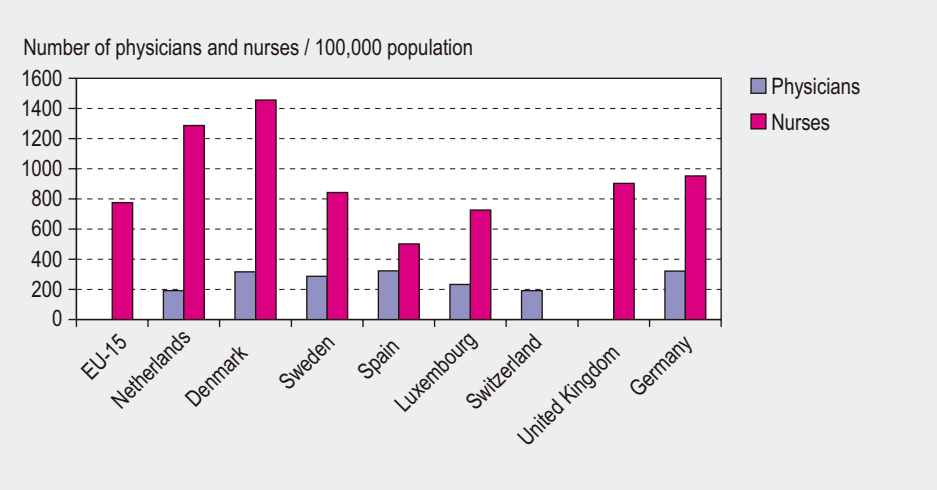


Figure 3.9.1: Number of physicians and nurses (including midwifes) per 100,000 population, in 1999 (Eurostat; New Cronos database).

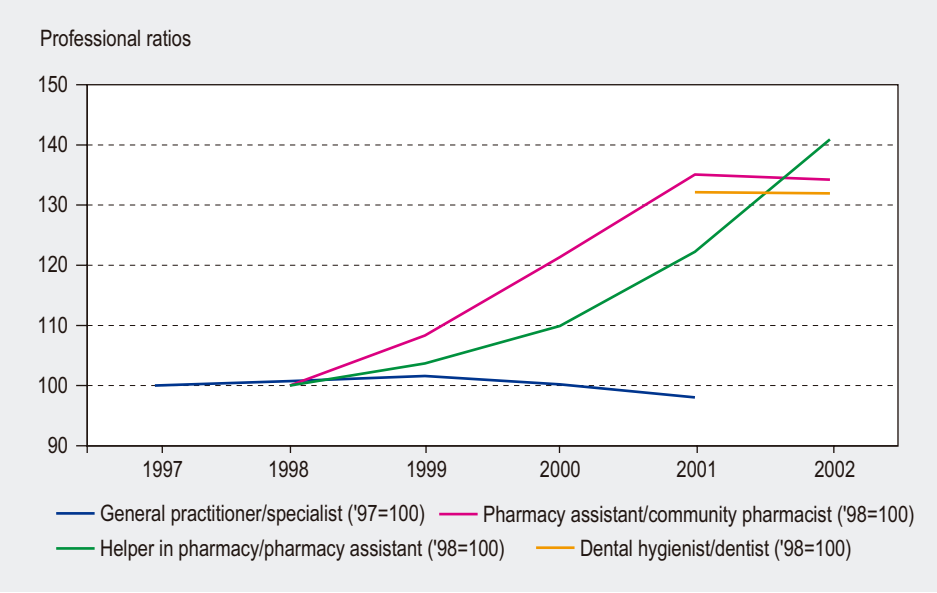


Figure 3.9.2: Development in professional ratios, index numbers, 1997-2002 (NIVEL, OSA, ROA).

4.7. In addition, nationwide about 3500 helpers work in community pharmacies, they include cleaners, administrative assistants and delivery personnel.

The helpers carry out simple tasks that would otherwise have been performed by pharmacy assistants. Between 1998 and 2002 the number of helpers in pharmacies more than doubled. This contributed to resolving the shortage of pharmacy assistants. In hospital pharmacies the number of pharmacy assistants also increased more strongly

than the number of pharmacists; between 2001 and 2002 the ratio rose from 4.9 to 5.2 (not shown).
Ratios that remained stable over the years include GP to specialist ratio (about 0.8 GP to 1 specialist), nurses to specialist ratio in hospitals (about 5.5) and dental assistants to dentist ratio (about 1.6).

General practice assistants have been carrying out an increasing number of medical-technical activities over the last decade

Many tasks that used to be carried out by the GP are now delegated to the practice assistant. A comparison of the DNSGP-1 and DNSGP-2 revealed that from a list of 24 medical technical tasks, 15 tasks were now significantly more frequently performed by the assistant (Nijland *et al*, 1991; van den Berg *et al*., 2004). *Figure 3.9.3* shows the seven major shifts. Education appears to be an important determinant of the extent to which practice assistants perform medical-technical tasks (Nijland *et al*., 1991). As the number of qualified practice assistants is rising, this trend is likely to continue.

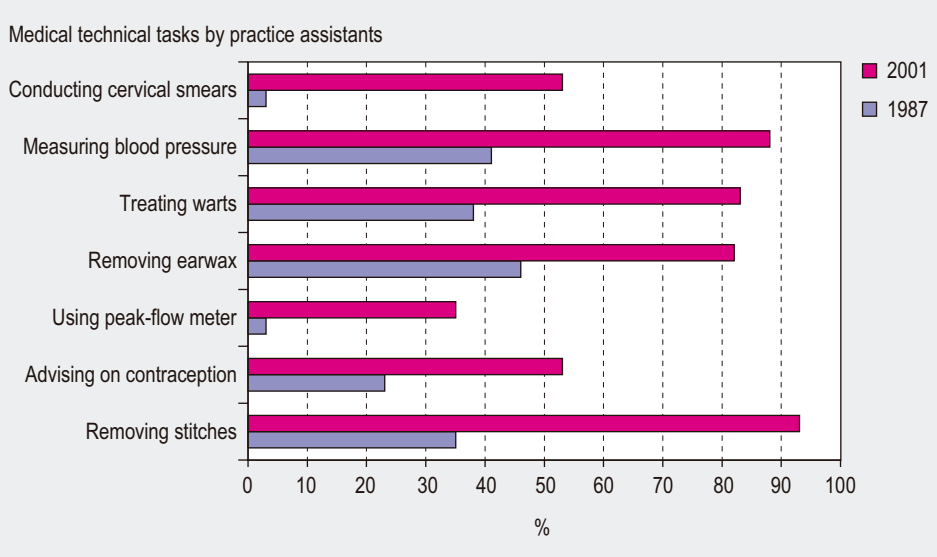


Figure 3.9.3: Percentage of practice assistants in general practice who carried out medical technical tasks, in 1987 and 2001; seven large shifts (van den Berg et al., 2004).

Levels of qualification of nursing and caring professionals

Within the nursing and caring professions, excluding the new professions described above, five levels of qualification can be distinguished; the highest levels, 4 and 5, for the nursing professions, and level 1, 2 and 3 for the caring or 'helping' professions. *Figure 3.9.4* shows the number of nursing and caring professionals by level of qualification for five health care sectors in fte.
In all, approximately 42% of the jobs filled in these sectors is a nursing function (level 4 or 5) with level 4 being in the majority. Level 3 functions make up the largest category: about 38%. Slightly less than 20% are helping professions of level 1 and 2. But

there are large differences between sectors. In hospitals and in mental health care a large majority are functions of the two highest levels, 93% and 81% respectively. Level 1 functions are scarce in these sectors. In the care for the disabled sector about 59% are level 4 and 5 functions. Few nurses with level 4 or 5 are employed by residential and nursing homes and home care (10% and 13% respectively). In residential and nursing homes level 3 carers are strongly represented (about 70%). In home care over 30% are carers with a level 1 qualification. Home helps have been disregarded.

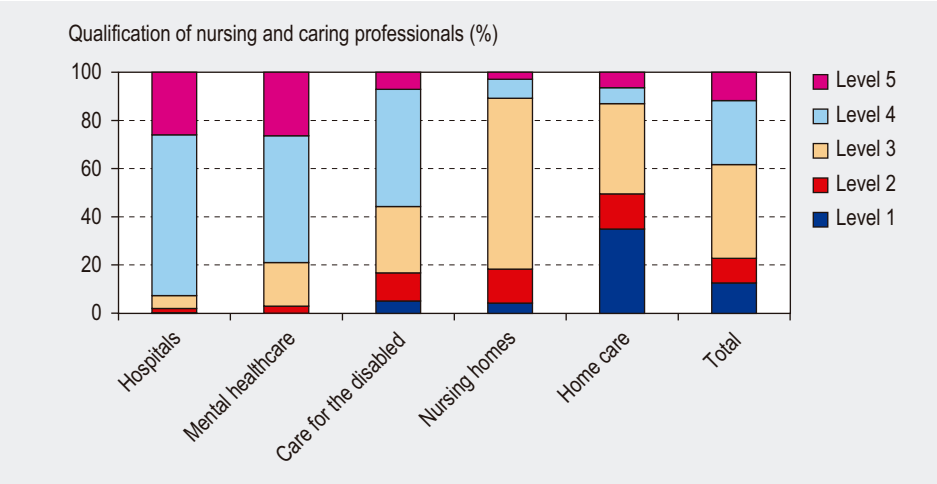


Figure 3.9.4: Percentage of nursing and caring professionals by level of qualification, in 2004 (fte) (RegioMarge; Prismant).

In most sectors the division between the various levels has remained relatively stable in recent years. An exception is the care for the disabled sector, which shows a clear rise in highly- qualified personnel. *Figure 3.9.5* shows a rise in the number of nurses with a level 4 qualification in particular. This shift can partly be explained by a different assessment of the required levels of education (van der Windt & Talma, 2005).

The number of new care professionals is increasing

Practice nurses in general practice are successful

Since their arrival in the 1990s practice nurses have consolidated their position in Dutch general practices. The practice nurse takes over tasks from the GP. Many of these tasks concern specialised care for diabetes, asthma and COPD patients, aging related problems and to a lesser extent care for patients with cardiovascular diseases, cancer and routine medical activities. Various studies have shown that delegating tasks to practice assistants enhances quality of care. It also reduces the workload of the GPs, although not to the extent that it will overcome capacity shortages (van den Berg & Bakker, 2003; Lamkaddem *et al*., 2004).

As *Table 3.9.1* shows, the number of practice nurses rose substantially in the period 2001—2003. More recent figures are not available, as the centralised registration of the number of practice nurses was discontinued in 2003.

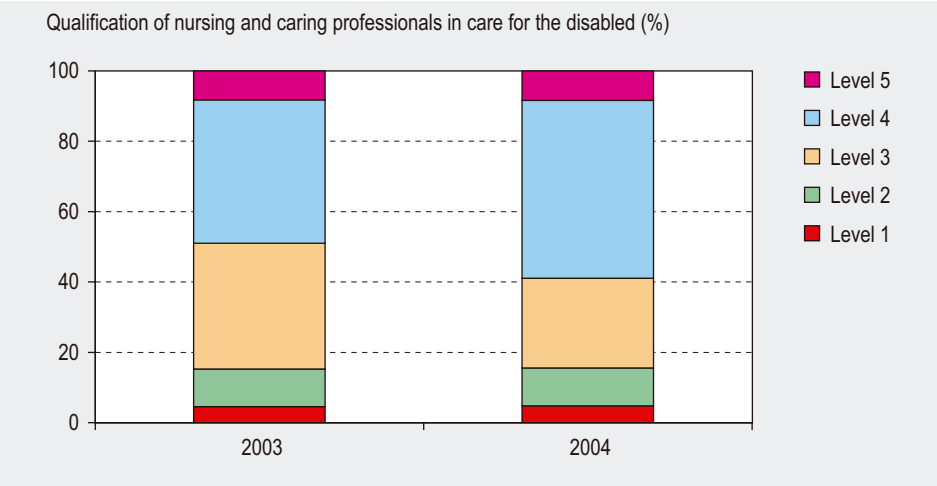


Figure 3.9.5: Percentage of nursing and caring professionals by level of qualification in the care for the disabled, 2003 and 2004 (fte) (RegioMarge; Prismant).

Table 3.9.1: Number of practice nurses working in general practices, 2001-2003 (Maas & Delnoij, 2004).

	2001	2002	2003
Number of active practice nurses (persons)	158	540	1.005
Number of active practice nurses (fte)	94,2	302,9	558
Number of practice nurses in training	73	294	367

Nurse practitioners and physician assistants increase in number

Several years ago two new care providers entered health care: the nurse practitioner and the physician assistant. In 2005 there were seven advanced nursing practice training courses and five physician assistant training courses in the Netherlands (*Table 3.9.2*). These are all masters courses. The first training course for nurse practitioners started in 1998 in Groningen, and in 2000 the first cohort of twelve students graduated. Since then the number of students has grown fast. It is estimated that in 2005 about 280 qualified nurse practitioners and about 15 nursing practitioners in training were active. The physician assistant training course started in 2001. In 2003 five physician assistants graduated and in 2005 another ten. In 2004 and 2005 the intake of new students was 56 and 112, respectively. Obviously there is an upward trend in the number of physician assistants as well.

Table 3.9.2: Nurse practitioners and physician assistants: number of training courses and training places and number qualified, in 2005 (HBO-raad; Bruurs et al., 2005; Tempelman et al., 2005).

	Number of training courses	Number of training places	Number qualified
Nurse practitioners	7	213	279
Physician assistants	5	112	15

However, it is not yet clear whether the new professional groups are going to play a significant role in future health care. There is still little evidence available about the impact of the new professions and successes from abroad cannot be extrapolated to the Dutch situation.
The formal difference between the nurse practitioner and physician assistant lies in their work domain, that is the nursing domain and the medical domain respectively. General practice, cardiothoracic surgery, orthopaedics, general surgery, anaesthesiology and paediatrics are the work domains of the physician assistants (Bruurs, 2005), while chronic patients, elderly, oncology and cardiology patients are the patient categories nurse practitioners deal with (Tempelman, 2005). However, in practice there is often a considerable overlap between the work domains. The precise job descriptions are primarily determined by the views of the institution and the physician the new care professionals work for. The steering group MOBG (2005) refers to it as a 'patchwork of competencies and subareas of expertise'.

Growing number of optometrists
Optometrists are specialised in fitting spectacles and contact lenses and in examining ocular complaints. Since 2000, optometrists have been included in section 3 of the Individual Health Care Professions Act. To become an optometrist, one has to complete a 4-year higher vocational training course. An optometrist can take over part of the ocular examination tasks of ophthalmologists. When further treatment is required, it is up to the GP to refer the patient. The number of optometrists who are currently active is not known, but membership of the Association for Optometrists gives an indication. The association states that it represents the vast majority of optometrists. *Figure 3.9.6* shows the membership for the period 2000—2005. In this period the membership more than doubled from 266 to 582 optometrists.

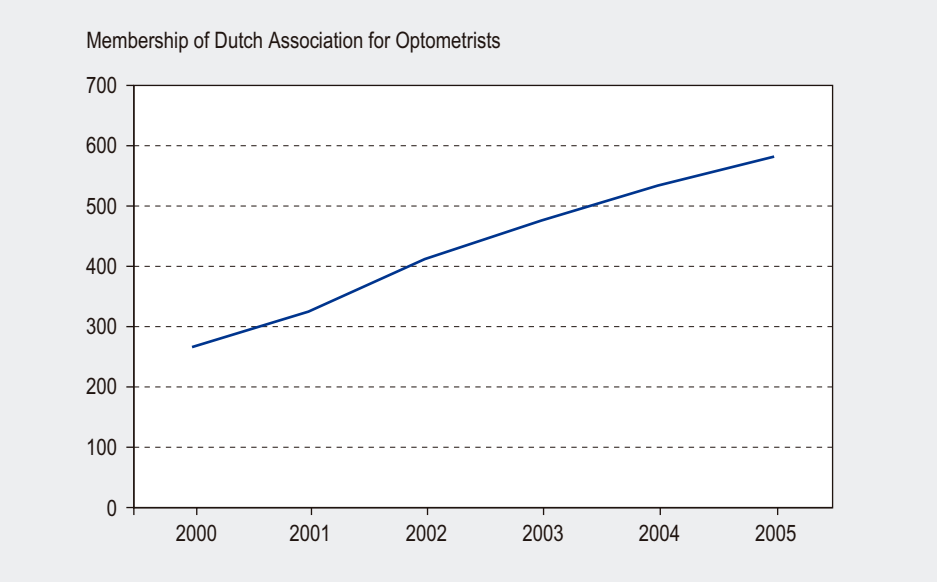


Figure 3.9.6: Membership of the Dutch Association for Optometrists, 2000-2005 (OVN).

The percentage of Dutch people who provide informal care has remained more or less stable over the years

Informal care is defined as "help that is provided to someone who needs help not within the framework of a professional relationship, but by one or more members of that person's immediate environment, as a direct consequence of their social relationship" (Kwekkeboom, 1990). In fact, informal care falls outside the scope of the professional structure but it often concerns care that otherwise should have been provided by professionals. The Cabinet paper *Policy for older persons in the perspective of an ageing population* (VWS, 2005f) underlines the importance of promoting and supporting informal care and informal care givers for both economic and societal reasons.

Analyses by the Social and Cultural Planning Office of the Netherlands (SCP) (de Boer, 2005) reveal that between 1991 and 2003 the proportion of people providing informal care changed little: from 12.4% in 1991 to 12.8% in 2003. However as the population grew substantially, this entails an absolute increase of about 170,000 people. Active informal carers are predominantly women and people between 45 and 64 years of age. Unfortunately, there are no data on the intensity and the volume of care they provide. The SCP does indicate, however, that the intensity per person is likely to have increased, because over the last few years the demand has grown slightly faster than the supply. On the basis of estimates from the study, no major problems are foreseen for the future, as the supply for informal care is expected to increase even somewhat faster than the demand.

What we do not know

Data on professions

To gain more insight into the development of the professional structure more information at the process and outcome level is needed in the short and long term. Attempts to realise task rearrangement need to go hand in hand with quality and efficiency considerations. These aspects should therefore be included in future evaluations.

What indicators might be useful in the future for gaining an idea about how task rearrangements have been realised? Since 2006, the physiotherapist has been directly accessible to patients. This may prove efficient but it may also generate new care demands. A future indicator could be the number of GP referrals to the physiotherapist combined with the total number of first contacts with physiotherapists.

Since 2004, occupational physicians as well as GPs have been allowed to refer patients to other health professionals. By order of the CVZ an evaluation study is presently being conducted into referrals by occupational physicians. Referral rates of GPs and occupational physicians could serve as future indicators. Production figures should also be produced for nurse practitioners and physician assistants to determine whether these new professions have a significant role to play in the health care system.

Data on education and training

A number of improvements have been suggested with respect to the educational structure (LeGrand, 2003; Meyboom-de Jong, 2002; MOBG, 2005). Examples include reducing the total duration of training by a better alignment of graduate and postgradu-

ate training, promoting the identification of educational regions in which university medical centres, hospitals and institutes for higher vocational training participate, and extending the opportunities for vertical differentiation by the introduction of a Bachelors in Medicine and a 'basic' specialist. A more flexible educational system would make it easier to meet the demand for a specific care provider.

Looking to the future

In anticipation of the developments described above, a number of future indicators are suggested:

- The number of referrals to physiotherapists (presently about 1 in every 50 GP contacts)
- The number of first contacts with physiotherapists without a referral of the GP
- The number of training places / basic specialists who completed their training
- The duration of training in years (from the beginning of the graduate training to the end of the postgraduate training) for specialists; currently measurable: time between the end of the graduate training and the start of the post-graduate training
- The number of institutes for higher vocational training in care participating in an educational region

Developments related to the direct access to physiotherapists (first two indicators) can be monitored using data from existing networks, such as LINH and LIPZ (www.linh.nl, www.lipz.nl).

CHAPTER 4
COSTS OF HEALTH CARE

4.1 Affordability of care

Affordability is a major issue in the health care debate. If national income shows little growth and the increase in health care costs is comparatively large, affordability of care may become an issue. In a period of economic recession, health care can become unaffordable even if the costs remain stable. However, determining the affordability of health care is far from easy. A general norm is required for the amount of money that can be spent on health care and the proportion of national income that must be available for other purposes. In the absence of such a general norm, a decisive statement on the affordability of care is the outcome of political deliberations, which by their very nature are variable. There are various important indicators that may provide politicians and policy makers with an instrument to help them come to a balanced judgement.

Macro costs of health care

Affordability is an expression of the relationship between costs and available means. Hence the costs of health care are one of the most important indicators of affordability. Contrary to expectations, the interpretation of health care costs is by no means straightforward. The government uses the Health Care Budgetary Framework (Budgettair Kader Zorg, BKZ), but this does not cover all health care services. Costs paid directly by the patients are not included. Likewise, the costs of adult dental care, outpatient physiotherapy, primary psychological care and services that overlap with other sectors like social work are not considered to be health care costs by the government.

For the government, the BKZ is an important yardstick for the sustainability of health care. From a societal perspective, the total costs are a major concern irrespective of who is paying. For the Dutch population affordability of care does not merely concern health insurance premiums, but also co-payments and the costs of health care services not included in the basic medical insurance package. Accordingly several concepts of health care costs need to be used and compared to provide an accurate picture. In this chapter the costs are mainly assessed at a national level (macro) with an occasional plunge into health care (meso). Affordability of care at the individual level is discussed in *Section 3.6*.

The available means at the macro level are expressed as the share of the national income or GDP that is spent on care (health care quota). Expressing the costs of care as a share of GDP also reveals how much money is left for other purposes.

Affordability is not just a matter of the current level of costs and available means, but it is also very much a matter of cost movements in time and expectations for the future.

That is why trends in costs of care are so important in nominal terms (in euros) but also relatively as a share of the national income. Furthermore, a proper appreciation of changes in nominal costs requires knowing to what extent these costs are determined by changes in the volume of care or by price movements. As care is labour intensive, price movements are directly related to wage movements through collective bargaining. Changes in the volume of care relate to the real increase in care utilisation due to various, controllable or non-controllable, causes.

Although each country is unique and the health care systems differ substantially, the affordability of health care is a recurring theme on the policy agenda of all Western countries. All European countries are confronted with an ageing population and epidemiological developments that do not stop at national borders. In this context, international comparisons of cost movements may prove interesting. Evidently, for reasons of comparability it is advisable to use internationally accepted definitions of care and costs of care as provided by the OECD System of Health Accounts (SHA).

Cost movements in health care are the result of various driving forces. Such forces include changes in care demand, which is affected by the ageing of the population and a changing burden of disease, changes in care supply, such as technological innovations, and changes in care utilisation. Disentangling all these influences falls outside the scope of the DHCPR.

Competition and market forces

The Dutch government supports a policy of a regulated health care market, the primary aim of which is to find an optimal and most economic balance between demand and supply in care. Against this backdrop market forces do not relate to affordability alone. Three markets are usually distinguished: 1. the health care market, involving care suppliers and care users; 2. the insurance market, involving the insured and insurers; and 3. the procurement or purchasing market, involving insurers and care suppliers. The three markets are interrelated.

Productivity

As health care is labour intensive, labour productivity has a strong effect on cost movements. For example, labour productivity will rise if the volume of surgical procedures performed per day increases, if more people are treated during surgery hours, and if the average length of hospital stay is reduced. Then patients can be treated more rapidly and waiting times can be reduced. Technical innovations are the main cause of an increase in productivity. Still, a higher productivity does not necessarily lead to lower costs, as the exploitation costs per hour may rise due to an increased utilization of more expensive medical technology and medical devices.

Financial position of care suppliers

The financial position of care suppliers is related to the extent to which they can meet their financial obligations, both in the short term (liquidity) and in the long term (solvency). A free market entails more financial risks for suppliers, thereby increasing

the importance of a sound financial position. According to economic theory, a sound financial position will lead to more care suppliers entering the market, thereby pushing prices and profits down until a new equilibrium is reached. Following this line of thinking, the financial position of care suppliers is an indication of the functioning of the market. High profits indicate a market that functions badly and will lead to unnecessarily high health care costs at the macro level. Financial indicators are also measures of the financial vulnerability of care suppliers, which is an important consideration for investors like banks and shareholders.

Outline of the chapter

To get an overview of the various relevant aspects of affordability of care, this chapter deals consecutively with macro costs of care (trends and international comparison), the functioning of the health care market, labour productivity and the financial position of care institutions (see *text box*). As market forces have only recently been introduced, few relevant empirical data are available yet.

Costs

- Macro costs (*Section 4.2*)
- Functioning of health care market (*Section 4.3*)
- Labour productivity (*Section 4.4*)
- Financial position of care institutions (*Section 4.5*)

4.2 Macro costs

Key findings

- According to the Health Care Budgetary Framework the costs of health care were 45 billion euros, representing 9.2% of GDP, in 2004
- According to the Health Accounts the costs of health care rose from 37 billion euros to 60 billion euros in the period 1998–2004
- The expenditure on long-term care increased more than the expenditure on curative care
- Economic recession was the main cause of the rise in health care expenditure as a share of GDP in the period 2000–2004
- The rise in costs was primarily due to an increase in the volume of care in the period 2000–2004
- Both the health care share of GDP and the health care costs per capita in the Netherlands are higher than the EU-15 average and the OECD average

Why are movements in macro costs important?

Affordability is a major theme in health care. It is therefore important to know what the costs of health care are and the movements in costs of care, both in time and compared to other countries.

Indicators of movements in macro costs

- Health care expenditures according to the Health Care Budgetary Framework (Ministry of Health)
- Health care expenditures according to the Health Accounts (Statistics Netherlands)
- Health care expenditures according to the System of Health Accounts (OECD)
- Expenditures on different sectors
- Expenditures for Health Care Budgetary Framework relevant care by funding source
- Share of health care costs in GDP
- Share of health care costs in the growth in GDP
- Price movements in health care
- Changes in volume of care
- Health care costs per capita

The current state of affairs

According to the Health Accounts the costs of health care rose from 37 billion euros to 60 billion euros in the period 1998–2004

In 2004, health care expenditures amounted to 45.0 billion euros (*Figure 4.2.1*). In 1998 health care expenditures were just 30.7 billion euros. The expenditures cover care services included in the Health Care Budgetary Framework (BKZ) and are financed through insurance premiums and co-payments (the gross BKZ). As co-payments were 2.2 billion euros in 2004, the Minister of Health had to account for 42.8 billion euros to the Dutch Lower House (the net BKZ). The minister is also responsible for the budget-financed expenditures, which totalled 11.4 billion euro in 2004. These include expenditures for both care and welfare and sports.

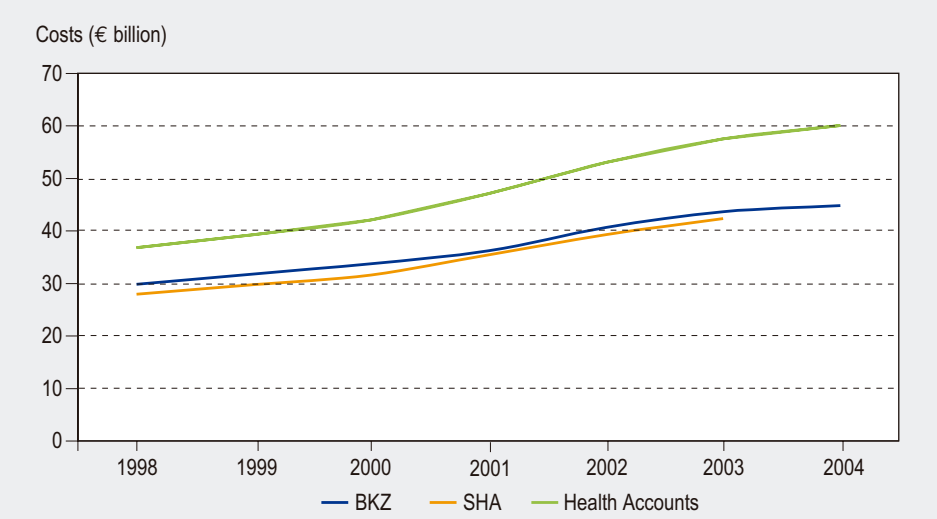


Figure 4.2.1: Cost movements in health care, 1998–2004 (CBS, 2006b; CBS, 2005d; VWS, 2006a; OECD Health data 2005).

These expenditures do no make up the total costs of health care. Co-payments and supplementary insurance for services like physiotherapy and adult dental care are not included in the BKZ. In their Health Accounts, Statistics Netherlands uses a wider definition of health care and arrives at a total of 60 billion euros for 2004 compared to 37 billion euros in 1998. These expenditures also include a number of services the government classifies as social or welfare services. The Health Accounts are based on a consistent definition of care, irrespective of whether the costs are or are not included in the BKZ.

The definition of health care as used in the Health Accounts is wider than the definition commonly used in other countries. Still the Health Accounts are structured such that they allow an unambiguous translation to the OECD's System of Health Accounts (SHA). When using the SHA classification, the health care costs for 2003 amount to 43 billion euros. Five years earlier these costs were 28 billion euros. The 2003 figure is the most recent SHA figure and approximates the BKZ-relevant health care costs. The BKZ and SHA definitions differ in that the BKZ excludes care included in the Health Care Budget, while the SHA excludes a number of AWBZ services that are included in the BKZ.

The expenditure on long-term care increased more than the expenditure on curative care

Table 4.2.1 shows the health care expenditures by health care sector for the period 2001–2004. In this period, the average growth rate of BKZ-relevant expenditure was 7.5% per annum. Curative care is responsible for the largest share in costs, although costs for curative care increased less, 6.2%, than the costs for mental healthcare and care for the disabled, over 10%. The expenditures in the sector nursing and caring and care for the elderly rose by over 8%. Given the size of this sector, absolute figures are high. *Table 4.2.1* confirms the earlier conclusion that the non-BKZ relevant expenditures rose faster (11.5%) than the BKZ-relevant expenditures (7.5%). This is partly due to changes in cost items. Thus, in the sector health protection and health promotion, BKZ expenditure declined because the care for the elderly and childcare were dropped from the BKZ. Likewise, in curative care the BKZ service base was narrowed down, which resulted in a lower growth rate in costs than the real growth rate and compromised comparability. On the basis of the wider definition in the Health Accounts, health care expenditures for 2001 and 2004 are calculated to have increased by 8.5% per annum (*Table 4.2.1*).

Table 4.2.1: Expenditures per health care sector (BKZ) and health care expenditures outside BKZ, 2001–2004 (€ mln) (VWS, 2005e; 2006a; CBS, 2005c; 2006b).

Sector	2001	2002	2003	2004	Mutation 2001–2004 (% per year)
Health promotion and prevention	329	349	220	239	–10.1
Curative care	14,748	16,537	17,296	17,683	6.2
Medication, medical technology and transplants	3677	4022	4334	4204	4.6
Mental health care, care for substance use conditions and social relief	2753	3078	3394	3683	10.2
AWBZ care	265	414	626	726	39.9
Care for the disabled and medical aids	4362	5000	5548	5929	10.8
Nursing and caring and care for the elderly	8847	10,002	10,911	11,224	8.3
Health insurances	1265	1276	1322	1355	2.3
Total gross BKZ	36,246	40,678	43,651	45,043	7.5
Health care expenditures outside BKZ	10,882	12,352	13,878	15,073	11.5
Total Health Accounts	47,128	53,030	57,529	60,116	8.5

Health care financing

In 1998 and 2004 the biggest part of health care was funded by the AWBZ, followed by public health insurances and private health insurances (*Table 4.2.2*). The 1998 figures and 2004 figures are not optimally comparable due to changes in the insurance packages and changes in the BKZ health care definition. Government contributions in 2004 were zero euros, as all the cost items concerned were dropped from the BKZ.

Table 4.2.2: Financing of BKZ-relevant care by funding source, in 1998 and 2004 (VWS, 2006a; VWS, 2000).

	1998		2004		Mutation 1998–2004
	€ mln	%	€ mln	%	(% per year)
Public health insurance	11,043	35.9	16,533	36.7	7.0
Private health insurance	4307	14.0	6861	15.2	8.1
AWBZ	11,238	36.6	19,444	43.2	9.6
Co-payments	2401	7.8	2204	4.9	–1.4
Government	1542	5.0	0	0.0	–100.0
Other	189	0.6	0	0.0	–100.0
Total	30,720	100.0	45,042	100.0	6.6

Economic recession was the main cause of the rise in health care expenditure as a share of GDP in the period 2001–2004

In terms of the BKZ, health care costs as proportion of GDP rose from 8.1% in 2001 to 9.2% in 2004 (*Table 4.2.3*). According to the Health Accounts the share in GDP increased from 10.5% to 12.3% in that same period. The internationally comparable figure was almost 9%.

Table 4.2.3: Health care expenditure as a proportion of GDP, 2001–2004 (VWS, 2000; VWS, 2005e; CBS, 2005d; CBS, 2006a,b).

	2001	2002	2003	2004
- GDP (€ mln)	447,731	465,214	476,349	488,642
Health care expenditure as a proportion of GDP (%)				
- BKZ	8.1	8.7	9.2	9.2
- Health Accounts	10.5	11.4	12.1	12.3
- SHA	7.9	8.5	8.9	n.k.
Growth in health care expenditure as a proportion of growth in GDP (%)				
- BKZ	-	25.4	26.7	9.3
- Health Accounts	-	33.8	40.4	21.0
- SHA	-	22.1	27.3	n.k.

n.k.: not known.

The proportion of the increase in GDP spent on health care indicates the percentage of additional resources allocated to health care. In the period 2001–2002, GDP grew by approximately 17 billion euros. Some 25.4% of this increase was spent on health care (33.8% in terms of the Health Accounts). In the period 2002–2003, 40.4% of the increase went to the care sector. In 2003–2004 the share decreased, mainly due to the narrowing down of the BKZ. According to the Health Accounts the share was 21.0%.

In times of little economic growth or economic decline, the share of health care in GDP increases (health care quota) (*Figure 4.2.2*). This happened in the periods 1980–1982, 1990–1993 and since 2000. The strong increase since 2000 is particularly striking. *Figure 4.2.2* also shows the historical turning points, which are related to government policies, such as the introduction of the budgeting system in 1983, and an improving economy. However, on each occasion it appears to take a number of years for the health care quota to decrease again. In addition, *Figure 4.2.2* suggests a stabilisation of the share in GDP at a higher level.

The rise in costs was primarily due to an increase in the volume of care in the period 2001–2004

Table 4.2.4 provides an overview of the price and volume developments in health care since 2001. In this period, in which the volume of the whole economy increased by 1.7%, the care volume increased by 14.5%. The prices in health care rose more rapidly than in the rest of the economy (11.8% versus 7.4%). Together these figures clearly indicate that the recent cost increase in health care is mainly due, both in absolute terms and as a share of GDP, to the volume growth in combination with a relatively rapid increase in prices.

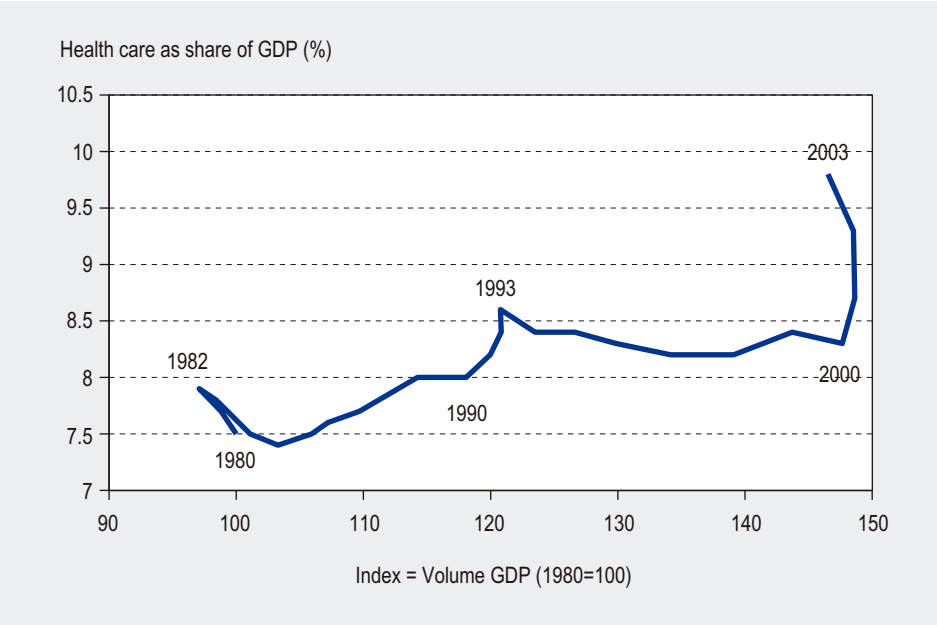


Figure 4.2.2: The share of health care costs (according to SHA) in GDP in relation to the development in the volume of GDP, 1980-2003 (1980=100) (OECD Health data 2005).

Table 4.2.4: Volume growth and price movements in the whole economy and health care, 2001–2004 (2001=100) (CBS, 2005d; CBS, 2006a,b).

	2001	2002	2003	2004
Volume growth				
- Index GDP	100	100.1	99.9	101.7
- Index health care	100	104.5	110.0	114.5
Price movements				
- Index GDP	100	103.8	106.5	107.4
- Index health care	100	108.1	111.5	111.8

Both the health care share of GDP and the health care costs per capita in the Netherlands are higher than the EU-15 average and the OECD average

The share of the health care costs in GDP is in the Netherlands slightly above the EU-15 average and the OECD average (*Figure 4.2.3*). In 2003 Germany and France had the highest share of all EU countries, while Finland, Ireland and Luxembourg had the lowest share. The Netherlands showed a notably strong increase in the health care quota in the period 2000–2003. This increase is the consequence of two developments: the growth of health care costs due to the 'cash down' policy and low economic growth.

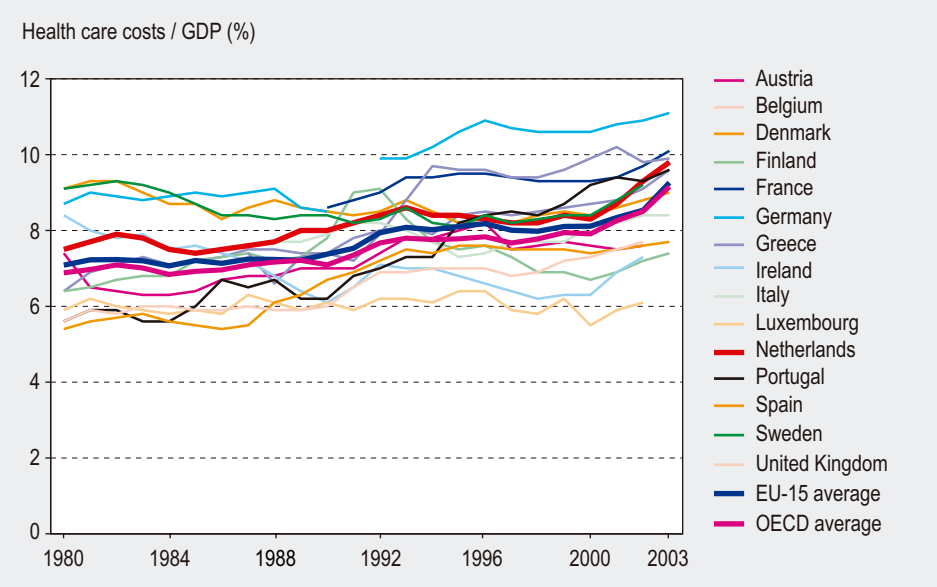


Figure 4.2.3: Developments in health care expenditure as a percentage of GDP, the EU average and the OECD average, 1980–2003 (OECD Health data 2005).

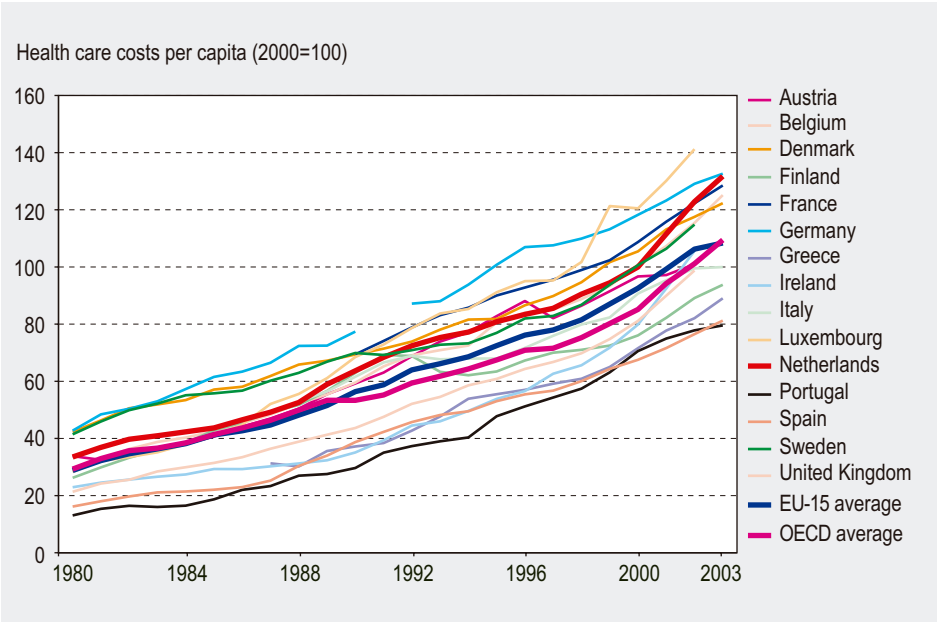


Figure 4.2.4: Indexed growth in costs of health care per capita, 1980–2003 (the Netherlands, 2000=100) (OECD Health data 2005).

In the Netherlands, the health care costs per capita are higher than the EU-15 average and the OECD average (*Figure 4.2.4*), but the historical development of costs (from 1980 onwards) clearly follows the European trend. Again, since 2000 a notably strong rise has occurred in the Netherlands.

What we do not know

The rise in health care expenditure in the Netherlands is due to both the increase in care volume and price increases. It is difficult to distinguish between these two factors. However, this is a prerequisite for gaining insight into the causes of the rise in health care expenditure. There are several methods to distinguish price and volume effects, each with their specific advantages and disadvantages. We do not know to what extent different methods will lead to different results.

Due to the considerable differences between health care systems, international data need to be interpreted with caution. The SHA and the OECD Health data offer the best comparable information. At present, however, not all countries can correct for factors such as differences in the age structure of the population. This might explain the cost differences observed.

4.3 The health care market

Key findings

- Premiums of public health insurances are scarcely sensitive to developments in the market, which indicates that there is little competition
- There were high market concentrations of extramural AWBZ care and of contracted hospital care in 2004. The regional market concentrations of public health insurers were also high, except in the west of the Netherlands
- There are considerable access barriers for health care providers to extramural AWBZ care, contracted hospital care and the health insurance market
- The procurement of health care by insurers and Regional Care Offices was scarcely affected by quality of care considerations in 2004
- In the private health insurance market the collective premiums were 14% lower than the premiums for similar individual policies in 1999
- Mobility of insured people between health insurers (in a period of 3 months) was 2.4% for people with public health insurance in 2004, and 8.7% for people with private health insurance in 2005
- There are no indications of risk selection by public health insurers

Why are market forces in health care important?

The government uses regulated market forces in health care as an instrument to promote a more favourable cost-quality ratio of health care products. This section addresses the situation of the health care market in 2004. However, it also looks ahead to expected developments consequent to the introduction of the Health Insurance Act (Zvw) as per 1 January 2006 as well as changes in the Exceptional Medical Expenses Act (AWBZ). In the Netherlands the health care market has only recently been exposed

to market forces. A health insurance market has developed parallel to the health care market. In the course of the twentieth century the government increasingly regulated the health insurance market to ensure that health insurance remained affordable for all and almost 'uninsurable' services remained accessible. This more or less led to the elimination of price mechanisms from the health care market. The current government wants to use market forces to provide health insurers, care providers and patients with financial incentives to realise affordable, accessible and good quality care.

What are market forces in health care?

In the health care sector the three major parties operating in the health care market are care providers, health insurers and patients. This permits the market to be divided into three related subsidiary markets: the health care market (involving care providers and care users), the health insurance market (involving health insurers and care users) and the care procurement market (involving care insurers and care providers). Market forces can develop if these markets allow stakeholders the freedom to negotiate and make agreements with respect to prices, quantity and quality of care. Moreover, market forces can be stimulated by new providers and care insurers entering the market.

In health care the scope of the market has been extended to allow market forces to operate in a number of areas. With respect to care covered by the AWBZ, extramural care has been subject to market forces since the abolition of the insurers' statutory contracting duty in September 2004. With respect to medical care covered by, among others, the Compulsory Health Insurance Act (Zfw) and private health insurances, there is room for market forces to operate on the supply of extramural care (GPs, pharmacies, obstetricians). However, there is very little room for negotiations in GP care. Since February 2005 the so-called B-segment of hospital care (contracted care) has been opened up to market forces through the introduction of free negotiations and the abolition of the insurers' contracting duty. With respect to care covered by supplementary insurances, market forces have been given an almost free reign. However, not all care providers have the same room for manoeuvre; tariffs for dental care have been limited to a maximum under the Health Care Tariffs Act (Wtg), and since February 2005 physiotherapists have no longer been covered by the Wtg. Supplementary insurances operate in a free market where the government is not allowed to intervene because of EU regulations.

Indicators of market forces

Studies of the health care market have been carried out by, among others, the Health Care Tariffs Board/Health Care Authority in formation (CTG/ZAio) and the Health Care Insurance Regulatory Board (CTZ). Studies into market forces have been performed by the Dutch Competition Authority (NMa). Following the CTG/ZAio and CTZ, the DHCPR distinguishes between outcome indicators, structure indicators and behaviour indicators in monitoring the health care market (CTG/ZAio, 2005a). Outcome indicators are related to market results. They give an indication of the degree to which markets operate effectively. Structure indicators give information on certain characteristics of the health care market that may affect its functioning. Behaviour indicators are an

expression of how care providers, health insurers and patients fulfil their roles in the market. For each of the indicators selected, the submarket or submarkets to which the indicator is related are stated:

Outcome indicator
- Variation in insurance premiums (health insurance market)

Structure indicators
- Market concentrations of care providers and health insurers (health insurance market/care procurement market)
- Access barriers to the health care market (all submarkets)
- Health care procurement by health insurers (care procurement market)
- Vertical integration (all submarkets)

Behaviour indicators
- Mobility of insured between health insurers (health insurance market)
- Risk selection by insurers (health insurance market)
- Cost transfers (health insurance market)

The current state of affairs

Premiums of public health insurances are scarcely sensitive to market developments, which indicates that there is little competition

In a market with competitive care insurers the premium is a means of committing insured people. If premiums are insensitive to developments in the market, this may indicate the absence of market forces. An analysis of public health insurance contributions over the period 1996–2004 indicates that premiums differ between care insurers, but are independent of both the mobility of insured people between health insurers and the premiums of other insurers (Douven & Schut, 2006). This suggests that there is little competition between public health insurers. This study also shows that premiums are dependent on the financial reserves of public health insurers. Public health insurers primarily use the premium to maintain their financial reserves, which suggests that they are focused on their own organisation rather than their market position.

No systematic data are available on private insurance in 2004. Empirical research from 1999 showed that competition on the private health insurance market was related to collective contracts and young healthy insured people in particular (Cook *et al.*, 2000; Schut, 2000). As private health insurers do not have a duty to accept and because of age and risk-related premiums, older insured people (50–65 years) and insured people with an increased disease risk are unable to change insurer. This ineffective competition is revealed in large premium differences. In 1999, collective contracts were on average 14% cheaper than similar individual policies (Schut, 2000). This difference can be explained only for a small part by health inequalities and differences in administrative costs.

There were high market concentrations of extramural AWBZ care and contracted hospital care in 2004

Market concentration may have an effect on choice opportunities, prices and quality. Market concentration is measured by means of the HHI (Herfindahl-Hirschman Index). The HHI equals the sum of the squared value of the market shares of suppliers and users. The value of the index varies between 0 and 10,000, with a higher value indicating a higher concentration. A value of about 2000 or more indicates a high market concentration that poses a threat to a healthy competition.

With respect to extramural AWBZ care, six care functions can be distinguished which together provide a picture of the market concentration in the regions covered by the Regional Care Offices. These care functions are personal care, treatment, home help, supportive care, personal nursing and activating support. CTG/ZAio observed that for these care functions, with the exception of supportive care, market concentrations across Care Office regions are on average high (HHI >3500) (CTG/ZAio, 2005b). Twenty eight out of the 32 Care Office regions run a potential risk of too high a market concentration and in thirteen regions the market concentration is such that according to the standards of the European Commission market forces may be at risk. Prismant recently examined the market concentration in the B-segment of the hospital sector (contracted care) (Prismant, 2004). They concluded that 60% of the hospitals operate in a market with a high market concentration (HHI >2000).

The regional market concentrations of public health insurers were also high, except in the west of the Netherlands

The Monitor Financial Sector 2005 (NMa, 2005) reports on the market concentration in the care insurance market in 2005. It distinguishes between market concentration at the regional and at the national level. With respect to regional market concentrations, calculations are based on Care Office regions and on provinces. The Care Office regions correspond well with the former catchment areas of public health insurers. Once the Zvw has come into force, provincial regions may be more suitable, since insurers can also offer provincial policies. At the national level the HHI value for market concentration of care insurers is 1200, which indicates a moderately concentrated market. As to market concentrations of health insurance funds in the Care Office regions, HHI values vary between 1754 and 4355. Especially in the north, east and south of the Netherlands the regional market concentrations are high (HHI > 2000). *Figure 4.3.1* shows the market concentrations of public health insurers by province in 2003, on the basis of CTZ data.

There are considerable access barriers for health care providers to extramural AWBZ care, contracted hospital care and the health insurance market

High access barriers in combination with a high market concentration may lead to less competition in the health care market. Access barriers can be due to legislation (therefore 'admission' to the market), the investments required or the behaviour of health care providers.

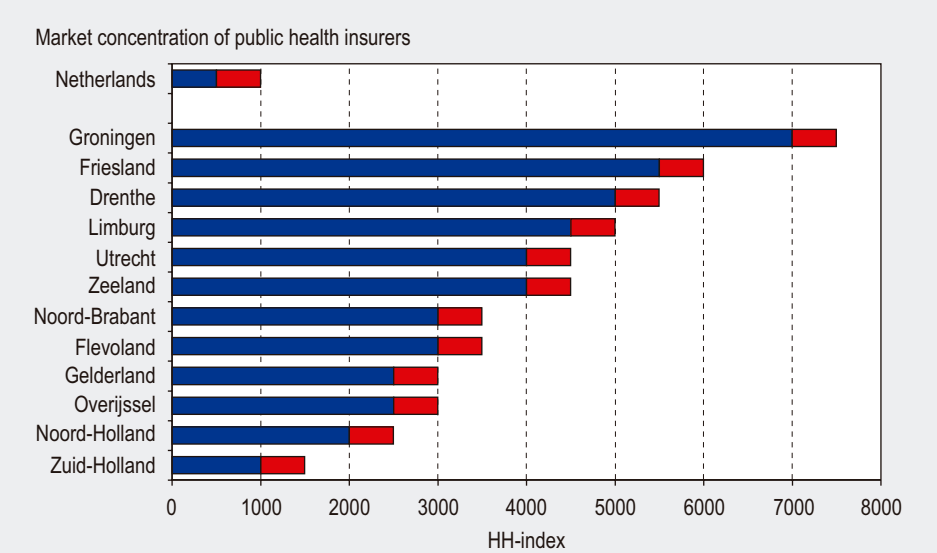


Figure 4.3.1: Market concentration of public health insurers, for the Netherlands and per province, in 2003 (HH index with uncertainty margin) (CTZ)

The barriers differ between care markets. With respect to extramural AWBZ care, CTG/ZAio concludes that for newcomers, the main barriers to gaining a foothold in the market are not yet having an established name and having to build up a network of referring agencies (CTG/ZAio, 2005b). Regarding the B-segment of hospital care, the CTG/ZAio monitor indicates that the independent treatment centres (ZBC) are the main new entrants to the market, but that they scarcely account for a third of the total turnover in the B-segment (CTG/ZAio, 2005c). Potential barriers to entry to the care insurance market include legal access requirements, insurance scale advantages, scale advantages when purchasing care and scope advantages of collective contracts (CTZ, 2005a).

The procurement of health care by insurers and Regional Care Offices was scarcely affected by quality of care considerations in 2004

How insurers procure care affects the quality, accessibility and costs of care. Care insurers have the increasingly important role of purchasing good quality care. CTZ performed a study into care insurers' performance with respect to the purchase of hospital care and obstetric care. CTZ scored the insurers' performance in terms of accessibility, affordability and quality of care. With respect to hospital care in 2003, CTZ concluded that six out of fifteen care insurers examined scored well on care procurement. These results were mainly based on their performance related to accessibility and affordability. In general the scores on the criterion quality of care were at best low to moderate (CTZ, 2004). A similar picture emerged with respect to the procurement of obstetric care in 2003 and 2004 (CTZ, 2005b). Again the score on the criterion quality of care was at best moderate.

In 2005 CTZ also evaluated care procurement by Regional Care Offices (CTZ, 2005c). The starting point was a covenant concluded between the State of the Netherlands, the Association of Dutch Health Insurers (ZN) and the CVZ on management expenses, accessibility and quality and efficiency of care. CTZ concluded that the concession holders (administrators of the Regional Care Offices who are responsible for the procurement of care) carry out most of the tasks incorporated in the covenant quite well. In 2004, however, insight into quality of care was still limited. Still, in 2005 all concession holders entered quality agreements with care providers.

The level of vertical integration in care is unclear

Vertical integration (cooperation within integrated care pathways) may have a detrimental effect on market competition, especially if, in combination with horizontal integration, the pathway becomes dominated by one large care provider. The degree of vertical integration in the care pathway can for example be measured by means of the proportion of patients in a hospital market registered with GPs employed by a hospital. Another example of vertical integration is the proportion of nursing home patients in a hospital market that are admitted to a nursing home belonging to the same "care group" as the hospital. No systematic data are available that would enable the calculation of the (average) degree of vertical integration of the parties involved in an integrated care pathway. In the vision document *Extramural AWBZ Care* (CTG/ZAio, 2005b), it is noted that vertical mergers between care providers of AWBZ care are quite common, but that quantitative data are lacking. Vertical mergers between nursing homes, residential homes and homecare institutions are increasingly common. Although concrete figures of vertical integration are lacking, it is worth noting that 10 of the top 50 largest care providers are mixed care concerns (PWC/Zorgvisie, 2005). From 2006 onwards, the opportunities for vertical integration of health insurers and care providers (quasi-vertical integration) will strongly increase under the Zvw.

Mobility of insured people between health insurers (in a period of 3 months) was 2.4% for people with public health insurance in 2004, and 8.7% for people with private health insurance in 2005

Too few insured people changing or wanting to change health insurers could be an indicator of insufficient competition on the care market. As described elsewhere in the DHCPR, insured person mobility is low. This is shown in a study involving a representative sample of 2000 insured people (Laske-Aldershof & Schut, 2005). During a three-month period in 2004, 2.4% of the patients with public health insurance changed health insurer versus 8.7% of privately insured people in 2005. More details concerning insured person mobility are given in *Section 3.2*.

There are no indications of risk selection by public health insurers

Selection by health insurers on the basis of a risk profile can obstruct the mobility of insured people between insurers. Risk selection may arise when it can be predicted that insurers will make a profit or loss with respect to certain risk groups. The CTZ has recently conducted an investigation into risk selection by public health insurers (CTZ,

2005d). Risk selection was defined as “lawful or unlawful influencing of the influx and efflux of insured people to optimise the gains of the health insurer”. The study concluded that were no signs of risk selection taking place. Occasionally, public health insurance patients who wanted to take out supplementary insurance were hindered in their choice of insurer. There is no systematic information available on the extent of risk selection with respect to privately insured people.

Effect of transfer of costs on premiums is unknown

Cost transfers can give rise to disproportionate increases or decreases in premiums, thereby creating an unrealistic picture of the costs of care. Cost transfers can result in a favourable market position of health insurers to the disadvantage of specific groups of insured people or care sectors.

Three forms of cost transfers have been identified for the functioning of the health insurance market:

- transfer of costs from collective to individual contracts
- transfer of costs from supplementary to basic insurance (under the Zvw)
- transfer of costs from the B-segment (contracted hospital care) to the A-segment (WTG-hospital care)

As mentioned earlier in this section, research from 1999 showed that the collective premiums for private insurance were 14% lower than premiums for similar individual policies (Schut, 2000). No other data relevant to this indicator are currently available. It is expected that this indicator can be filled with information collected within the framework of the Zvw as of 2006. This analysis may involve the various premiums in relation to their coverage.

What we do not know

The information available on market forces in 2004 mainly concerns public health insurances. Less information is available on the operation of the private insurance market. This is directly related to the availability of results from the studies performed within the framework of the evaluation of the Compulsory Health Insurance Act. A number of indicators in the DHCPR have not, or have scarcely, been dealt with due to a lack to information. The indicators ‘vertical integration’ and ‘transfer of costs’ are important but could not yet be described due to insufficient information. Furthermore, the transparency of quality of care and of the procurement policy of health insurers are indicators that will become increasingly important after the Zvw comes into force. If a proper assessment of the quality of care delivered is impossible, competition may well lead to a low level of quality. With the Zvw coming into force, new initiatives will arise to monitor market forces in health care.

In 2006, CTG/ZAio and CTZ will merge to form the Dutch Care Authority (NZa). The main task of the NZa will be supervising the health insurance market under the Market Organisation Act (WMG). NZa will realise this by carrying out a monitor (CTZ, 2006) and the results of this monitor may be a source of information for the next DHCPR.

4.4 Labour productivity in health care

Key findings
- On balance, there is no indication that productivity in the different care sectors increased strongly in the period 1994–2003
- The productivity of clinical hospital care did not follow the trend of the whole Dutch economy in the period 1996–2004
- The number of hospital discharges by employee fte was lower in the Netherlands than in its neighbouring countries Belgium, Germany and Luxembourg in the period 1999–2002

Why is labour productivity in health care important?

Demographic developments are one of the driving forces behind the increased demand for care. Forecasts predict that in 2025, 22% of the working population will be needed to satisfy the rising care demand (VWS, 2003b). For the standard of care to be maintained, the productivity in care must increase. Productivity in general equals the quantity of care produced divided by the effort made (input/output). In practice it is difficult to measure the productivity in health care (Dell & Van der Meulen, 2005). In particular, determining the actual outcomes in terms of health outcomes is problematic.

The output

As finding a valid measure for the product of health has been little successful, process indicators or output indicators are commonly used in existing reports. These indicators concern, for example, the length of stay, the number of patients treated or the number of medical activities in hospitals. However, the relation between this type of indicator and health outcome is often unclear.

The input

The input is easier to operationalise. Three commonly used measures are:
- the number of personnel in full-time equivalents (ftes)
- the number of hours worked
- the number of hours worked multiplied by the tariff in euros.

Indicators of labour productivity

- Development of production volume in six care sectors divided by the number of employees in fte and corrected for reduction of working hours
- Trend in productivity in hospitals compared to trend in productivity of the Dutch economy as a whole
- Number of hospital discharges by fte hospital employees

The current state of affairs

On balance, there is no indication that productivity in the different care sectors increased strongly in the period 1994–2003

Three different institutes have attempted to determine the production volume in care (Prismant, CBS, SCP) (Van der Meulen, 2005). Prismant calculated the production volume by means of the number of patients and residents, corrected for care burden on the basis of process indicators. SCP inferred the production volume from the use of care corrected for care burden on the basis of age-specific weights. CBS generally uses the turnover or the production value to measure the production volume (Van der Meulen, 2005).

The results of all three calculations show an equal or decreasing level or productivity in the hospital sector (*Table 4.4.1*). In the mental healthcare sector the calculations show a rising productivity, although one outcome may point to a strong fall. For the care for the disabled, results are contradictory. In nursing homes and residential homes most of the calculations result in a decrease in productivity.

Table 4.4.1: Increase or decrease in productivity on the basis of production volume in various care sectors (%), corrected for reduction of working hours (Van der Meulen, 2005).

	1994–2003	1994–2000 [a]		1998–2000 [b]	
	Prismant	SCP	Prismant	CBS	Prismant
Hospitals	0.0	–0.6	–0.1	–0.3	–0.3
Mental healthcare	0.5	0.9	–1.9	1.1	0.5
Care for the disabled	–0.2	–1.2	–0.3	2.3	0.3
Nursing homes	–1.1	–1.1	–1.6	1.9	–0.5
Residential homes	–1.3	–2.0	–1.1	–0.2	–2.1
Home care	0.5	1.6	1.3	–0.7	–1.1

[a] Period for mental healthcare: 1996–2000, period for care for the disabled: 1995–2000; [b] Period for hospitals: 1995–2001.

In home care the results are also contradictory, but there are some indications of a possible increase in productivity in this sector.

On the whole it is difficult to draw a suprasectoral conclusion, because the picture varies between the various sectors. However, it may be concluded that few indications were found for any real increase in productivity in recent years.

The productivity of clinical hospital care did not follow the trend of the whole Dutch economy in the period 1996–2004

Figure 4.4.1 shows the development of the productivity in hospital care and of the Dutch economy as a whole. Both series of figures were calculated by dividing the production volume by cost of labour. The production volume in hospitals was calculated on the basis of the number of patients treated. Assuming that the average patient leaves the hospital in better health than he or she was in upon admission, it can be safely assumed that a larger number of patients treated is indicative of a better outcome.

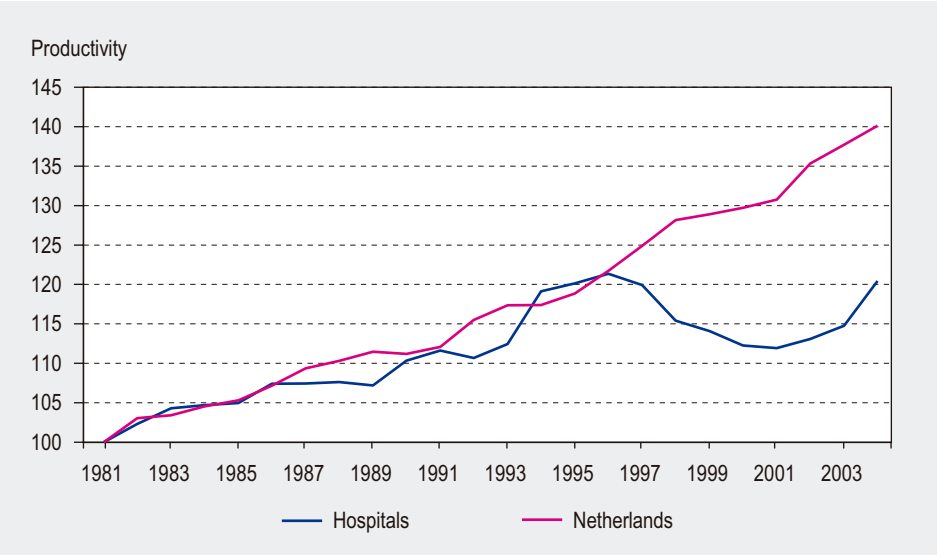


Figure 4.4.1: Development in productivity of hospital care and the Dutch economy, 1981–2004 (corrected for case mix on the basis of Diagnosis-Related Groups) (index 1981=100) (Van der Meulen, 2006).

Figure 4.4.1 shows that up to 1995, the productivity of hospital care mostly increased just as fast as the rest of the Dutch economy. Since 1996, however, a fall can be observed. This is primarily due to a decline in the volume of care (the number patients treated) of approximately 0.5% per year between 1997 and 2000 (Van der Meulen, 2006). This could have been caused by the volume-reducing funding system. In 2000, budgetary restrictions were abolished, and a larger volume of treatments were reimbursed. Consequently, since 2000 the care volume has been rising again, as can be seen from a concomitant rising trend in productivity between 2000 and 2004.

The number of hospital discharges by employee fte was lower in the Netherlands than in its neighbouring countries Belgium, Germany and Luxembourg in the period 1999–2002

The number of hospital discharges per fte hospital employee is a measure that can be used for an international comparison of hospital productivity. From *Table 4.4.2* it can be concluded that hospitals treat less patients per fte hospital employee in the Netherlands than in, for example, Belgium, Germany and Luxembourg. Moreover, in the Netherlands the number of hospital discharges per fte has decreased over time. However, caution should be exercised when using this type of data, as the differences in care systems and care arrangements between countries are not fully considered.

Table 4.4.2: International comparison of the number of hospital discharges by fte hospital employee (per 100,000 population) (OECD Health data 2005).

	1999	2000	2001	2002
The Netherlands	8.0	7.7	7.4	7.4
Belgium	14.3	13.2	13.5	13.2
Germany	17.3	17.7	17.8	17.8
Luxembourg	18.6	17.9	17.3	16.6
Austria	18.0	18.2	18.5	19.2
Denmark	11.5	11.8	11.8	12.1
Finland	18.5	17.9	17.0	16.7
Norway	9.5	8.9	9.1	
Ireland	9.9	9.6	9.1	8.5
Italy	14.6	14.0	13.5	13.1
Czech Republic	17.0	16.7	16.3	16.6
Hungary	36.0	23.8	23.8	25.6
Slovakia	14.3	14.2	15.1	14.9
Turkey	18.7	23.9	24.0	24.0
US	7.3	7.1	7.2	7.3
Canada	8.1	7.7	7.0	6.8
Australia	13.6	13.3	12.9	12.7
Average	15.0	14.3	14.2	14.5

What we do not know

CBS has developed a volume indicator for clinical hospital care on the basis of the National Medical Registration (Hilten *et al.*, 2005), which – eventually – will enable the calculation of hospital productivity. This index is based on the number of hospital discharges, including day treatment, weighted for diagnosis and age. These data are not available for 2004. The CBS data used for *Figure 4.4.1* have been based on an old calculation method.

4.5 The financial position of care institutions

Key findings

- The average rate of return of care institutions was 1.5% in 2004
- There are large differences in the values of financial index numbers between institutions
- The solvency of care institutions increased from 8% to over 10% in the period 2001–2004
- The liquidity of hospitals and institutions for care for the disabled was –14% in 2004; the liquidity of nursing and caring institutions was –10%
- The liquidity of care institutions decreased in the period 2001–2004
- The reserve for acceptable costs of care institutions increased from approximately 6% to almost 9% in the period 2001–2004
- 40% of all healthcare organisations participated in the Guarantee Fund for the Health Care Sector at the end of 2004. Participation in this fund indicates that an organisation is financially healthy. The participation rate rose from 17% to 40% in the period 2000–2004

Why is the financial position of care institutions important?

In the Netherlands health care supply is organised by private initiative. Market forces play an increasingly important role in health care, as a result of which the financial responsibility of care providers is increasing. From a societal perspective, it is essential that a certain level of care supply is guaranteed, which could be hampered by a weak financial position of institutions. In addition, the development of the financial position of institutions may also be an indication of the functioning of the market. A high increase in financial reserves may indicate that care was bought at too high a price and that price mechanisms failed to work properly.

In this section the financial position of intramural care institutions within three health care sectors is portrayed: hospitals, care for the disabled, and nursing and caring. Institutions for outpatient care and professional practitioners are not considered.

Indicators of the financial position of care institutions

- Rate of return
- Solvency
- Liquidity
- Financial reserve
- Participation rate in the Guarantee Fund for the Health Care Sector

The current state of affairs

The average rate of return of care institutions was 1.5% in 2004

The rate of return is an indicator of the profitability of institutions. At an institutional level this indicator has been defined as the ratio of profits to turnover. The rate of return of a sector is the average rate of return per institution weighted for turnover. There are other definitions of rate of return. However, these do not seriously affect the results.

In 2001, the rate of return of hospitals was 0.4% and increased steadily to 1.3% in 2004 (*Figure 4.5.1*). The rate of return of institutions for care for the disabled increased from 1.1% in 2001 to 1.6% in 2004. In the nursing and caring sector the rate of return decreased from 2.2% in 2001 to 1.5% in 2004. So, for all three sectors this index number was approximately 1.5% in 2004, and no losses occurred at the macro level. However, this percentage is lower than the capital market rates, which have for years been higher than 3% in the Netherlands (DNB, 2005). That is why care institutions are not particularly attractive for investors.

There are large differences in the values of financial index numbers between institutions

In 2004, there were large differences in rates of return between hospitals (*Figure 4.5.2*). The lowest rate of return of a hospital was –7.1%, whereas the highest rate amounted to 6.5%. The unweighed mean was 1.4%. A similar picture emerges for other indicators in this section and for other years. So there are large differences in the values of financial index numbers between institutions. This does not, however, mean that there are large differences in the quality of care provided.

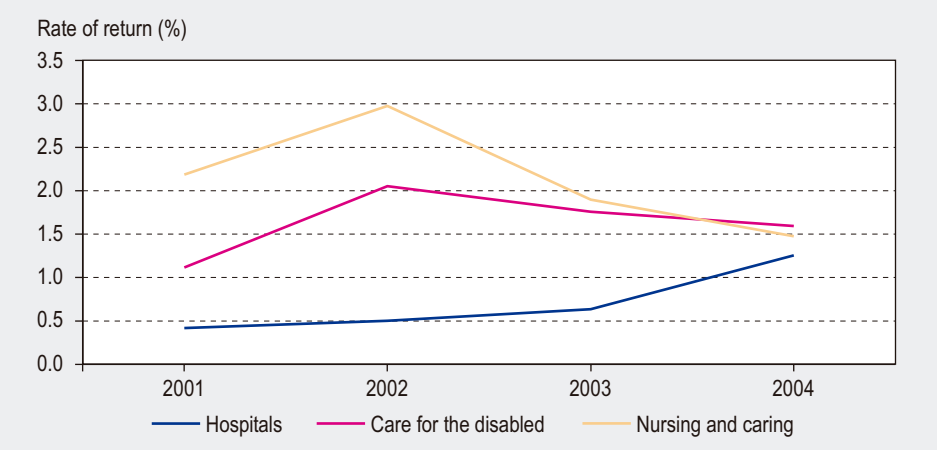


Figure 4.5.1: Rate of return for three sectors, 2001–2004 (Prismant, 2006).

Due to the large differences in rates of return between institutions the general conclusions related to the increase or decrease need to be interpreted with caution. In contrast to the increase in the rate of return of hospitals, the rate of return decreased for one-third of the hospitals between 2001 and 2004. In the care for the disabled, some 46% of the institutions showed a decrease in the rate of return between 2001 and 2004, in spite of the national increase. Remarkably, in the nursing and caring sector the majority (53%) of the institutions showed a rising rate of return, whereas the national weighted mean decreased (Prismant, 2006).

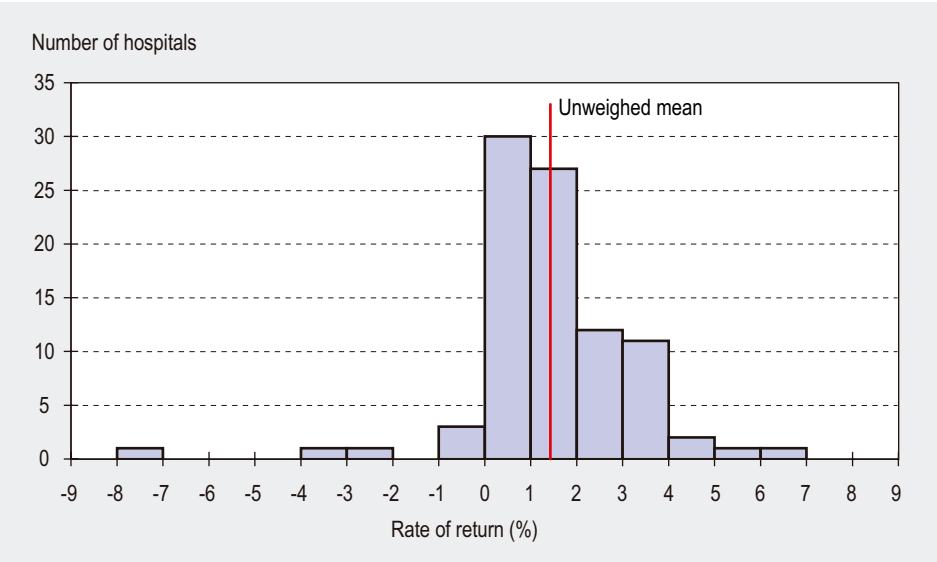


Figure 4.5.2: Histogram and unweighed mean of the rate of return of hospitals, in 2004 (Prismant, 2006).

The solvency of care institutions increased from 8% to over 10% in the period 2001–2004

Solvency expresses the degree to which institutions are able to meet their long-term financial obligations. At an institutional level this indicator has been defined as the relation between equity capital and turnover. The solvency of a sector is the average of the solvency per institution weighted for turnover. There are other definitions of solvency. However, these do not seriously affect the results.

In 2001, the solvency for the three sectors considered amounted to approximately 8% (*Figure 4.5.3*). Three years later solvency was 11% for the sectors care for the disabled and nursing and caring, whereas solvency of the hospital sector had increased to 9%. So, the solvency of care institutions has increased between 2001 and 2004. Given the low rate of return of care institutions, solvency can only increase slowly. Similar to the return rate, solvency differs considerably between institutions (*Figure 4.5.2*). Therefore considerable caution needs to be exercised when drawing conclusions about the increase. For example, a considerable number of institutions showed a decrease in solvency: hospital sector (42%), care for the disabled sector (27%) and nursing and caring sector (22%).

The solvency of care institutions is lower than in trade and industry

Between 2001 and 2004 the solvency of care institutions was lower than it was in trade and industry (*Figure 4.5.3*). For the Guarantee Fund for the Care Sector (WfZ) to guarantee a risk-free loan, a solvency of 8% is usually required (WfZ, 2001). Given the large differences between institutions, there are many institutions that cannot satisfy this requirement. Moreover, for loans with a larger risk, an even higher current solvency is required. Banks tend to require a solvency of around 30%.

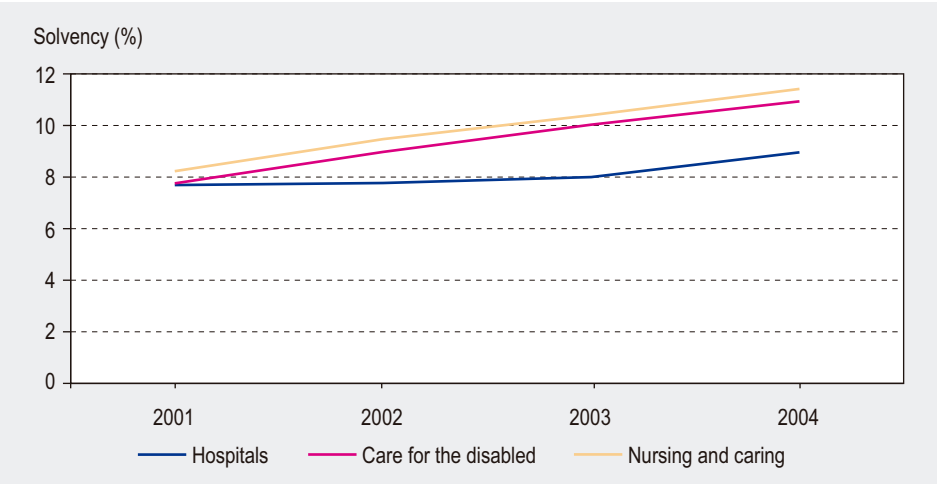


Figure 4.5.3: Solvency for three sectors, 2001–2004 (Prismant, 2006).

The liquidity of hospitals and institutions for care for the disabled was –14% in 2004; the liquidity of nursing and caring institutions was –10%

Liquidity gives insight into the degree to which an institution can satisfy its short-term obligations. The index number has been defined at the institutional level as the ratio of the floating assets to the budget according to the Health Care Tariffs Act (Wtg-budget). The liquidity of a sector is the average liquidity per institution weighted for budget. Liquidity for all three sectors is negative (*Figure 4.5.4*). This means that they are in principle unable to meet their financial obligations in the short term. They are structurally 'in the red'. In particular, the institutions for care for the disabled and hospitals had a low liquidity, approximately –14%, in 2004. The institutions for nursing and caring had a liquidity of approximately –10%. A longer-term negative liquidity of a care venture can eventually lead to payment problems in financing care. With regard to liquidity there are also large differences between institutions.

The liquidity of care institutions decreased in the period 2001–2004

For all three sectors the liquidity decreased between 2001 and 2004 (*Figure 4.5.4*); in the care for the disabled from –13.1 to –13.6 and in the nursing and caring sector from –7.4 to –9.6. Hospitals showed the largest decrease in liquidity from –9.5% in 2001 to –13.9% in 2004. Despite the national decrease, over 50% of the institutions succeeded in increasing their liquidity in the period 2001–2004.

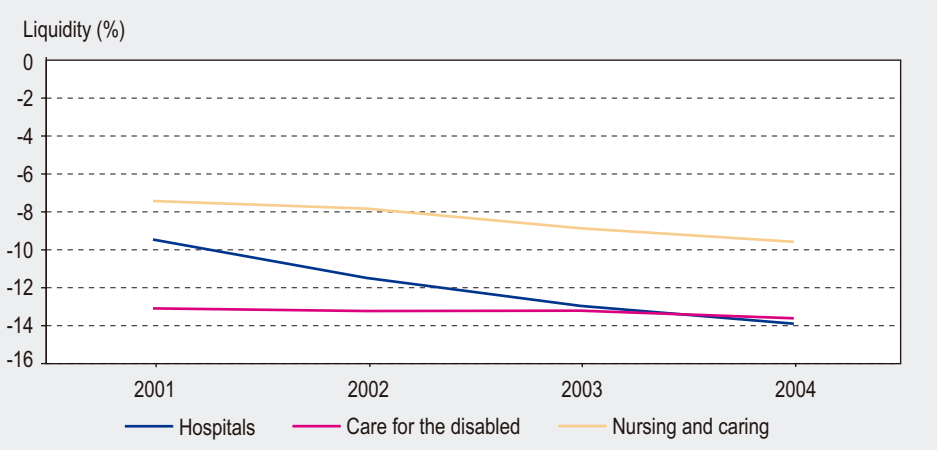


Figure 4.5.4: Liquidity for three sectors, 2001–2004 (Prismant, 2006).

The reserve for acceptable costs of care institutions increased from approximately 6% to almost 9% in the period 2001–2004

Care institutions can build up financial reserves, for example, with a view to future expenditure or unforeseen circumstances. In the past the government bore financial risk for the institutions, and the maximum amount of the reserve for acceptable costs (RAC) was limited. As institutions now bear the risks and market forces in the care operate more actively, larger reserves are needed. RAC has been defined at the institutional level as the ratio of the collectively financed tied-up capital to Wtg budget. The RAC

of a sector is the average of the RAC per institution weighted according to the Wtg budget.

The RAC ratio increased for the three different sectors in the period 2001–2004 (*Figure 4.5.5*). The institutions for nursing and caring and for care for the disabled had more financial reserves than hospitals. In 2004 hospitals had a RAC ratio of 7% and the institutions for nursing and caring and for care for the disabled had a RAC ratio of approximately 10%. Like the index figures discussed above, the RAC ratios differed considerably between institutions. Despite the national increases, the RAC ratio of 57% of the hospitals decreased between 2001 and 2004. The same is true for 22% of the institutions for nursing and caring and 28% of the institutions for care for the disabled.

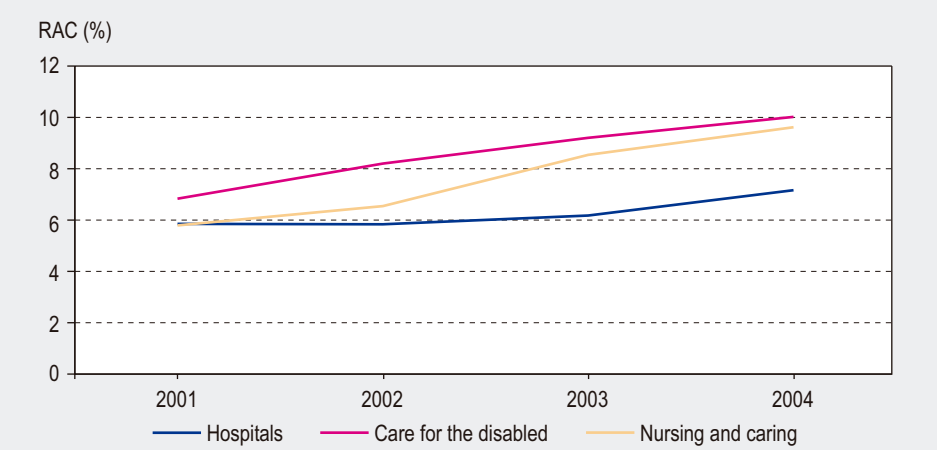


Figure 4.5.5: Reserve for acceptable costs for three sectors, 2001–2004 (Prismant, 2006).

40% of all healthcare organisations participated in the Guarantee Fund for the Health Care Sector at the end of 2004. The participation rate rose from 17% to 40% in the period 2000–2004

The Guarantee Fund for the Health Care Sector (WfZ) is an independent fund which care institutions can join. The fund assesses an institution's creditworthiness. The fund acts as the guarantor for the repayment of loans in the event that a member institution is unable to do so. As a result, institutions can negotiate more favourable interest rates with their banks. In 2004, the WfZ thus ensured an advantage of 8.9 million euro new gross interest. If previous years are included, member institutions have achieved an interest advantage of 26.7 million euros. This amount is an annually recurring advantage (WfZ, 2005). The WfZ not only sets requirements for financial indices, but also takes into account matters like the quality of management, and whether the institutes have a strategic vision and a business plan. Therefore the percentage of participating institutions gives a good indication of the financial position of the institutions with an eye to the future.

All health care sectors show a rise in the degree of participation in the WfZ (*Figure 4.5.6*). Given the WfZ's short existence (5 years) the degree of participation is not yet optimal and it is impossible to interpret the increase in the percentage of participating institutions as an improvement in the financial position of health care institutions. However in the long run, an increase in the participation degree in the WfZ will be indicative of the financial position of the institutions. The sector radiotherapy has the highest level of participation in the WfZ; 83.3% in 2003 and 100% in 2004 (*Figure 4.5.6)*. However, the absolute number of institutions is only six. The hospital sector scores high too; the total percentage of participating institutions increased from 17% in 2000 to 40% at the end of 2004.

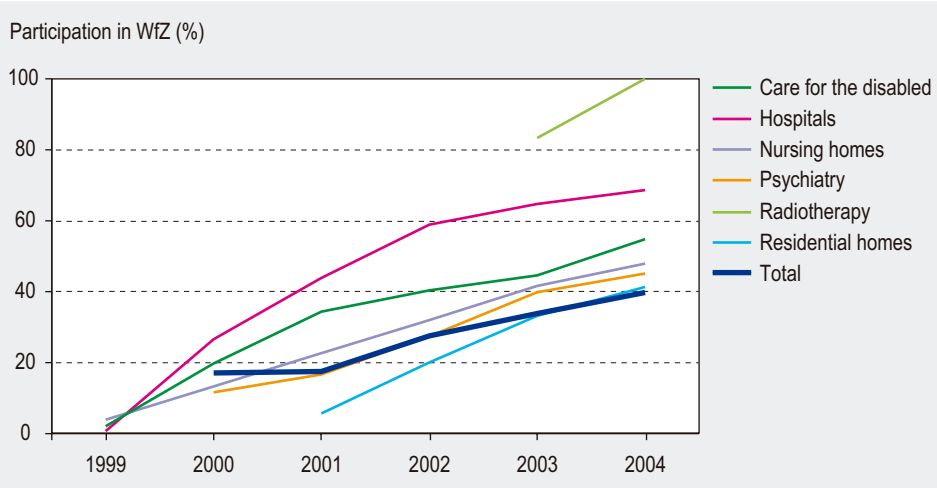


Figure 4.5.6: Percentage of institutions participating in WfZ, by institution and total, 1999–2004 (WfZ, 2000–2005).

What we do not know

Data concerning extramural institutions (and individual health professionals) are lacking. The next DHCPR will also include information on the financial position of care insurers. It was not possible to present such a true and complete picture for 2004.

Evidence-based standards for the financial position of care institutions still need to be developed. These must be appropriate for care sectors where market forces are actually operating.

How low financial index numbers will impact the management of institutions is not known. Some institutions may actually be limited in their actions, yet equally, such index numbers may not hamper decision making.

The differences in values of financial index numbers between institutions are difficult to quantify. It is therefore not known whether the differences between institutions have increased or decreased.

CHAPTER 5

THE NEXT DUTCH HEALTH CARE PERFORMANCE REPORT

5.1 Introduction

The Dutch Health Care Performance Report (DHCPR) outlines the performance of the Dutch health care system in 2004. As the report is only as good as the data it is based on, the availability of health care data and opportunities for improvement need to be addressed. In this context, two questions are particularly relevant:

1. What are the most important limitations of the first DHCPR? (*Section 5.2*), and consequently
2. What improvements are needed with respect to indicators, data availability and information infrastructure (*Section 5.3*)?

The answers to these questions are illustrated by the indicator pyramid (*Figure 5.1*). This presents the many steps (or layers) between the 'abstract' objectives of the DHCPR and the concrete measurements in the health care system.

Box 5.1: The indicator pyramid

At the apex of the pyramid are the three public objectives: quality, accessibility and affordability. Conceptual (sub)aspects have been distinguished (indicator domains) for each of these. The (sub)aspects have been provided with measurable (performance) indicators at the process and outcome level. Measurements are performed through registrations and surveys using validated and reliable measurement instruments. Transparency and uniformity of language are prerequisites for an effective and efficient process of information provision. Strengths and weaknesses in one layer of the pyramid affect other layers.

Some arrows in the pyramid point downwards and some upwards. This reflects the process of the DHCPR. On the one hand, reasoning has been conceptual and top-down: which data are ideally necessary to give a consistent picture of the functioning of the health care system? On the other hand, reasoning has been bottom-up: what data are available in existing reports? Tensions arise where these two approaches meet. A one-to-one relationship between a conceptual term and an empirical measurement is rare. In theory, measuring a conceptually broad term, such as quality of care, requires a range of measurement instruments to be used. Conversely, specific data or a specific measurement instrument may be used to obtain insight into more than one aspect of health care.

5.2 Ambitions and limitations

The aim of the DHCPR is to provide a picture of the performance of Dutch health care at the national level, based on a limited set of indicators and using existing data. Trends in time, international comparisons and comparisons with policy norms and policy objectives are the instruments needed for a policy appraisal of health care performance. Patient-centeredness and monitoring the effects of health care system reforms and care innovations are very important ambitions of the Ministry of Health (VWS, 2004b). These ambitions place high demands on data, indicators, and presentation and may indeed be considered as criteria that the indicators should ideally satisfy. How-

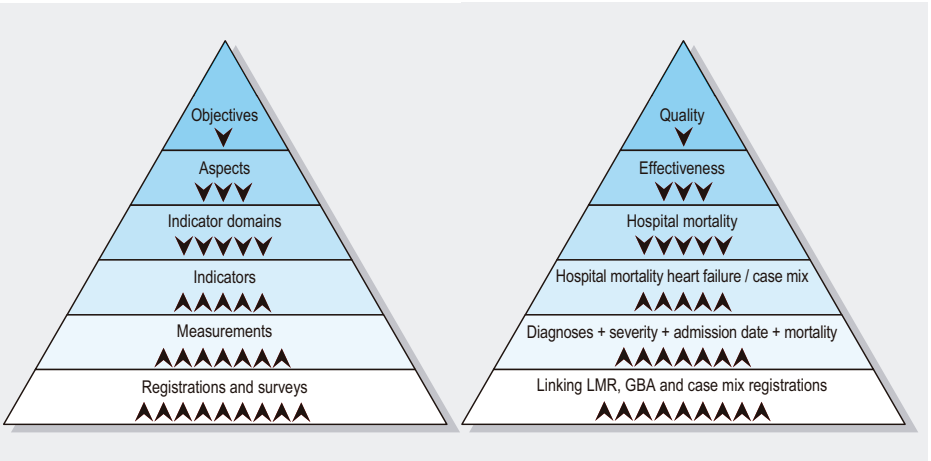


Figure 5.1: The indicator pyramid.

Figure 5.2: Hospital mortality due to heart failure; one of the twenty indicators of the effectiveness of curative care.

ever, the greater part of the DHCPR would have remained blank if all of the indicators had to satisfy all of the demands. Accordingly, a set of indicators has been compiled such that each indicator satisfies at least some of the criteria. An effort has therefore been made to compile the best possible set.

The first DHCPR has several strong points (+), yet also a number of weaknesses (-) that need to be taken into account:

+ The framework of indicators developed and used has a firm basis in the international literature
+ The system goals and indicator domains selected are in line with the policy of the Ministry of Health
+/- The empirical measurements for the year 2004 show a broad but incomplete picture of the performance of Dutch health care
- The comparability of data in terms of time, place and policy standards is limited *(Table 5.1)*
- The interpretability of separate indicators leaves room for improvement with respect to relevance and usefulness for policy and everyday practice.

The weaknesses will be discussed below, as these are the starting point for improving the next DHCPR.

A broad but incomplete picture

Based on 125 indicators, the DHCPR presents a broad picture of the performance of the Dutch health care system. However, it does not address the performance of specific areas of health care due to the requirement that the indicators must be limited in number. The indicators are measures of the state of Dutch health care with respect to quality, accessibility and costs. All of the DHCPR's final statements on the performance of Dutch health care are therefore conditional. They are true in as far as they are based

on the set of indicators used. By order of the Ministry of Health, welfare has not been included in the DHCPR.

Table 5.1: Availability and quality of empirical data for the selected indicators.

Care demand / Sector	Quality			Access	Costs
	Effectiveness	Patient safety	Patient-centeredness		
Staying healthy / prevention					
Getting better / cure					
Living with illness or disability / long-term care					
End of life care					

dark blue: good; light blue: moderate; white: bad

Following the American example (AHRQ, 2005), *Table 5.1* presents, in a simplified manner, the extent to which more or less adequate data is available for the various indicators used. Obviously, in the next DHCPR end-of-life care (terminal care, palliative care) will have to be addressed.

The comparability of data is limited at present

For half of the indicators in the DHCPR, data on trends is available in some form or other, and for twenty per cent of the indicators international comparisons are possible. For a few indicators quantitative policy norms are available, against which results can be measured (*Table 5.2*).

Table 5.2: Comparability of data in the DHCPR, by characteristic.

Characteristic	Percentage of indicators that satisfy characteristic	Limitations
Trend in time	50%	Frequently, trends relate to only a few years
International comparison	20%	Mainly limited to OECD data; OECD data are lagging a few years behind
Comparison with policy norm	<5%	Quantitative policy norms are available for only a few indicators

The comparability of data between disorders, populations and care sectors is still not optimal. Therefore, data cannot be added up or presented in a simple graph. In view of the limited space available sometimes examples had to be presented instead of a complete picture. The choice of examples has primarily been based on their significance for the performance of the health care system. The Internet site www.healthcareperformance.nl will present more data, and in so doing provide a broader picture than the present report.

5.3 The improvement agenda for the next DHCPR

In line with the limitations mentioned in *Section 5.2* the next DHCPR aims:
- to present more trend data, international comparisons and comparisons with policy norms
- to improve indicators, fill in gaps, and improve the usefulness for health policy

More trend data and international comparisons

The present DHCPR has been based as much as possible on existing sources and one-off sources which have been set up as a monitoring instrument. The next DHCPR is, therefore, expected to present more trend data and over a longer period of time. However, this means that continuity must be guaranteed, which is not always the case. Points of (great) concern are:
- a number of important existing registrations are threatened by termination or have been terminated (temporarily)
- a number of existing registrations are faced with bigger or smaller changes which will lead to incomparability over time
- the repetition of a number of new registrations and one-off analyses used in this report, is not guaranteed

Prerequisites for a better DHCPR are investments in the continuation of existing data sources and in the collection of new data.

In the next DHCPR it will be useful to show more of the national variation in the performance of care providers and health insurers, and again, like in *Section 2.9*, deal with the diffusion rate of a number of technological and care innovations. On the website www.healthcareperformance.nl attention will be paid to best practices in care. In addition, much can be learnt from international comparisons, especially about the system characteristics of the Dutch health care system. After all these apply to the whole of the Netherlands and by definition lessons can only be learnt from comparisons with other countries. CBS and RIVM are at the forefront of the international indicator development as demonstrated by their cooperation in the ECHI project, EUPHIX and the OECD. RIVM also cooperates with countries where performance measurement is at a more advanced stage, such as the United Kingdom, the United States and Canada. International comparability can be enhanced by a good and swift data delivery from the Netherlands to international statistical organisations and by the harmonisation of measurement instruments and measurement analyses.

Comparability with policy norms and policy objectives can only be enhanced if the policies concerned have formulated explicit goals. Standards of professionals, patients and consumers and supervisory bodies can serve as alternative measures for comparison.

Extending the set of indicators and improving their usefulness

The next DHCPR can make use of many current initiatives to further the provision of information. At all levels in health care (nationally and internationally) new measure-

ment instruments are being designed to monitor changes in health care and their effects: ranging from new measurement instruments that aim to enhance insight into patient judgements to new registrations that aim to provide insight into market forces among insurers and care providers as well as function-specific care.

Obviously it would be wise to ask the registration and research field, in cooperation with the care sector, which of the indicators they are developing are most relevant for the DHCPR, and to subsequently judge these indicators against a set of criteria. Dutch and international sets of criteria can serve as examples (AHRQ, 2005; AeZQ, 2001). These sets of criteria show much overlap. The criteria included in the assignment of the Ministry of Health and the experience gained in compiling the first DHCPR can be used. The usefulness of an indicator increases if the evidence for its relationship with attaining public health goals and its generalisability for, and connection with, other care components are scientifically sound. Accordingly, considerable effort must be directed at the scientific underpinning and interpretation of the indicators. The priories are presented in *Box 5.2*. It will take a joint effort of government, health care providers, insurance companies and statistical and research organisations to fulfil/carry out this agenda.

Box 5.2: Priorities in domains where improvement is desirable

Some indicator domains require more improvements than others. The indicator domains most in need of improvement are:

General
1) terminal and palliative care, 2) effectiveness and uptake of prevention (health promotion)

Quality
1) patient and consumer experiences, 2) adherence to standards and protocols, 3) patient safety

Access
1) financial access, 2) quality of care for vulnerable groups, 3) opportunities to choose

Costs
1) market forces, 2) effects of health care system reforms (e.g., insurance market and financial position of health insurers)

System functioning as a whole
1) efficiency, 2) relation with health, 3) harmonisation and cooperation of care, integrated care

Opportunities for improvement differ per indicator domain. Other indicators also allow improvements, as is explained in the subsection *'What we do not to know'* in *Chapters 2-4*.

REFERENCES

Abbink EJAA, den Dekker J. Signalement Mondzorg 2004. Diemen: CVZ, 2005.

Abbink F, Greeff SC, van den Hof S, de Melker HE. Het Rijksvaccinatieprogramma in Nederland: het vóórkomen van de doelziekten (1997-2002). Bilthoven: RIVM, 2005.

Abbink F, Greeff SC, van den Hof S, de Melker HE. Achterberg PW. Met de besten vergelijkbaar? Internationale verschillen in sterfte rond de geboorte. Bilthoven: RIVM, 2004.

ACHS, Australian Council on Health Care Standards. www.achs.org.au, geraadpleegd 17.08.2005.

Achterberg PW. Met de beesten vergelijkbaar? Internationale verschillen in sterfte rond de geboorte. Bilthoven: RIVM, 2005.

Aedes-Arcares Kenniscentrum Wonen-Zorg, Databank Wonen-Zorg. www.kcwz.nl, geraadpleegd 14.02.2006.

AeZQ, Aertzliche Zentralstelle Qualitätssicherung. Critical appraisal of clinical performance measures for quality management quality criteria and quality indicators in health care. Köln: AeZQ, 2001.

AHRQ, Agency of Healthcare Research and Quality. www.ahrq.gov, geraadpleegd 17.08.2005.

AHRQ, Agency for Healthcare Research and Quality. National Healthcare Quality Report. United States Department of Health and Human Services. Rockville, MD: AHRQ, 2005-2006.

AHRQ, Agency for Healthcare Research and Quality. National Healthcare Disparities Report 2003. Rockville, MD: AHRQ, 2004a.

AHRQ, Agency for Healthcare Research and Quality. National Healthcare Quality Report. United States Department of Health and Human Services. Rockville, MD: AHRQ, 2004b.

AHRQ, Agency for Healthcare Research and Quality. National Healthcare Quality Report. United States Department of Health and Human Services. Rockville, MD: AHRQ, 2003a.

AHRQ, Agency for Healthcare Research and Quality. Patient Safety. In: National Healthcare Quality Report. Chapter 4. United States Department of Health and Human Services. Rockville, MD: AHRQ, 2003b.

Allart-van Dam E. Indicated prevention of depression and prediction of outcome: The coping with depression course. Nijmegen: Katholieke Universiteit Nijmegen, 2003.

Arah OA, Westert GP, Hurst J, Klazinga NS. A conceptual framework for the OECD Health Care Quality Indicators Project. Int J Quality Health Care 2006(18)Suppl 1:5-13.

Arah OA. Performance reexamined. Concepts, content and practice of measuring health system performance. Amsterdam: Universiteit van Amsterdam, 2005. Dissertatie.

Arcares. Op weg naar normen voor verantwoorde zorg. Cliënt maakt uit wat kwaliteit van leven inhoudt. Persbericht. Utrecht: Arcares, 2005a.

Arcares, Algemene Vereniging Verpleegkundigen en Verzorgenden, Landelijke Organisatie Cliëntenraden, Nederlandse Vereniging van Verpleeghuisartsen, Sting, Z-Org. Toetsingskader voor verantwoorde zorg. Een operationalisatie van het visiedocument normen voor

verantwoorde zorg in een indicatorenset en een sturingsmodel voor de V&V. Utrecht: Arcares, 2005b.

Arcares. Benchmark verpleeg- en verzorgingshuizen 2003. Prestaties van zorgaanbieders gemeten. Algemeen rapport. Utrecht: Arcares, 2004.

AZN, Ambulancezorg Nederland. Jaarplan ambulancezorg 2006. Zwolle: AZN, 2005.

Baan CA, Bos G, Jacobs-van der Bruggen MAM. Modeling chronic disease: the diabetes module. Bilthoven: RIVM, 2005.

Baan CA, Feskens EJM. Diabetes mellitus samengevat. In: Volksgezondheid Toekomst Verkenning, Nationaal Kompas Volksgezondheid. Bilthoven: RIVM, <http://www.nationaalkompas.nl> Gezondheid en ziekte\ Ziekten en aandoeningen\ Endocriene, voedings- en stofwisselingsziekten en immuniteitsstoornissen\ Diabetes mellitus, 7 oktober 2005.

Baanders A. Bezuinigingen in de zorg: gevolgen voor chronisch zieken in het ziekenfonds. Factsheet PPCZ. Utrecht: NIVEL, 2004.

Bemelmans W, Tiemersma EW. Effectiviteit. In: Brancherapporten VWS. Den Haag: VWS, <http://www.brancherapporten.minvws.nl> De VWS-sectoren\Preventie\ Feiten en cijfers\Settinggerichte preventie\ Zorg\, 10 mei 2005.

Bemelmans WJE, Wendel-Vos GCW, Bos G, Schuit AJ, Tijhuis MAR. Interventies ter preventie van overgewicht in de wijk, op school, op het werk en in de zorg; een verkennende studie naar de effecten. Bilthoven: RIVM, 2004.

Berg MJ van den, de Bakker DH, van Roosmalen M, Braspenning JCC. De staat van de huisartsenzorg. Utrecht: NIVEL, 2005.

Berg MJ van den, Kolthof ED, de Bakker DH, van der Zee J. De werkbelasting van de huisarts. In: Braspenning JCC, et al. (red.). Tweede nationale studie naar ziekten en verrichtingen in de huisartspraktijk. Kwaliteit huisartsenzorg belicht. Utrecht: NIVEL, 2004.

Berg M van den, de Bakker DH. Meta-analyse introductie praktijkondersteuning op hbo-niveau in de huisartspraktijk in Nederland. Utrecht: NIVEL, 2003.

Bessems K, de Ruiter S, Buijs G. Toolkit overgewicht; preventie van overgewicht binnen de setting school. Woerden: NIGZ, 2006.

Blank JLT, van Hulst BL. Verspreiding van vernieuwing: een empirische diagnose van de verspeiding van innovaties in Nederlandse ziekenhuizen. In: Weten wat we doen. Verspreiding en innovaties in de zorg. Zoetermeer: RVZ, 2005:115-160.

Blokstra A , Schuit AJ. Factsheet overgewicht; prevalentie en trend. Bilthoven : RIVM, 2003.

Boer A de (red.). Kijk op informele zorg. Den Haag: SCP, 2005.

Bours GJJW, Halfens RJG, Wansink SW. Landelijk Prevalentie Onderzoek Decubitus. Maastricht: Universiteit Maastricht, 2003.

Braspenning JCC, Schellevis FG, Grol RPTM (red.). Tweede Nationale Studie naar ziekten en verrichtingen in de huisartspraktijk. Kwaliteit huisartsenzorg belicht. Utrecht/Nijmegen: NIVEL/WOK, 2004.

Brouwer W, Delnoij DMJ. Verdiepingsstudie prestatie-indicatoren consumententevredenheid en patiëntentevredenheid. Utrecht: NIVEL, 2004.

Bruurs MJH, van den Brink GTWJ, Spenkelink-Schut G, Verboon EM, Holdrinet RSG. Het ijs is gebroken. Eerste ervaringen met de physician assistant stemmen hoopvol. Med Contact 2005;60(10).

Buijs G, Bouwens JGM. Effectiviteit. In: Brancherapporten VWS. Den Haag: VWS,

<http://www.brancherapporten.minvws.nl> De VWS-sectoren\Preventie\Feiten en cijfers\Settinggerichte preventie\School\, 11 mei 2005.

Capaciteitsorgaan. Capaciteitsplan 2005 voor de medische en tandheelkundige vervolgopleidingen. Advies 2005 over de initiële opleiding geneeskunde beide vanaf 2006. Utrecht: Capaciteitsorgaan, 2005.

Cardol M, van Dijk L, de Jong JD, de Bakker DH, Westert GP. Huisartsenzorg, wat doet de poortwachter? In: Braspenning JCC, et al. (red.). Tweede nationale studie naar ziekten en verrichtingen in de huisartspraktijk. Kwaliteit huisartsenzorg belicht. Utrecht/Bilthoven: NIVEL/RIVM, 2004.

CBS, Centraal Bureau voor de Statistiek. Overhead in algemene ziekenhuizen gestegen. Webmagazine, 3 april 2006.

CBS, Centraal Bureau voor de Statistiek. Nationale Rekeningen: Voorburg/Heerlen: CBS, 2006a.

CBS, Centraal Bureau voor de Statistiek. Zorgrekeningen. Voorburg/Heerlen: CBS, 2006b.

CBS, Centraal Bureau voor de Statistiek. Doodsoorzakenstatistiek, 2005a.

CBS, Centraal Bureau voor de Statistiek. Gezondheid en zorg in cijfers 2005. Voorburg/Heerlen: CBS, 2005b.

CBS, Centraal Bureau voor de Statistiek. Nationale Rekeningen: Voorburg/Heerlen: CBS, 2005c.

CBS, Centraal Bureau voor de Statistiek. Zorgrekeningen. Voorburg/Heerlen: CBS, 2005d.

CBS-Statline. Gebruik medische voorzieningen http://statline.cbs.nl/StatWeb/table.asp?PA=7042mc&D1=390-425&D2=(l-11)-l&DM=SLNL&LA=nl&TT=2, geraadpleegd 27.01.2006a.

CBS-Statline. Gezondheidskenmerken en medische consumptie naar GGD-regio 2000/'03 http://statline.cbs.nl/StatWeb/table.asp?PA=70837ned&D1=8-19,37-48&D2=0&DM=SLNL&LA=nl, geraadpleegd 27.01.2006b.

CBS-Statline. Kerncijfers Zorgrekeningen. CBS-Statline website, geraadpleegd 23.03.2006c.

CBS-Statline. Aantal personen onverzekerd voor ziektekosten. CBS-Statline website, geraadpleegd 18.10.2005a.

CBS-Statline. Aantal vacatures niet verder gedaald. http://statline.cbs.nl/StatWeb/table.asp?PA=70236ned&D1=a&D2=0&D3=0,8&D4=0&D5=(l-11)-l&DM=SLNL&LA=nl&TT=2, geraadpleegd 11.07.2005b.

CBS-Statline. Aantal vacatures niet verder gestegen. http://statline.cbs.nl/StatWeb/table.asp?PA=70236ned&D1=a&D2=0&D3=0,8&D4=0&D5=(l-11)-l&DM=SLNL&LA=nl&TT=2, geraadpleegd 11.07.2005c.

CBS/Prismant, Centraal Bureau voor de Statistiek/Prismant. Landelijke Medische Registratie, bewerkt door CBS, 2006.

CBS/Prismant/CAK-BZ, Centraal Bureau voor de Statistiek/Prismant/Centraal Administratie Kantoor-Bijzondere Zorgkosten. Aanvullende analyses op basis van de koppeling van verpleeghuisregistraties en thuiszorgregistraties aan de LMR. Voorburg/Heerlen: CBS, 2006.

CBZ, College Bouw Ziekenhuisvoorzieningen. Spreiding ziekenhuiszorg, vervolg-uitvoeringstoets, eerste tranche. Utrecht: CBZ, 2002.

CCKL, Stichting voor de bevordering van de kwaliteit van het laboratoriumonderzoek en voor de accreditatie van laboratoria in de gezondheidszorg. www.cckl.nl, geraadpleegd 05.08.2005.

Colsen PJA, Casparie AF. Indicatorregistratie: een model ten behoeve van integrale kwaliteitszorg in een ziekenhuis. Med Contact 1995;50:297-299.

Consumentenbond. Wachten op de (tand)arts. Consumentengids 2002;(50):55.

Consumentenbond. www.consumentenbond.nl, geraadpleegd 30.05.2005.

Coppen R, Marquet RL, Friele RD. Het donorpotentieel. Een vergelijking van het donorpotentieel in Nederland en 9 andere West-Europese landen. Utrecht: NIVEL, 2002.

CTG/ZAio, College Tarieven Gezondheidszorg/ Zorgautoriteit i.o. Monitoren van de zorgmarkt. Masterdocument: Algemene uitgangspunten en databronnen voor het inrichten van marktmonitors voor de zorgsectoren. Utrecht: CTG/ZAio, 2005a.

CTG/ZAio, College Tarieven Gezondheidszorg/ Zorgautoriteit i.o, en CTZ. Visiedocument extramurale AWBZ-zorg: analyse en aanbevelingen voor concurrentie. Utrecht: CTG/ZAio, 2005b.

CTG/ZAio, College Tarieven Gezondheidszorg/ Zorgautoriteit i.o. Oriënterende monitor ziekenhuiszorg. Analyse van de onderhandelingen in het B-segment in 2005. Utrecht: CTG/ZAio, 2005c.

CTZ, College Toezicht Zorgverzekeringen en CTG/ZAio. Visie zorgverzekeringsmarkt. Diemen: CTZ, 2006.

CTZ, College Toezicht Zorgverzekeringen en CTG/Zaio. Consultatiedocument monitor zorgverzekeringsmarkt. Diemen: CTZ, 2005a.

CTZ, College Toezicht Zorgverzekeringen. Prestaties zorgverzekeraars bij inkoop kraamzorg. Diemen: CTZ, 2005b.

CTZ, College Toezicht Zorgverzekeringen. Zorginkoop zorgkantoren. Diemen: CTZ, 2005c.

CTZ, College Toezicht Zorgverzekeringen. Risicoselectie in de zorgverzekeringen. Onderzoeksrapport. Diemen: CTZ, 2005d.

CTZ, College Toezicht Zorgverzekeringen. Prestaties zorgverzekeraars bij inkoop ziekenhuiszorg. Diemen: CTZ, 2004.

Cuijpers P, Van Straten A, Smit F. Preventing the incidence of new cases of mental disorders: a meta-analytic review. J Nerv Ment Dis 2005;193(2):119-125.

Cuperus-Bosma JM, Wagner C, van der Wal G. Veiligheid van patiënten in ziekenhuizen. Ned Tijdschr Geneesk 2005;149(39):2153-2156.

CVZ, College voor zorgverzekeringen. Kernmonitor ZRS 1996 – 2004. Trends in wachtlijsten verstandelijk gehandicaptenzorg. Diemen. CVZ, 2005a.

CVZ, College voor zorgverzekeringen. Rapportage landelijke wachtlijstmeting 1 januari 2005. Diemen: CVZ, 2005b.

CVZ, College voor zorgverzekeringen. Landelijke resultaten van het Zorgregistratiesysteem (ZRS), 2003. Diemen: CVZ, 2004.

CVZ, College voor zorgverzekeringen. Landelijke resultaten van het Zorgregistratiesysteem (ZRS), 2002. Diemen: CVZ, 2003.

CVZ, College voor zorgverzekeringen. Landelijke resultaten van het Zorgregistratiesysteem (ZRS), 2000. Diemen: CVZ, 2001.

Defloor T, Herremans A, Grypdonck M, et al. Herziening Belgische richtlijnen voor decubituspreventie. Brussel: Federaal Ministerie van Sociale Zaken, Volksgezondheid en Leefmilieu, 2004.

Dell M W, van der Meulen L. Arbeidsproductiviteit in de zorg. Utrecht: Prismant, 2005.

Delnoij D, ten Asbroek G, Arah O, de Koning J, Klazinga N, Stam P, Poll A, van der Schee E. Wat vinden Nederlanders van de gezondheidszorg en de zorgverzekering? Eerst landelijke resultaten van de Nederlandse vertaling van de CAHPS 3.0

Adult Commercial Questionnaire. Utrecht: NIVEL, 2005.

Delnoij DMJ, ten Asbroek AHA, Arah OA, Custers T, Klazinga NS. Bakens zetten: naar een Nederlands raamwerk van prestatie-indicatoren voor de gezondheidszorg. Den Haag: VWS, 2002.

DGV, Nederlands Instituut voor verantwoord medicijngebruik. Spectaculaire stijging kwaliteit FTO-groepen in 2003. Utrecht: DGV, 2004. Persbericht.

DNB, De Nederlandsche Bank. De Feiten: Het niveau van de kapitaalmarktrente. Nieuwsbericht. Amsterdam: DNB, 2005.

Donabedian A. Evaluating the quality of care. Milbank Mem Fund Q 1966, 44 Suppl:166-206.

Doorslaer E van, Masseria C, OECD Health Equity Research Group Members. Income-Related Inequality in the Use of Medical Care in 21 OECD Countries. Paris: OECD, 2004. OECD Health working paper no. 14.

Douven R, Schut E. Health plan pricing behaviour and managed competition. Den Haag: CPB, 2006. CPB Discussion paper 61.

Droomers M, Foets M, van der Lucht F. Factsheet allochtonen en zorggebruik. Bilthoven/Rotterdam: RIVM/Erasmus Universiteit Rotterdam, iBMG, 2005.

Engels Y, van den Hombergh P, Mokkink H, van den Bosch W, van der Hoogen H, Grol R. Vinden patiënten de bereikbaarheid en spreekuuroganisatie van de huisartsenpratijk sinds 1997 veranderd? TSG Tijdschr Gezondheidswetensch 2006(84):29-34.

FIN, Ministerie van Financiën. Brief aan Tweede Kamer naar aanleiding van motie van Vroonhoven-Kok. AFP03-627, 16 september 2003.

Fredriks AM, van Buuren S, Wit JM, Verloove-Vanhorick SP. Body mass index measurements in 1996-1997 compared with 1980. Arch Dis Childhood 2000;82:107-112.

Friele RD, Gevers JKM, Coppen R, Janssen AJGM, Brouwer W, Marquet R. Tweede evaluatie Wet op de orgaandonatie. Den Haag: ZonMw, 2004.

Gameren E van. Regionale verschillen in de wachtlijsten verpleging en verzorging. Een empirisch onderzoek naar verklarende factoren. Den Haag: SCP, 2005.

Gerritsen AAM, van der Ploeg HM, Devillé W, Lamkaddem M. Gevlucht – Gezond? Een onderzoek naar de gezondheid van, en het zorggebruik door asielzoekers en vluchtelingen in Nederland. Utrecht: NIVEL, 2005.

Geubbels ELPE, Nagelkerke NJD, Mintjes-de Groot AJ, Vandenbroucke-Grauls CMJE, Grobbee DE, de Boer, AS. Reduced risk of surgical site infections through surveillance in a network. Int J Quality Health Care 2006:1-7.

GFHR, Global Forum for Health Research. Monitoring Financial Flows for Health Research. Geneva: GFHR, 2004.

GGZ-Nederland. Wachtlijsten in ggz-instellingen op 1 januari 2005. Amersfoort: GGZ-Nederland, 2005.

Ginneken P van, Schoemaker C. GGZ in tabellen. Utrecht: Trimbos instituut, 2005.

Graeve D de, van Ourti T. The distributional impact of health financing in Europe: a review. The World Economy 2003(26)1459-1479.

Groenewegen PP, de Bakker DH, van der Velden J. Een nationale studie naar ziekten en verrichtingen in de huisartspraktijk. Basisrapport: Verrichtingen in de huisartspraktijk. Utrecht: NIVEL, 1992.

Groenewegen PP, Westert GP, Boshuizen HC. Regional differences in healthy life expectancy. Public Health 2003;117:424-429.

Habraken M. Beter analyseren van incidenten. PRISMA-methode biedt de inspectie meer inzicht in medische missers. Med Contact 2005;60(22):940-943.

Halfens RJG, Bours GJJW, van Ast W. Relevance of the diagnosis 'stage 1 pressure ulcer': an empirical study of the clinical course of stage 1 ulcers in acute and long-term care hospital populations. J Clin Nursing 2001:10(6):748-57.

Halfens RJG, Janssen MAP, Meijers JMM, Mistiaen P. Landelijke Prevalentiemeting Zorgproblemen 2005. Maastricht: Universiteit Maastricht, 2005.

Hendriks M, Delnoij D, van der Meulen-Arts S, Brouwer W, Spreeuwenberg P. Ervaringen van verzekerden met de zorg en de zorgverzekeraars, Consumenteninformatie voor www.kiesbeter.nl. Utrecht: NIVEL, 2005.

HHM, Hoeksma, Homans & Menting/ Taskforce RIO's. Overzicht ontwikkeling werkvoorraden. Enschedé: HHM, 2005.

HHM, Hoeksma, Homans & Menting/ Taskforce Aanpak Wachtlijsten. Landelijke rapportage. Resultaten wachtlijstinventarisatie sector verpleging en verzorging. Enschedé: HHM, 2001, 2004.

Hilten O, van Kleima H, Langenberg H, Warns P. Productie, arbeid en productiviteit in de zorgsector. ESB 2005;(4452):D3-D5.

Hingstman L, van der Velden LFJ. Toekomstverkenning van het zorgaanbod en afstemming met de zorgvraag. In: Bakker DH de, Polder JJ, Sluijs EM, Treurniet HF, Hoeymans N, Hingstman L, Poos MJJC, Gijsen R, Griffioen DJ, van der Velden LFJ. Op één lijn: Bilthoven: RIVM, 2005.

Hirasing RA, Fredriks AM, van Buuren S, Verloove-Vanhorick SP, Wit JM. Toegenomen prevalentie van overgewicht en obesitas bij Nederlandse kinderen en signalering daarvan aan de hand van internationale normen en nieuwe referentiediagrammen. Ned Tijdschr Geneeskd 2001;145(20):1303-1304.

HKZ, Stichting Harmonisatie Kwaliteitsbeoordeling in de Gezondheidszorg. www.hkz.nl, geraadpleegd 05.08.2005.

Hortulanus R, Machielse A, Meeuwesen L. Sociaal isolement. Een studie over sociale contacten en sociaal isolement in Nederland. Den Haag: Elsevier, 2003.

Huijsman R, Ludwig AJ. De Naber: groepswonen voor dementerende ouderen; verslag van een vooronderzoek en de ontwikkelingen tussen de eerste 6 maanden. Rotterdam: Erasmus Universiteit Rotterdam, iMTA, 1995.

IGZ, Inspectie voor de gezondheidszorg. Basisset prestatie-indicatoren ziekenhuizen 2005. Den Haag: IGZ, 2005a.

IGZ, Inspectie voor de Gezondheidszorg. De staat van de gezondheidszorg. Openbare gezondheidszorg; hoe houden we het volk gezond? Den Haag: IGZ, 2005b.

IGZ, Inspectie voor de Gezondheidszorg. Gelaagd en gefaseerd toezicht. Resultaten inspectieformulier 2004. Verpleeghuizen en verzorgingshuizen. Den Haag: IGZ, 2005c.

IGZ, Inspectie voor de Gezondheidszorg. Het resultaat telt! Prestatie-indicatoren als onafhankelijke graadmeter voor de kwaliteit van in ziekenhuizen verleende zorg. Den Haag: IGZ, 2005d.

IGZ, Inspectie voor de Gezondheidszorg. Jaarbericht 2004. Den Haag: IGZ, 2005e.

IGZ, Inspectie voor de Gezondheidszorg. Kwaliteitsborging in verpleging en verzorgingshuizen nader bekeken. Den Haag: IGZ, 2005f.

IGZ, Inspectie voor de Gezondheidszorg. Nieuwe dienststructuur apotheken:

medicatiebewaking niet sluitend. Professionele afstemming loopt achter bij schaalvergroting. Den Haag: IGZ, 2005g.

IGZ, Inspectie voor de gezondheidszorg. Stand van zaken regionale voorbereiding influenzapandemie op 1 november 2005. Den Haag: IGZ, 2005h.

IGZ, Inspectie voor de Gezondheidszorg. Telefonische bereikbaarheid huisartsenposten. Den Haag: IGZ, 2005i.

IGZ, Inspectie voor de Gezondheidszorg. Huisartsenposten in Nederland. Nieuwe structuren met veel kinderziekten. Den Haag: IGZ, 2004a.

IGZ, Inspectie voor de Gezondheidszorg. Jaarbericht 2003. Den Haag, 2004b.

IGZ, Inspectie voor de Gezondheidszorg. Spoedeisende hulpverlening: Haastige spoed niet overal goed. Den Haag: IGZ, 2004c.

IGZ, Inspectie voor de Gezondheidszorg. Staat van de Gezondheidszorg 2004. Patiëntveiligheid: de toepassing van geneesmiddelen en medische hulpmiddelen in zorginstellingen en thuis. Den Haag: IGZ, 2004d.

IGZ, Inspectie voor de Gezondheidszorg. Verpleeghuizen garanderen minimale zorg niet. Den Haag: IGZ, 2004e.

IGZ, Inspectie voor de Gezondheidszorg. Staat van de Gezondheidszorg 2003. Ketenzorg bij chronisch zieken. Den Haag: IGZ, 2003a.

IGZ, Inspectie voor de Gezondheidszorg. Toegankelijkheid huisartsenzorg asielzoekers. Den Haag: IGZ, 2003b.

IGZ, Inspectie voor de Gezondheidszorg. Jaarbericht 2001. Den Haag, 2002a.

IGZ, Inspectie voor de Gezondheidszorg. Staat van de gezondheidszorg 2002: Kwaliteit in zorginstellingen: intentie, wet en praktijk. Utrecht: IGZ, 2002b.

IGZ, Inspectie voor de Gezondheidszorg. Jaarbericht 2000. Den Haag, 2001.

IOM, Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington DC: National Academies Press, 2001.

Janse, AFC, Hutten JBF, Spreeuwenberg P. Patiënten oordelen over ziekenhuizen II. Ervaringen en meningen van patiënten in 37 Nederlandse ziekenhuizen. Utrecht: NIVEL, 2002.

Jansen E, van Doorslaer E. Verdeling van de zorglasten voor en na de stelselwijziging. Rotterdam: Erasmus Universiteit Rotterdam, iBMG, 2002.

Janssens L, Rijken M, Spreeuwenberg P. Wijziging van de regeling buitengewone uitgaven. Inkomenseffecten bij chronisch zieken. Amsterdam/Utrecht: SEO/NIVEL, 2005.

Jarman B, Gault S, Alves B, Hider A, Dolan S, Cook A, Hurwitz B, Iezzoni LI. Explaining differences in English hospital death rates using routinely collected data. Br Med J 1999;318:1515-1520.

Jonge J de, Noteboom HPJM, Schouten EG, Timmers J. VWA consumentenmonitor 2004; onderzoek naar het vertrouwen van de consument in de veiligheid van voedingsmiddelen. Den Haag: VWA, 2005.

Knopp RH. Drug treatment of lipid disorders. NEJM 1999;341:498-511.

Kohn LT, Corrigan JM, Donaldson MS (eds.). To err is human. Building a safer health system. Committee on Quality of Health Care in American Institute of Medicine. Washington DC: National Academies Press, 1999.

Kok L, Hoeben J, Desczka J. Concurrentie tussen particuliere zorgverzekeraars. Zoetermeer: IOO, 2000.

Kommer GJ, van der Veen AA, Botter WF, Tan I. Ambulances binnen bereik. RIVM-rapport 270556006. Bilthoven: RIVM, 2003.

Kraan WGM van der. Vraaggericht en vraaggestuurd; een literatuuronderzoek naar vraaggerichtheid en vraagsturing in de gezondheidszorg. Den Haag: ZonMw, 2001.

Kulu Glasgow I, de Bakker D, Weide M, Arts S. Illegalen aan de 'poort' van de gezondheidszorg: toegankelijkheid en knelpunten in de zorg van huisartsen, verloskundigen en spoedeisende hulpafdelingen. Utrecht: NIVEL, 2000.

Kwekkeboom MH. Het licht onder de korenmaat. Informele zorg in Nederland. Den Haag: Vuga uitgeverij, 1990.

Lamkaddem M, de Bakker D, Nijland A, de Haan J. De invloed van praktijkondersteuning op de werklast van huisartsen: een analyse van gegevens uit het Landelijk Informatie Netwerk Huisartsenzorg. Utrecht: NIVEL, 2004.

Lanting CI, Verkerk PH. Evaluatie van de screening AGS/CHT/PKU bij kinderen geboren in 2003. Leiden: TNO Kwaliteit van leven, 2005.

LaRosa JC, He J, Vupputuri S. Effect of statins on risk of coronary disease. A meta-analysis of randomized controlled trials. JAMA 1999;282:2340-2346.

Laske-Aldershof T, Schut FT. Monitor verzekerdenmobiliteit. Onderzoek in opdracht van het Ministerie van VWS. Rotterdam: Erasmus Universiteit Rotterdam, iBMG, 2005.

Leerdam FJM van, van der Ploeg CBP. Vroegtijdige opsporing van gehoorstoornissen door de Jeugdgezondheidszorg. Opbrengst en belang van screenen. Bijblijven 2004;20:22-32.

LeGrand-van den Boogaard MJM (voorz.). Commissie Implementatie Opleidingscontinuüm en Taakherschikking. De zorg van morgen flexibiliteit en samenhang, Deel 1: Hoofdlijnen. Den Haag: VWS/OCW, 2003.

Leistikow IP, van Vught AJ, Blijham GH. Zinvol melden. Meldingscommissies moeten incidentanalyse professionaliseren. Med Contact 2005;60(11):458-461.

Lindert H van, Droomers M, Westert GP. Een kwestie van verschil. Verschillen in zelfgerapporteerde leefstijl, gezondheid en zorggebruik. In: Braspenning JCC, et al. (red.). Tweede nationale studie naar ziekten en verrichtingen in de huisartspraktijk. Kwaliteit huisartsenzorg belicht. Utrecht/Bilthoven: NIVEL/RIVM, 2004.

Linschoten CP van, Moorer P, Voorrips R. Langs de eerste lijn. Wensen en verwachtingen van de Nederlandse bevolking ten aanzien van de eerstelijnszorg. Groningen: Rijksuniversiteit Groningen, 2004.

LMR, Landelijke Medische Registratie. Prismant, bewerkt door RIVM-cVTV, 2005.

LSP, Landelijke Steunfunctie Preventie. http://www.lsp-preventie.nl/index.asp?id=37, geraadpleegd 06.02.2006.

Maas J, Delnoij DMJ. Brancherapport cure 2000-2003. Den Haag: VWS, 2004. http://www.brancherapporten.minvws.nl/object_binary/minvws_branche_cure_00_03.pdf

Mackenbach JP, Verkleij H (red.). Volksgezondheid Toekomst Verkenning 1997. Deel 2: Gezondheidsverschillen. Bilthoven/Maarssen: RIVM/Elsevier, de Tijdstroom, 1997.

Maes S, Dijkstra A, ten Wolde GB, Wiggelinkhuijsen S. Computer-gegenereerde patiëntenvoorlichting gericht op discontinuering van chronisch benzodiazepinegebruik. Leiden: Universiteit Leiden, 2005.

Mantel-Teeuwisse AK, Verschuren WMM , Klungel OH, de Boer A, Kromhout D. Recent trends in (under) treatment of hypercholesterolemia in the Netherlands. Br J Clin Pharmacol 2004;318:310-316.

Marquet RL, Bartelds AI, Kerkhof AJ, Schellevis FG, van der Zee J. The epidemiology of suicide and attempted suicide in Dutch General Practice 1983-2003. BMC Fam Pract 2005;6:45.

Mathijssen SW. Keteninformatie. Brancherapport Care. Den Haag: Ministerie van VWS, 2004. http://www.brancherapporten.minvws.nl/object_document/o622n440.html.

Mattke S, Kelley E, Scherer P, Hurst J, Gil Lapetra ML, HCQI Expert Group Members. Health Care Quality Indicators Project, Initial Indicators Report. Paris: OECD, 2006. OECD Health Working Paper No. 22.

Meer JBW van der. Equal care, equal cure? : socioeconomic differences in the use of health services and the courses of health problems. Rotterdam: Erasmus University, 1998. Dissertatie.

Meer J van der, Schouten JSAG (eindred.). Effecten van zorg. Volksgezondheid Toekomst Verkenning 1997. Bilthoven/ Utrecht: RIVM/Elsevier De Tijdstroom, 1997.

Meulen L van der. Betaalbare zorg. In: Handboek structuur en financiering gezondheidszorg. Breit JG, Elsinga E, van der Meulen LJR, Sanders FBM, Kasdorp JP (red.). Maarssen: Elsevier gezondheidszorg, 2006.

Meulen L van der. Zorg rond arbeidsproductiviteit. ESB 2005;(4452): D6-D8.

Meyboom-de Jong B, Schmit Jongbloed LJ, Duchatteau DC (eindred.) Projectgroep Medisch opleidingscontinuüm. De arts van straks, een nieuw medisch opleidingscontinuüm. Utrecht: KNMG/ DMW-VSNU/VAZ/NVZ/LCVV, 2002.

MOBG, Stuurgroep Modernisering Opleidingen en Beroepsuitoefening in de Gezondheidszorg. Advies inzake de aanpak van de positionering van de nurse practitioner (NP) en physician assistant (PA). Utrecht: MOBG, 2005. http://www.mobg.nl.

Mulder J. Significant minder doorverwijzingen door teledermatologie. Mednet 2004;21. http://www.nijsmellinghe.nl/specialismen/afbeeldingen/innovatie_teledermatologie.pdf.

NIAZ, Nederlands Instituut voor Accreditatie van Ziekenhuizen. www.niaz.nl, geraadpleegd 05.08.2005.

Nieboer A, Pepels R, Kool T, Huijsman R. Stroke services gespiegeld. Publieksversie van de haalbaarheidsstudie naar een landelijke benchmark van CVA-ketenzorg. Rotterdam: iBMG, Utrecht: Prismant/ ZonMw, 2005.

NIGZ, Nationaal Instituut voor Gezondheidsbevordering en Ziektepreventie. http://www.gezondheidsmanagement.nl/index.cfm?act=faq.detail&vraag=9&groep=0&thema=0&aspect=0, 10 augustus 2005.

Nijboer C. Overgewicht lokaal ingedikt en uitgediept; een inventarisatie van lokale instrumenten gericht op het voorkomen van overgewicht. Woerden: NIGZ, 2004.

Nijland A. De praktijkassistente in de huisartspraktijk: progressie in professionalisering. Groningen: Rijksuniversiteit Groningen, 1991.

NIVEL, Nederlands instituut voor onderzoek van de gezondheidszorg. Consumentenpanel. http://www.nivel.nl/consumentenpanel/.

NIVEL, Nederlands instituut voor onderzoek van de gezondheidszorg. Cijfers uit de registratie van fysiotherapeuten – peiling 1 januari 2005. Utrecht: NIVEL, 2006.

NMa, Nederlandse Mededingingsautoriteit. Monitor financiële sector 2005. Inzichten van de NMa over mededinging in de financiële sector. Den Haag, NMa, 2005.

NPPV, Nationaal Platform Patiëntveiligheid, 2005. www.platformpatientveiligheid.nl.

NRV, Nationale Raad voor de Volksgezondheid. Discussienota begrippenkader kwaliteit beroepsuitoefening. Zoetermeer: NRV, 1986.

NSN, Nierstichting Nederland en Niervereniging Nederland. Brief aan kabinet: 59% meer orgaandonaties bij betere registratie. Bussum: NSN, 2004.

NTS, Nederlandse Transplantie Stichting. www.transplantatiestichting.nl, geraadpleegd 15.10.2005; 10.03.2006.

NVVA, Nederlandse Vereniging van Verpleeghuisartsen. Tripartiete multidisciplinaire richtlijn 'Samenwerking en logistiek rond decubitus'. Utrecht: NVVA, 2003.

OECD, Organisation for Economic Co-operation and Development. Health data 2005. Paris: OECD, 2005. Databewerking RIVM.

OECD, Organisation for Economic Co-operation and Development. Eurobarometer 2003, Public's satisfaction with health care system, EU countries, 2002. OECD health data 2005, October 2005b. http://www.irdes.fr/ecosante/OCDE/67.html.

OECD, Organisation for Economic Co-operation and Development. HCQI Conceptual Framework Paper. Paris: OECD, 2005c. Health working papers no. 23.

OECD, Organisation for Economic Co-operation and Development. Health at a Glance. Paris: OECD, 2005d.

OECD, Organisation for Economic Co-operation and Development. Compenium of Patent Statistics. Paris: OECD, 2004a.

OECD, Organisation for Economic Co-operation and Development. Selecting indicators for patient safety at the health systems level in OECD countries. Paris: OECD, 2004b. Paper no. 18.

OECD, Organisation for Economic Co-operation and Development. Towards high-performing health systems. The OECD Health Project. Paris: OECD, 2004c.

Oers JAM van (eindred.). Gezondheid op koers? Volksgezondheid Toekomst Verkenning 2002. Bilthoven, Houten: RIVM, Bohn Stafleu van Loghum, 2002.

Oort M van, Devillé W, de Bakker D. Monitoring huisartsenzorg aan asielzoekers. Utrecht: NIVEL, 2003.

Ouwehand AW, Mol A, Kuijpers WGT, Boonzajer Flaes S. Kerncijfers verslavingszorg 2004. Landelijk Alcohol en Drugs Informatiesysteem. Houten: Stichting Informatie Voorziening Zorg, 2005.

Ouwehand AW, van Alem VCM, Mol A, Boonzajer Flaes S. Kerncijfers verslavingszorg 2003. Landelijk Alcohol en Drugs Informatiesysteem. Houten: Stichting Informatie Voorziening Zorg, 2004.

Ouwehand AW, van Alem VCM, Mol A, Boonzajer Flaes S. Kerncijfers verslavingszorg 2003. Landelijk Alcohol en Drugs Informatiesysteem. Houten: Stichting Informatie Voorziening Zorg, 2003.

Pelgrim S van. GBW 4-meting (niet gepubliceerd). Amsterdam: TNS NIPO, 2004.

Poortvliet MC, Lamkaddem M, Devillé W. Niet op naam ingeschrevenen bij de huisarts: inventarisatie en gevolgen voor de ziekenfondsverzekerden. Utrecht: NIVEL, 2005.

Prismant. Databank jaarverslagen zorg. Utrecht: Prismant, 2006. Bewerkt door Prismant en RIVM.

Prismant. Landelijke Medische Registratie, bewerkt door Prismant, 2005.

Prismant. Prestatie-indicator aanbod concentraties ziekenhuisdiensten. Utrecht: Prismant, 2004.

Prismant en NVZ. Wachtlijsten voor medisch-specialistische zorg in ziekenhuizen, 2004. Utrecht: Prismant, 2004.

Programmacommissie SEGV-II. (Commissie Albeda). Sociaal-economische gezondheidsverschillen verkleinen. Eindrapportage en beleidsaanbevelingen van de programmacommissie SEGV-II. Den Haag: ZON, 2001.

Provoost R, Delfgaauw L. Wie betaalt bepaalt. Senioren willen actieve rol in besteding zorggelden. Rotterdam: USP Marketing Consultancy, 2003.

PWC, PriceWaterhouseCoopers. Brancherapport Z-org benchmarkonderzoek thuiszorg 2004. Utrecht: PWC, 2005.

PWC, PricewaterhouseCoopers/ZorgVisie. Gezondheidszorg Top 100. ZorgVisie magazine 2005;35(10).

PWC, PriceWaterhouseCoopers/Prismant/ NIZW zorg. Customers Choice. Testbenchmark gehandicaptenzorg 2004. Brancherapportage. Utrecht: PWC, 2005 (aanvullende berekening door NIZW).

Rae D. Getting better value for money from Sweden's health care system. Paris: OECD, 2005. Economics department working papers no. 443.

RGO, Raad voor Gezondheidsonderzoek. Advies Onderzoek Patiëntveiligheid. Den Haag: RGO, 2005.

Richardson GM, Gardner S, Frantz RA. Nursing Assessment: Impact on Type and Cost of Interventions to Prevent Pressure Ulcers. J Wound, Ostomy & Continence Nursing 1998;25(6):273-280.

Rigter H, ten Have M, Cuijpers P, Depla M, van Gageldonk A, van der Laan G, Peterse A, de Ruijter C, Smits, C, Vollebergh W, Wolf J. Brancherapport GGZ-MZ '98-'01. Trimbos instituut, 2002.

Rijken M, Janssens L. Interim-rapportage Niet-gebruik buitengewone uitgavenregeling onder chronisch zieken en gehandicapten. Nationaal Panel Chronisch zieken en Gehandicapten. Utrecht/Amsterdam: NIVEL/SEO, 2005.

Rijken PM. Financiële situatie van chronisch zieken 2003/2004. Interim-rapportage. Patiëntenpanel Chronisch Zieken. Utrecht: NIVEL, 2004.

Rijken PM, Spreeuwenberg P. Patiëntenpanel Chronisch Zieken: kerngegevens zorg 2003. Utrecht: NIVEL, Patiëntenpanel Chronisch Zieken, 2004.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. De Volksgezondheid Toekomst Verkenning 2006. Bilthoven: RIVM, 2006a.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Website Monitor gezondheidsachterstanden. Bilthoven: RIVM, juni 2006b.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Giesbers H. Reistijd naar ziekenhuis met afdeling spoedeisende hulp 2005. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Ziekenhuiszorg\ Algemene en academische ziekenhuizen\ Aanbod, 9 december 2005a.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Giesbers H. Locaties categorale ziekenhuizen 2005. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Ziekenhuiszorg\ Categorale ziekenhuizen, 23 september 2005b.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Giesbers H. Locatie instellingen geestelijke gezondheidszorg 2004. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Geestelijke gezondheidszorg\ Aanbod, 25 september 2005c.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Giesbers H. Aantal verpleeghuizen per gemeente 2004. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Verpleging en verzorging\ Verpleeghuizen, 9 december 2005d.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Mac Gillavry E, Keesman E (red.). Locaties algemene en academische ziekenhuizen 2005. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Ziekenhuiszorg\ Algemene en academische ziekenhuizen\ Aanbod, 18 mei 2005e.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Boven PF van. Reistijd tot huisartsenpost 2003. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Vrije beroepen in de zorg\ Huisartsenzorg, 7 december 2004a.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Kostalova B (red.). Verstandelijk gehandicapten wonen 2003. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Gehandicaptenzorg, 8 december 2004b.

RIVM, Rijksinstituut voor Volksgezondheid en Milieu. Zwakhals SLN (red.). Reistijd tot dichtstbijzijnde huisarts 1996. In: Volksgezondheid Toekomst Verkenning, Nationale Atlas Volksgezondheid. Bilthoven: RIVM, <http://www.zorgatlas.nl> Zorg\ Vrije beroepen in de zorg\ Huisartsenzorg, 7 december 2004c.

Ruijter M, Bohlmeijer E, Blekman J. Derde gids Preventie van psychische stoornissen en verslaving. Utrecht: ZonMW, Trimbos instituut, 2005.

RVZ, Raad voor de Volksgezondheid & Zorg. Houdbare solidariteit in de gezondheidszorg. Zoetermeer: RVZ, 2005a.

RVZ, Raad voor de Volksgezondheid & Zorg. Weten wat we doen. Verspreiding en innovaties in de zorg. Zoetermeer: RVZ, 2005b.

RVZ, Raad voor de Volksgezondheid & Zorg. De Staat van het Stelsel. Zoetermeer: RVZ, 2004.

RVZ, Raad voor de Volksgezondheid & Zorg. De wensen van zorgcliënten in Europa. Zoetermeer: RVZ, 2003a.

RVZ, Raad voor de Volksgezondheid & Zorg. Taakherschikking in de gezondheidszorg. Zoetermeer: RVZ, 2003b.

Salganicoff A, Ranji UR, Wyn R. Women and health care: a national profile. Key findings from the Kaiser women's health survey. Washington, DC: Kaiser Family Foundation, 2005.

Schee E van der, Delnoij D. Dokter geniet nog steeds aanzien. ZorgVisie magazine 2005;8:28-29.

Schee E van der, Sixma H, de Klerk E. Beschikbaarheid en dienstverlening van tandartsen onder druk? Ned Tijdschr Tandheelkd 2003;110:181-184.

Schee E van der, Friele RD, de Klerk E. Het krediet van de huisarts, ervaringen van patiënten met de huisartsenzorg. Med Contact 2002;57(32/33):1156-1157.

Schellevis FG, Westert GP. Onnodig gebruik van huisartsenzorg eerder af- dan toegenomen. Huisarts Wetensch 2004;47:549.

Schoen C, Doty MM, Collins SR, Holmgren AL. Insured but not protected: how many adults are underinsured? Health Aff 2005a;(W5):289-302.

Schoen C, Osborn R, Huynh PT, Doty M, Zapert K, Peugh J, Davis K. Taking the pulse of health care systems: experiences of patients with health problems in six countries. Health Aff 2005b;(W5):509.

Schoen C, Doty MM. Inequities in access to medical care in five countries: findings from the 2001 Commonwealth Fund International Health Policy Survey. Health Policy 2004;(67):309-322.

Schut FT, van der Ven WPMM. Rationing and competititon in the health-care system. Health Econ 2005;14:S59-S74.

Schut FT. Collectieve ziektekostenverzekeringen voor werknemers. Een onderzoek in opdracht van de FNV, instituut Beleid en Management Gezondheidszorg, Erasmus Universiteit Rotterdam. Rotterdam: EUR/iBMG, 2000.

SCK, Stichting Cliënt & Kwaliteit. Alles naar wens? 2004. Utrecht: SCK, 2005.

SCP, Sociaal Cultureel Planbureau. Prestaties van de publieke sector. Een internationale vergelijking van onderwijs, gezondheidszorg, politie, justitie en openbaar bestuur. Den Haag: SCP, 2004.

SCP, Sociaal en Cultureel Planbureau. Sociaal en Cultureel Rapport 2002. De kwaliteit van de quartaire sector. Rijswijk: SCP, 2002.

Siciliani L, Hurst J. Explaining waiting times variations for elective surgery across OECD countries. Paris: OECD, 2003. OECD Health working papers no. 7.

Singeling HN. Wachten in Nederland: het hoe en waarom. Utrecht: Prismant, 2004.

Sixma H. De kwaliteit van de huisartsenzorg vanuit patiëntenperspectief; een literatuuroverzicht. In: Braspenning JCC, et al. (red.). Tweede nationale studie naar ziekten en verrichtingen in de huisartspraktijk. Kwaliteit huisartsenzorg belicht. Utrecht: NIVEL, 2004:49-59.

Sluijs E, van Beek S, Mouthaan I, de Neef M, Wagner C. Verdiepingsstudie transparantie kwaliteit van zorg. Een exploratief onderzoek naar de mate waarin zorginstellingen indicatoren gebruiken om de kwaliteit van zorg zichtbaar te maken. Utrecht: NIVEL, 2002.

Sluijs EM, Wagner C. Kwaliteitssystemen in zorginstellingen. De stand van zaken in 2000. Utrecht: NIVEL, 2000.

Smit JM, Freese MFC, Groen J. Working paper Zorgrekeningen 1998-2004. Voorburg/Heerlen: CBS, 2006.

Smits JPJM, Droomers M, Westert GP. Sociaal-economische status en toegankelijkheid van zorg in Nederland. Bilthoven: RIVM, 2002.

STIVORO. Roken, de harde feiten: Jeugd 2004. Den Haag: STIVORO, 2004.

Stokdijk N, Klay NH, van Gulick G.. Leren van verschillen. Med Contact 2004;59(7).

Swinkels I, Sonsbeeck van D, Bakker de D. Factsheet: Daling in de vraag naar fysiotherapie en oefentherapie in het jaar 2004. Utrecht: NIVEL, 2005.

Swinkels ICS, van der Ende CHM. Daling vraag naar fysiotherapie. Utrecht: NIVEL, 2004.

Tacken MAJB. Quality of preventive performance in general practice: the use of routinely collected data. Wageningen: Ponsen & Looijen, 2005. Dissertatie.

Tacken M, Berende A, Verheij R, Mulder J, van den Hoogen H, Braspenning J. Evaluatie Griepvaccinatiecampagne 2002 (LINH). Utrecht: NIVEL, 2003.

Tannen A, Dassen A, Bours GJJW, Halfens RJG. A comparison of pressure ulcer prevalence: concerted data collection in the Netherlands and Germany. Int J Nursing Studies 2005;41(6):607-612.

Tempelman CJJ. Het zelfbeeld van nurse practitioners anno 2005. Groningen: Hanzeconnect, 2005.

Thomas R, van Wieringen JCM. Is de tevredenheid van asielzoekers te meten? Ontwikkeling van een meetinstrument voor de MOA. GGD Nieuws 2002;14(10):20-24.

TNO Kwaliteit van leven. Procesmonitoring pre- en postnatale screeningen 2002. Leiden: TNO Kwaliteit van leven, 2005.

TNS-NIPO. Continu Onderzoek Rookgewoonten. Amsterdam: TNS NIPO, 2004.

TRIP, Transfusie Reacties In Patiënten. Rapport 2003. Den Haag: TRIP, 2003.

US DHHS, U.S. Department of Health and Human Services. Access to quality health services. Chapter 1. In: Healthy people 2010. Washington, DC: US DHHS, 2000.

Vektis. Zorgthermometer, Zeist: Vektis, 2005a.

Vektis. Zorgmonitor. Jaarboek 2005. Financiering van de zorg in 2004. Zeist: Vektis, 2005b.

Vektis. Persbericht 22 september 2004. Zeist: Vektis, 2004. www.vektis.nl, geraadpleegd 10.10.2005.

Velden LFJ van der, Hingstman L, Windt W, Arnold EJE. Raming opleidingscapaciteit per medische en tandheelkundige vervolgopleiding 2003-2012/2017/2020. Utrecht: NIVEL/Prismant, 2003.

Verdurmen J, van Oort M, Meeuwissen J, Ketelaars T, de Graaf I, Cuijpers P, de Ruijter C, Vollebergh W. Effectiviteit van preventieve interventies op jeugden: stand van zaken. Utrecht: Trimbos instituut, 2003.

Verkleij H, Verheij RA. Zorg in de grote steden. Bilthoven/Utrecht/Houten: RIVM/ NIVEL/Bohn Stafleu van Loghum, 2003.

Vernet verzuimnetwerk BV. Het ziekteverzuim stijgt in de gezondheidszorg. Persbericht Amsterdam. Amsterdam: Vernet, 2005. http://www.vernet.nl, geraadpleegd 11.07.2005.

Vernhout G, Bakker PF, Dragt W. Rapportage verkennend onderzoek naar opzeggers thuiszorg in verband met de verhoging van de eigen bijdrage in 2004 (eerste deel) Enschedé: Hoekstra Homans en Menting, 2004.

VGN, Vereniging Gehandicaptenzorg Nederland. Geïntergreerde offerte branchbrede benchmarking gehandicaptensector 2006. Utrecht: VGN, 2006.

Vliet J van, van der Plas SM, van de Laar MJW, de Melker HE, van Pelt W, Bosman A, Rahamat J. Gebruik en productie. In: Brancherapporten VWS. Den Haag: VWS, <http://www.brancherapporten.minvws.nl> De VWS-sectoren\Preventie\Feiten en cijfers\Preventie van ziekten en aandoeningen\Infectieziekten\, 10 mei 2005.

Vollebergh W, de Graaf R, ten Have M, Schoemaker C, van Dorsselaer S, Spijker J, Beekman A. Psychische stoornissen in Nederland. Overzicht van de resultaten van Nemesis. Utrecht: Trimbos instituut, 2003.

VWA, Voedsel en Waren Autoriteit. Evaluatie tabaksontmoediging. Den Haag: VWA, 2005.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Jaarverslag 2005. Den Haag: VWS, 2006a.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Kwaliteit van zorg: hoog op de agenda. Brief aan de Tweede Kamer. MC-2653714. Den Haag: VWS, 2006b.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Beleidsagenda 2006. Den Haag: VWS, 2005a.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Brancherapporten. Den Haag: VWS, <http://www.brancherapporten.minvws.nl> versie 2.1, 18 mei 2005b.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Het pgb gewogen. Brief aan de Tweede Kamer (DVVO/ZV-

U-2537831). Den Haag: Sdu Uitgeverij, 2005c.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Zorg Verzekerd. De invoering van de Zorgverzekeringswet en potentiële onverzekerden; Verslag van een VWS-onderzoek. Den Haag: VWS, ZVV-2643771, 2005d.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Jaarverslag 2004. Den Haag: VWS, 2005e.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Ouderenbeleid in het perspectief van vergrijzing (dvvo/iob-u-2578892). Den Haag: VWS, 2005f.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Wachtlijstontwikkeling in de AWBZ-sectoren in 2004. Brief aan de Tweede Kamer. DGB/FIG-2644853. Den Haag: VWS, 2005g.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Opdrachtbrief programma patiëntveiligheid aan ZonMw. Den Haag: VWS, 2004a.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Opdrachtbrief definitiestudie Zorgbalans. Kenmerk: Z/TPC-2514719. Den Haag: VWS, 2004b.

VWS, Ministerie van Welzijn, Volksgezondheid en Sport. Beleidsagenda 2004. Den Haag: VWS, 2003a.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Rijksbegroting 2004. Hoofdstuk XVI Volksgezondheid, Welzijn en Sport. Den Haag: VWS, 2003b.

VWS, Ministerie van Volksgezondheid, Welzijn en Sport. Zorgnota 2001. Den Haag: VWS, 2000.

VWS/FIN, Ministerie van Welzijn, Volksgezondheid en Sport/Ministerie van Financiën. Financiële bouwstenen zorg. Rapportage voor de kabinetsformatie. Den Haag: Staatsdrukkerij, 2003.

Wagner C, van der Wal G. Begrippenkader patiëntveiligheid. Amsterdam: VU Medisch Centrum, 2005.

Wagner C, de Bruyne MC, Zegers M, Hoonhout LHF, Christiaans I, Timmermans DRM, et al. Pilotstudie Patiëntveiligheid in Nederland. Amsterdam: VU Medisch Centrum, 2005a.

Wagner C, van der Wal G, Tuijn S. Patiëntveiligheid in Nederland. Verbeterinitiatieven en innovaties in de zorg. Assen: Koninklijke Van Gorcum, 2005b.

Weel, C van. Minder verwijzingen door huisartsen naar medisch specialisten: gewenste resultaten van consequent beleid. Ned Tijdschr Geneesk 2005;149(14):737-738.

Westert GP (red.). Zorgbalans; van discussie naar ontwerp. Bilthoven: RIVM, 2004.

Wetten H van, Kok I, Wagner C, Geurts M. Het meten van uitkomsten in de GGZ. Verslag van een implementatie en een onderzoek in twee GGZ instellingen. Utrecht: NIVEL, 2005.

WfZ, Waarborgfonds voor de Zorgsector. Jaarverslagen 1999-2004. Utrecht: WfZ, 2000-2005.

WfZ, Waarborgfonds voor de Zorgsector. Procedures beoordeling voor deelname aan het Waarborgfonds voor de Zorgsector. Utrecht: WfZ, 2001.

Whitehead M. Policies and strategies to promote social equity in health. Stockholm: Institute for Future Studies, 1991.

Whitehead M. The concepts and principles of equity and health. Int J Health Services 1992;22:429-445.

Wijngaart M van de, Ramakers C. Monitor budgethouders pgb nieuwe stijl. Eindrapport. Nijmegen: ITS, 2005.

Wijnties M. Hoe maken we kleinschalige zorg groot? ZorgMagazine 2004;3:23-25.

Wilk EA van der, Heijnen ML. Zijn er internationale verschillen? In: Volksgezondheid Toekomst Verkenning, Nationaal Kompas Volksgezondheid. Bilthoven: RIVM, <http://www.nationaalkompas.nl> Preventie\ Van ziekten en aandoeningen\ Influenza, 8 september 2004.

Willems R. Hier werk je veilig, of je werkt hier niet. Sneller Beter – De veiligheid in de zorg. Eindrapportage Shell Nederland. Den Haag: Shell Nederland, 2004.

Windt W van der, Talma H. De arbeidsmarkt voor verpleegkundigen, vezorgenden en sociaal-pedagogen in de zorgsector 2004-2008. Utrecht: Prismant, 2005.

Windt W van der. RegioMarge 2003: een arbeidsmarktverkenning van verpleegkundigen, verzorgenden en sociaalpedagogen. Utrecht: Prismant, Sectorfondsen Zorg en Welzijn, 2004.

Windt W van der. RegioMarge 2002: een arbeidsmarktverkenning van verpleegkundigen, verzorgenden en sociaalpedagogen. Utrecht: Prismant, Sectorfondsen Zorg en Welzijn, 2003.

Windt W van der. RegioMarge 2001: een arbeidsmarktverkenning van verpleegkundigen, verzorgenden en sociaalpedagogen. Utrecht: Prismant, Sectorfondsen Zorg en Welzijn, 2002.

Wit GA de. Wat zijn de effecten? In: Volksgezondheid Toekomst Verkenning, Nationaal Kompas Volksgezondheid. Bilthoven: RIVM, <http://www.nationaalkompas.nl> Preventie\ Van ziekten en aandoeningen\ Infectieziekten\ Hepatitis B, 28 mei 2002.

Wit J de. Monitor hulpmiddelen 2005. Diemen: CVZ, 2005.

Wolf J, Zwikker M, Nicholas S, van Bakel H, Reinking D, van Leiden I. Op achterstand. Een onderzoek naar mensen in de marge van Den Haag. Utrecht: Trimbos instituut, 2002.

Wolters I, van den Hoogen H, de Bakker D. Evaluatie invoering Elektronisch Voorschrijf Systeem: eindrapport. Utrecht: NIVEL, 2003.

ZonMw, ZorgOnderzoek Nederland, Medische wetenschappen. Internet: Programma preventie: Kanker> Baarmoederhalskanker. www.zonmw.nl/index.asp?a=32791&s=7671. Den Haag: ZonMw, 28-04-2005.

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Appendix 2: Indicators

Chapter 2. Quality of care

2.2 The effectiveness of prevention

- Percentage of (adolescent) smokers
- Percentage of (adolescent) people who are overweight
- Participation rates of population screening programmes
- Vaccination rates (National Vaccination Programme, influenza vaccination, hepatitis B vaccination)
- Percentage of patients with diabetes with good glucose control
- Effectiveness of lifestyle advice in primary care
- Percentage of schools that offer effective lifestyle programmes
- Percentage of employers (companies) that have a workplace health promotion policy
- Health protection: consumer trust in food safety, emergency treatment of home an leisure accidents and an indicator for medical assistance in accidents and disasters
- Percentage of adolescents at high-risk that is identified by preventive child health care
- Percentage of underprivileged neighbourhoods with an intersectoral public health approach (no information available)
- Perinatal mortality

2.3 The effectiveness of curative care services

- Percentage of cases in which GPs do not prescribe medication for a specific syndrome, consistent with guidelines that advise against these medications
- Percentage of cases in which GPs prescribe medication for a specific syndrome consistent with guidelines
- Percentage of cases in which GPs prescribe according to guidelines
- Percentage of referrals by GPs to medical specialists
- Percentage of referrals by GPs to other primary care professionals
- In-hospital mortality for heart failure
- In hospital mortality for pneumonia
- In-hospital mortality for bypass surgery
- Hospital Standardised Mortality Ratio
- 30-day mortality following acute myocardial infarction
- 30-day mortality following stroke
- Asthma mortality rate per 100,000 population aged 5–39
- Breast cancer mortality rate per 100,000 women
- Colon cancer mortality rate per 100,000 population
- Cervical cancer mortality rate per 100,000 women
- Breast cancer 5-year survival rate
- Colon cancer 5-year survival rate
- Cervical cancer 5-year survival rate

- Percentage of (over) 65-year-old hip fracture patients with surgery initiated within 48 hours
- Number of diabetes-related major amputations per 10,000 diabetics aged 18–75

2.4 The effectiveness of long-term care
- Percentage of people with disabilities in the general population who indicate that medical aids solve their problems
- Percentage of people with somatic complaints who return to their home environment after a stay in a nursing home (as an indicator of the magnitude of the temporary stay function of nursing homes)
- Client experiences with home care, residential homes, nursing homes and care for the disabled
- Magnitude of potentially preventable health care problems (such as falls) among residential home and nursing home residents
- Percentages of patients with decubitus in residential homes, in nursing homes or with home care
- Judgements of the Health Care Inspectorate on nursing home care
- Percentages of home care or nursing home patients admitted to a hospital each year
- Number of psychogeriatric patients living in small-scale residential care facilities

2.5 The effectiveness of mental health care and substance abuse care
- Results of prevention measures and the uptake by target groups
- Changes in mental and social functioning of patients
- Development in the number of suicides and suicide attempts
- Percentage of the target group reached by care professionals
- Development in removal rates from mental health care and substance abuse care

2.6 Consumer experiences with health care
- General consumer trust: do Dutch people have confidence in the health care system irrespective of their actual use?
- Consumer experiences: how do care consumers judge the care provided?

2.7 Patient safety
- Percentage of GPs and pharmacists who participate in Pharmacotherapeutic Consultations
- Pharmacovigilance in pharmacies
- Volume of high-risk surgery in hospitals
- Incidence of serious adverse effects of blood transfusion
- Prevalence of postoperative surgical site infections
- Prevalence of decubitus in hospitals
- Prevalence of decubitus in long-term care facilities

2.8 Quality systems in health care
- Percentage of institutions that have been certified or accredited
- Percentage of institutions that have the necessary documents on quality policy
- Percentage of institutions that use special protocols or guidelines outlining procedures for high risk or complex processes
- Percentage of institutions that use systems or subsystems for feedback from patients and clients

2.9 Innovation in health care
- Investments in research and development in the care sector; international comparison
- Number of biotechnology patents granted to the Netherlands
- Utilisation and speed of diffusion of minimal and non-invasive surgical techniques
- Use of process innovations, such as integrated care pathways and CVA integrated care
- Application of ICT in various areas of the health care sector
- Development in the rate of surgical day-treatments to the total number of surgical treatments

Chapter 3. Access to health care

3.2 Choice and access to health care
- New choices: personal care budget and health insurance
- People's wishes with respect to choice: care provider, source of information and residential care services

3.3 Access to acute and life-saving care
- Percentage of urgent ambulance rides that is on site within specific response times
- Number of urgent ambulance rides that exceed the 15-minute response time norm
- Number of people who are able to reach the nearest HED or central GP post by car within 30 minutes
- Number of urgent callers to central GP posts who get to speak a health care professional within one minute
- Number of people waiting for a donor organ

3.4 Waiting times for regular care
- Percentage of patients who are satisfied with the speed with which they can see the GP, specialist or dentist
- Number of people waiting for hospital care, mental health care or long-term care (length of waiting list)

- (Expected) time till treatment (waiting time)
- Number of people waiting longer than the so-called Treek norm

3.5 Access according to needs
- Comparison of care utilization by people with a low or high level of education, corrected for health disparities
- Comparison of care utilization by Dutch versus immigrant populations, corrected for health disparities
- Care utilization in disadvantaged neighbourhoods of big cities and by marginal populations
- Satisfaction of asylum seekers with medical care

3.6 Financial access to care
- Insurance status of the population, including being uninsured
- Health care costs per capita
- Amount of co-payments and out-of-pocket payments
- Tax deduction because of illness-related costs
- Additional illness-related costs for chronically ill people
- Use of financial compensatory measures by chronically ill people
- Percentage of family income spent on health care costs by high and low-income groups
- Share of total health care costs in the Netherlands that is paid by high and low-income groups (income solidarity in health care)

3.7 Geographical access and regional distribution of care
- Proximity of services, expressed in actual travelling time, or number of care locations in an urban area or region
- Number of outpatient and inpatient services per region per 10,000 population

3.8 Personnel and staffing
- Number of vacancies in health care that are difficult to fill
- Personnel absenteeism rate
- Current unfulfilled demand
- Extent to which the current influx of personnel is matched to developments in care demands
- Number of people who are not registered with a GP or dentist

3.9 Health care professions and health care training
- Number of physicians and nurses per 100,000 population
- Professional ratios: number of care providers relative to another type of care provider (e.g., number of dental hygienists to dentist)
- Medical-technical tasks carried out by general practice assistants
- Number of practice nurses in GP practices

- Numbers of qualified physician assistants and nurse practitioners working and in training
- Percentage of Dutch people who provide informal care

Chapter 4. Costs of health care

4.2 Macro costs
- Health care expenditures according to the Health Care Budgetary Framework (Ministry of Health)
- Health care expenditures according to the Health Accounts (Statistics Netherlands)
- Health care expenditures according to the System of Health Accounts (OECD)
- Expenditures on different sectors
- Expenditures for Health Care Budgetary Framework relevant care by funding source
- Share of health care costs in GDP
- Share of health care costs in the growth in GDP
- Price movements in health care
- Changes in volume of care
- Health care costs per capita

4.3 The health care market
- Variation in insurance premiums (health insurance market)
- Market concentrations of care providers and health insurers (health insurance market/care procurement market)
- Access barriers to the health care market (all submarkets)
- Health care procurement by health insurers (care procurement market)
- Vertical integration (all submarkets)
- Mobility of insured between health insurers (health insurance market)
- Risk selection by insurers (health insurance market)
- Cost transfers (health insurance market)

4.4 Labour productivity in health care
- Development of production volume in six care sectors divided by the number of employees in fte and corrected for reduction of working hours
- Trend in productivity in hospitals compared to trend in productivity of the Dutch economy as a whole
- Number of hospital discharges by fte hospital employees

4.5 The financial position of care institutions
- Rate of return
- Solvency
- Liquidity
- Financial reserve
- Participation rate in the Guarantee Fund for the Health Care Sector

Appendix 3: Abbreviations

AAA	Aneurysma van de Aorta Abdominalis (Abdominal Aortic Aneurysm)
ACHS	Australian Council for Health Care Standards
AGS	AdrenoGenitaal Syndroom (adrenogenital syndrome)
AHRQ	Agency for Healthcare Research and Quality
APZ	Algemeen Psychiatrisch Ziekenhuis (general psychiatric hospital)
AWBZ	Algemene wet bijzondere ziektekosten (Exceptional Medical Expenses Act)
AZR	AWBZ-brede Zorgregistratie (AWBZ-wide care registration)
BIG	Wet beroepen individuele gezondheidszorg (Health Care Professions Act)
BKZ	Budgettair Kader Zorg (Health Care Budgetary Framework)
CAK-BZ	Centraal Administratie Kantoor Bijzondere Zorgkosten (Central Administration Office for exceptional medical expenses)
CBO	CBO Kwaliteitsinstituut voor de Gezondheidszorg (Dutch Institute for Healthcare Improvement)
CBS	Centraal Bureau voor de Statistiek (Statistics Netherlands)
CCKL	CCKL Stichting voor de bevordering van de kwaliteit van het laboratoriumonderzoek en voor de accreditatie van laboratoria in de gezondheidszorg (Foundation Quality Assessment/Accreditation of Laboratories in Health Care)
CHT	congenitale hypothyreoïdie (congenital hypothyroidism)
CIZ	Centrum Indicatiestelling Zorg (National Care Assessment Centre)
copd	chronic obstructive pulmonary disease
CPB	Centraal Plan Bureau (Netherlands Bureau for Economic Policy Analysis)
CTG	College Tarieven Gezondheidszorg (Health Care Tariffs Board)
CTG/Zaio	College Tarieven Gezondheidszorg/Zorgautoriteit in oprichting (Health Care Tariffs Board/Health Care Authority in formation)
CTZ	College Toezicht Zorgverzekeringen (Health Care Insurance Regulatory Board)
CVA	CardioVascular Accident
CVZ	College voor zorgverzekeringen (Health Care Insurance Board)
DGV	DGV Nederlands instituut voor verantwoord medicijngebruik (Dutch Institute for the Proper Use of Medicine)
DHCPR	Dutch Health Care Performance Report
DHV	District Huisartsen Vereniging (District Association of General Practitioners)
DNSGP	Dutch National Study of General Practice (Nationale Studie naar ziekten en verrichtingen in de huisartspraktijk)
ECHI	European Community Health Indicators
EMGO	Extramuraal Geneeskundig Onderzoek (Institute for Research in Extramural Medicine)

ENT	Ear Nose and Throat
EU	Europese Unie (European Union)
EUPHIX	European Public Health Information, Knowledge & Data Management System
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)
FIN	Ministerie van Financiën (Ministry of Finance)
FPU	Flexibel Pensioen en Uittreden (flexible pension and retirement)
fte	full-time equivalent
FTO	Farmacotherapeutisch Overleg (Pharmacotherapeutic Consultation)
GAF	Global Assessment of Functioning scale
GDP	Gross Domestic Product
GFHR	Global Forum for Health Research
GGD	Gemeentelijke/Gewestelijke Gezondheidsdienst (Local/Regional Health Service)
GGZ	Geestelijke GezondheidsZorg (mental health care)
GGZ Nederland	Branch Organisation of Mental Health Care Services
GHOR	Geneeskundige Hulp bij Ongevallen en Rampen (Medical Assistance in Accidents and Disasters)
GHQ	General Health Questionnaire
GIP	Genees- en hulpmiddelen Informatie Project (Drug Information System)
GP	general practitioner
GR	Gezondheidsraad (Health Council)
HA	Health Accounts
HCQI	Health Care Quality Indicators
HHI	Herfindahl-Hirschman Index
HKZ	stichting Harmonisatie Kwaliteitsbeoordeling in de Zorgsector (HKZ Expertise Centre on Quality Review in Health Care)
HSMR	Hospital Standardised Mortality Ratio
ICT	Information and Communication Technology
IGZ	Inspectie voor de Gezondheidszorg (Health Care Inspectorate)
IOM	Institute of Medicine
KNMG	Koninklijke Nederlandsche Maatschappij tot bevordering der Geneeskunst (Royal Dutch Medical Association)
Kzi	Kwaliteitswet zorginstellingen (Quality of Care Institutions Act)
LADIS	Landelijk Alcohol en Drugs Informatie Systeem (National Alcohol and Drugs Information System)
LHV	Landelijke Huisartsen Vereniging (National Association of General Practitioners)
LINH	Landelijk Informatienetwerk Huisartsenzorg (National Information Network of GPs)

LIPZ	Landelijke Informatievoorziening Paramedische Zorg (National Information Network of Allied Healthcare)
LMR	Landelijke Medische Registratie (National Medical Registration)
LVT	Landelijke Vereniging voor Thuiszorg (National Home Care Association)
mln	million
MOA	Medische Opvang Asielzoekers (medical care for asylum seekers)
MRI	Magnetic Resonance Imaging
NCPG	Nationaal Panel Chronische zieken en Gehandicapten (National Panel of the Chronically Ill and the Disabled)
NEMESIS	Netherlands Mental Health Survey and Incidence Study
NGO	Niet-Gouvernemetele Organisatie (Non-Governmental Organisation)
NHG	Nederlands Huisartsen Genootschap (Dutch College of General Practitioners)
NIAZ	Nederlands Instituut voor Accreditatie van Ziekenhuizen (Netherlands Institute for Accreditation of Hospitals)
NIGZ	Nederlands Instituut voor Gezondheidsbevordering en Ziektepreventie (Netherlands Institute for Health Promotion and Disease Prevention)
NIVEL	Nederlands instituut voor onderzoek van de gezondheidszorg (Netherlands Institute for Health Services Research)
NMa	Nederlandse Mededingingsautoriteit (Dutch Competition Authority)
NMT	Nederlandse Maatschappij tot bevordering der Tandheelkunde (Dutch Society for the Promotion of Dentistry)
NPCF	Nederlandse Patiënten/Consumenten Federatie (Dutch Patients/ Consumers Federation)
NRV	Nationale Raad voor de Volksgezondheid (National Council for Public Health)
NSPH	Netherlands School of Public Health
NTS	Nederlandse Transplantatie Stichting (Dutch Transplantation Foundation)
NVZ	Nederlandse Vereniging van Ziekenhuizen (Dutch Hospitals Association)
NZa	Nederlandse Zorgautoriteit (Health Care Authority)
OC	Opvang- en Onderzoekscentrum (Screening and Reception Centre)
OCR	oesophaguscardia resectie (oesophagus cardia resection)
OECD	Organization for Economic Cooperation and Development
OR	odds-ratio
OSA	Organisatie voor Strategisch Arbeidsmarktonderzoek (Institute for Labour Studies)
OVN	Optometristen Vereniging Nederland (Dutch Association for Optometrists)
paaz	psychiatrische afdeling van een algemeen ziekenhuis (general hospital psychiatry ward)

PGB	PersoonsGebonden Budget (personal care budget)
PKU	PhenylKetonUria (fenylketonurie)
POLS	Permanent Onderzoek Leefsituatie (Integrated System of Social Surveys)
PPCZ	PatiëntenPanel Chronisch Zieken (Patient Panel of the Chronically Ill)
PPS	Pre- en Postnatale Screening (pre and postnatal screening programme)
PREZIES	PREventie ZIEkenhuisinfecties door Surveillance (prevention of nosocomial infections by surveillance)
PWC	PriceWaterhouseCoopers
QALY	Quality Adjusted Life Years
R&D	Research and Development
RAC	Reserve for Acceptable Costs (reserve voor aanvaardbare kosten)
RGO	Raad voor Gezondheidsonderzoek (Advisory Council on Health Research)
RIAGG	Regionaal Instituut voor Ambulante Geestelijke Gezondheidszorg (Regional Institute for Ambulatory Mental Health Care)
RIO	Regionaal Indicatie Orgaan (Regional Assessment Agency)
RIBW	Regionale Instelling voor Beschermd Wonen (Regional organisation for protected and supported living)
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (National Institute of Public Health and the Environment)
ROA	Researchcentrum voor Onderwijs en Arbeidsmarkt (Research Centre for Education and the Labour Market)
ROC	Regionaal opleidingen centrum (Regional education center)
RVP	RijksVaccinatieProgramma (National Vaccination Programme)
RVZ	Raad voor de Volksgezondheid en Zorg (Council for Public Health and Health Care)
SCK	Stichting Cliënt & Kwaliteit (Client & Quality Foundation)
SCP	Sociaal Cultureel Planbureau (Social and Cultural Planning Office)
segv	sociaal-economische gezondheidsverschillen (socio-economic health differences)
SEH	SpoedEisende Hulp (emergency care)
SER	Sociaal-Economische Raad (Socio-Economic Council)
ses	sociaal-economische status (socio-economic status)
SHA	System of Health Accounts
SIVIS	Verpleeghuis Informatiesysteem (Nursing home information system)
STIVORO	Stichting Volksgezondheid en Roken (STIVORO for a Smokefree Future)
TRIP	TRIP (Transfusion Reactions in Patients)
UMC	Universitair Medisch Centrum (University Medical Centre)
VMS	VeiligheidsManagementSysteem (safety management system)

VWA	Voedsel en Waren Autoriteit (Food and Consumer Product Safety Authority)
VWS	Volksgezondheid, Welzijn en Sport (Ministry of Health, Welfare and Sport)
WBMV	Wet op de bijzondere medische verrichtingen (Special Medical Treatments Act)
WCPV	Wet collectieve preventie volksgezondheid (Collective Preventive Public Health Act)
Wez	Wet exploitatie zorginstellingen (Operation of Health Care Institutions Act)
WfZ	Waarborgfonds voor de Zorgsector (Guarantee Fund for the Health Care Sector)
Wgp	Wet geneesmiddelenprijzen (Price of Drugs Act)
Wgr	Wet gemeenschappelijke regelingen (Joint Regulations Act)
WHO	World Health Organisation
Wmo	Wet marktordening (Market Organization Act)
Wcpv	Wet collectieve preventie volksgezondheid (Public Health Collective Prevention Act)
WRR	Wetenschappelijke Raad voor het Regeringsbeleid (Scientific Council for Government Policy)
Wtg	Wet tarieven gezondheidszorg (Health Care Tariffs Act)
Wvg	Wet voorzieningen gehandicapten (Provisions for the Handicapped Act)
Wzv	Wet ziekenhuisvoorzieningen (Hospital Provisions Act)
Zaio	Zorgautoriteit in oprichting (Health Care Authority in formation)
zbc	zelfstandig behandelcentrum (independent treatment centre)
Zfw	Ziekenfondswet (Compulsory Health Insurance Act)
ZN	Zorgverzekeraars Nederland (Association of Dutch Health Insurers)
ZonMw	Nederlandse organisatie voor gezondheidsonderzoek en zorginnovatie (Netherlands Organisation for Health Research and Development)
Zorgis	Zorginformatiesysteem (Care Information System)
ZRS	Zorgregistratiesysteem (Care Registration System)
Zvw	Zorgverzekeringswet (Health Insurance Act)

This is the first national report on the performance of the Dutch health care system. Its focus is on quality, access and costs in 2004. The Dutch Health Care Performance Report presents a broad picture based on 125 indicators. Where possible, comparisons in time and between countries are presented. The Ministry of Health, Welfare and Sport has commissioned the National Institute of Public Health and the Environment to produce the Dutch Health Care Performance Report every two years.

'The Dutch health care system was accessible in 2004. Between 2000 and 2004 the costs of care rose substantially. This rise in costs is in line with other EU countries; just above the EU-15 average. The quality of care is internationally above average in many respects. However, there is still much room for improvement with respect to the effectiveness of prevention and care, patient safety, coordination of care and integrated care.'

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