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The Netherlands

Health system review

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The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain and Sweden, the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

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Preface

The Health Systems in Transition (HiT) profiles are country-based reports that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each profile is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, the profiles are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a profile.

HiT profiles seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- to assist other researchers in more in-depth comparative health policy analysis.

Compiling the profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including the

World Health Organization (WHO) Regional Office for Europe Health for All database, national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, the International Monetary Fund (IMF), the World Bank, and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

A standardized profile has certain disadvantages because the financing and delivery of health care differs across countries. However, it also offers advantages, because it raises similar issues and questions. The HiT profiles can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to info@obs.euro.who.int.

HiT profiles and HiT summaries are available on the Observatory's web site at www.euro.who.int/observatory. A glossary of terms used in the profiles can be found at the following web site: www.euro.who.int/observatory/glossary/toppage.

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NIVEL is the National Lead Institution (NLI) for the Netherlands. The Observatory runs an NLI network and works with each NLI to co-produce jointly owned HiT profiles for their country. The HiT is published using the standard methodology of the Observatory series. It benefits from the national knowledge and expertise, research inputs and networks of the NLI. The NLIs are selected on the strength of their health services and public health background.

NIVEL is a key research and knowledge institute in the Netherlands, distinguished by the quality and broad scope of its health services research and its contribution to policy and to the body of scientific knowledge in this domain. NIVEL carries out research at national and international level with a focus on the need for health care (health status, lifestyle, social environment, norms and attitudes), the supply of health care (volume, capacity, organizational structure, quality and efficacy), the health care process (doctor–patient interaction, patient-centredness, compliance) and health care policy (legislation, regulations, financing and insurance). NIVEL has a statutory obligation to publish the results of all its activities.

This edition of the HiT was written by Willemijn Schäfer, Madelon Kroneman, Wienke Boerma, Walter Devillé, all of NIVEL (Netherlands Institute for Health Services Research), Michael van den Berg and Gert Westert of RIVM (National Institute for Public Health and the Environment) and Ewout van Ginneken of Berlin University of Technology. The correct sequence of authors is as listed on the front cover and in the citation. Ronald Batenburg and Johan Hansen,

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The profile was edited by Ewout van Ginneken and the Series Editor was Reinhard Busse, Head of the Observatory hub at the Berlin University of Technology.

This edition draws upon sections of the previous HiT on the Netherlands, which was published in 2004 and written by André den Exter, Herbert Hermans, Milena Dosljak and Reinhard Busse and edited by Reinhard Busse, Ewout van Ginneken, Jonas Schreyögg and Wendy Wisbaum.

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The HiT reflects data available as of late 2009, unless otherwise indicated. This HiT uses "EU15" to refer to the 15 countries that joined the EU before May 2004; "EU12" refers to the 12 countries that joined the EU in May 2004 and January 2007; and "EU27" when referring to all 27 Member States of the EU as of 2009.

The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain and Sweden, the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine. The Observatory team working on the HiT profiles is led by Josep Figueras (Director), Elias Mossialos (Co-director), and Martin McKee, Reinhard Busse and Richard Saltman (heads of the research hubs).

Glossary

Abbreviation (Dutch)	Dutch name	English name
AFBZ	Algemeen Fonds Bijzondere Ziektekosten	General Fund for Exceptional Medical Expenses
AFM	Autoriteit Financiële Markten	Netherlands Authority for the Financial Markets
AWBZ	Algemene Wet Bijzondere Ziektekosten	Exceptional Medical Expenses Act
AWZ	Algemene Wet Zware Geneeskundige Risico's	Compulsory Social Insurance Scheme
BIG	Wet Beroepen Individuele Gezondheidszorg	Individual Health Care Professions Act
BKZ	Budgettair Kader Zorg	Budgetary Framework Health Care
BOPZ	Wet bijzondere opnemingen in psychiatrische ziekenhuizen	Psychiatric Hospitals Compulsory Admissions Act
BZK	Ministerie van Binnenlandse Zaken en Koninkrijksrelaties	Ministry of Interior and Kingdom Relations
CAK	Centraal administratiekantoor	Central Administration Office
CBG	College ter Beoordeling van Geneesmiddelen	Medicines Evaluation Board
CBO	Centraal Begeleidingsorgaan voor Intercollegiale Toetsing	Dutch Institute for Health Care Improvement
CBP	College Bescherming Persoonsgegevens	Data Protection Authority
CBS	Centraal Bureau voor de Statistiek	Statistics Netherlands
CBZ	College Bouw Zorginstellingen	Board for Health Care Institutions
CCMS	Centraal College Medische Specialismen	Central College of Medical Specialists
CFH	Commissie Pharmaceutische Hulp	Committee on Pharmaceutical Care
CIBG	Centraal Informatiepunt Beroepen Gezondheidszorg	Central Information Unit on Health Care Professions
CIZ	Centrum Indicatiestelling Zorg	Centre for Needs Assessment
CPB	Centraal Planbureau	Netherlands Bureau for Economic Policy Analysis
CSV	College Specialismen Verpleegkunde	College for Specialities in Nursing
CTG	College tarieven gezondheidszorg	Board for Health Care Tariffs
CTZ	College Toezicht Zorgverzekeringen	Supervisory Board for Health Care Insurance
CVZ	College voor Zorgverzekeringen	Health Care Insurance Board
DBC	Diagnose behandel combinaties	Diagnosis and Treatment Combinations
DKG	Diagnose kosten groepen	diagnostic cost group

Abbreviation (Dutch)	Dutch name	English name
DNB	De Nederlandsche Bank	Dutch Central Bank
EPD	Elektronisch Patiënten Dossier	Electronic Patient Record
EVS	Elektronisch Voorschrijf Systeem	Electronic Prescription System
FKG	Farmaceutische kosten groepen	Pharmaceutical cost groups
FTO	Farmaco-Therapeutisch Overleg	Pharmaco-Therapy Consultation Groups
GGD	Gemeentelijk Gezondheidsdienst	Municipal Health Service
GVS	Geneesmiddelen Vergoedings Systeem	Medicine Reimbursement System
HBO-V	Hoger Beroeps Opleiding	higher nursing education
IGZ	Inspectie voor de Gezondheidszorg	Health Care Inspectorate
IJZ	Inspectie jeugdzorg	Dutch Inspectorate for Youth Care
IKG	Informatie- en Klachtbureaus Gezondheidszorg	Health Care Information and Complaints Service
ISIS	Infectieziekten Surveillance Informatie Systeem	Infectious Diseases Surveillance Information System
JGZ	Jeugdgezondheidszorg	Youth health care
KNGF	Koninklijk Nederlands Genootschap voor Fysiotherapie	Royal Dutch Society for Physical Therapy
KNMG	Koninklijke Nederlandsche Maatschappij ter bevordering van de Geneeskunst	Royal Dutch Medical Association
KNMP	Koninklijke Nederlandse Maatschappij ter Bevordering van de Pharmacie	Royal Dutch Association for the Advancement of Pharmacy
KNOV	Koninklijke Nederlandse Organisatie van Verloskundigen	Royal Dutch Association of Midwives
KZi	Kwaliteitswet Zorginstellingen	Quality of Health Facilities Act
LAD	Landelijke Vereniging van Artsen in Dienstverband	National Organization of Salaried Doctors
LAREB	Landelijke Registratie en Evaluatie van Bijwerkingen	Dutch Pharmacovigilance Centre
LEVV	Landelijk Expertisecentrum Verpleging en Verzorging	Netherlands Centre for Excellence in Nursing
LHV	Landelijke Huisartsen Vereniging	National Association of General Practitioners
LINH	Landelijk Informatienetwerk Huisartsenzorg	Netherlands Information Network of General Practice
Lisv	Landelijk Instituut Sociale Verzekeringen	National Institute for Social Security
LMR	Landelijke Medische Registratie	National Medical Registration
MOOZ	Wet Medefinanciering Oververtegenwoordiging Oudere Ziekenfondsverzekerden	Act on the Joint Funding of Elderly Sickness Fund Beneficiaries
Mw	Mededingingswet	Dutch Competition Act
NEN	NEderlandse Normen	Dutch Standards
NMG	Nederlandse Maatschappij ter Bevordering van de Geneeskunst	Netherlands Society for the Promotion of Medicine
NHG	Nederlands Huisartsen Genootschap	Dutch College of General Practitioners
NIGZ	Gezondheidsinstituut NIGZ	Health Institute

Abbreviation (Dutch)	Dutch name	English name
NIVEL	Nederlands instituut voor onderzoek van de gezondheidszorg	Netherlands Institute for Health Services Research
NMa	Nederlandse Mededingingsautoriteit	Dutch Competition Authority
NPCF	Nederlandse Patiënten Consumenten Federatie	Federation of Patients and Consumer Organizations in the Netherlands
NPi	Nederlands Paramedisch instituut	Netherlands Paramedical Institute
NVAB	Nederlandse Vereniging voor Arbeids- en Bedrijfsgeneeskunde	Netherlands Society of Occupational Medicine
NVI	Nederlands Vaccin Instituut	Netherlands Vaccine Institute
NVPG	Nederlandse Vereniging voor Preventie en Gezondheidsbevordering	Dutch Association for Prevention and Health Promotion
NVVA	Beroepsvereniging van Verpleeghuisartsen en Sociaal Geriaters	Professional Association of Nursing Home Physicians and Social Geriatrists
NVVG	Nederlandse Vereniging voor Verzekeringsgeneeskunde	Dutch Association for Insurance Medicine
NVZ	Vereniging van Ziekenhuizen	National Hospital Association
NVZD	Nederlandse Vereniging van Ziekenhuisdirecteuren	Dutch Association of Medical Directors of Hospitals
NWO	Nederlandse Organisatie voor Wetenschappelijk Onderzoek	Dutch Organization for Scientific Research
NZa	Nederlandse Zorgautoriteit	Dutch Health Care Authority
OMS	Orde van Medisch Specialisten	Association of Medical Specialists
RGO	Raad voor Gezondheidsonderzoek	Advisory Council of Health Research
RIO	Regionale Indicatie Organen	regional assessment organs
RIVM	Rijksinstituut voor de Volksgezondheid en Milieuhygiëne	National Institute for Public Health and the Environment
ROS	Regionale Ondersteuningsstructuren	Regional Support Structures
RVP	Rijksvaccinatieprogramma	National Vaccination Programme
RVZ	Raad voor de Volksgezondheid en Zorg	Council for Public Health and Health Care
SCP	Sociaal en Cultureel Planbureau	Netherlands Institute for Social Research
SZW	Ministerie van Sociale Zaken en Werkgelegenheid	Ministry of Social Affairs and Employment
UWV	Uitvoeringsorgaan Werknemers Verzekeringen	Social Security Implementation Body
V&VN	Verpleegkundigen en Verzorgenden Nederland	Nurses and Carers Netherlands
VWA	Voedsel en Waren Autoriteit	Food and Consumer Product Safety Authority
VWS	Ministerie van Volksgezondheid, Welzijn en Sport	Ministry of Health, Welfare and Sport
WAO	Wet op de arbeidsongeschiktheidsverzekering	Disablement Benefit Act
WBO	Wet op het Bevolkingsonderzoek	Screening Act
Wbp	Wet bescherming persoonsgegevens	Personal Data Protection Act
Wcpv	Wet Collectieve Preventie Volksgezondheid	Collective Prevention in Public Health Act
Wcz	Wet cliëntenrechten zorg	Consumer Rights Health Care Act
WGBO	Wet Geneeskundige Behandelingsovereenkomst	Medical Treatment Agreement Act

Abbreviation (Dutch)	Dutch name	English name
WIA	Wet inkomen en arbeid	Act on Income and Labour
WKCZ	Wet klachtrecht clienten zorgsector	Health Care Complaints Act
WMCZ	Wet Medezeggenschap Cliënten Zorginstellingen	Client Representation Act
Wmg	Wet marktordening gezondheidszorg	Health Care Market Regulation Act
WMO	Wet medisch-wetenschappelijk onderzoek	Medical Research Involving Human Subjects Act
Wmo	Wet maatschappelijke ondersteuning	Social Support Act
WOD	Wet Orgaandonatie	Organ Donation Act
Wpg	Wet publieke gezondheid	Public Health Act
Wtcg	Wet tegemoetkoming chronisch zieken en gehandicapten	Act for Allowances for the Chronically Ill and Handicapped Persons
WTL	Wet Toetsing Levensbeëindiging op Verzoek en Hulp bij Zelfdoding	Termination of Life on Request and Assisted Suicide (Review Procedures) Act
WTZ	Wet op de Toegang tot Ziektekostenverzekeringen	Medical Insurance Access Act
WTZi	Wet Toelating Zorginstellingen	Health Care Institutions Admission Act
WUG	Wet op de Uitoefening van de Geneeskunst	Medical Practice Act
WULBZ	Wet uitbreiding loondoorbetalingsverplichting bij ziekte	Act on the Expansion of the Obligation to Continue Salary Payments in Case of Illness
WVG	Wet Voorzieningen Gehandicapten	Services for Disabled Act
Wvp	Wet verbetering poortwachter	Gatekeeper Improvement Act
Wzt	Wet op de zorgtoeslag	Health Care Allowance Act
ZBCs	Zelfstandige Behandel Centra	Independent Treatment Centres
ZFW	Ziekenfondswet	Sickness Fund Act (Compulsory Health Insurance Act)
ZN	Zorgverzekeraars Nederland	Health Insurers Netherlands
ZonMw	Nederlandse Organisatie voor Gezondheidsonderzoek en Zorginnovatie	Netherlands Organization for Health Research and Development
Zvw	Zorgverzekeringswet	Health Insurance Act
ZW	Ziektewet	Sickness Benefits Act

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Abstract

The Health Systems in Transition (HiT) profiles are country-based reports that provide a detailed description of health systems and of policy initiatives in progress or under development. HiTs examine different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems. They also describe the institutional framework, process, content, and implementation of health and health care policies, highlighting challenges and areas that require more in-depth analysis.

Undoubtedly the dominant issue in the Dutch health care system at present is the fundamental reform that came into effect in 2006. With the introduction of a single compulsory health insurance scheme, the dual system of public and private insurance for curative care became history. Managed competition for providers and insurers became a major driver in the health care system. This has meant fundamental changes in the roles of patients, insurers, providers and the government. Insurers now negotiate with providers on price and quality and patients choose the provider they prefer and join a health insurance policy which best fits their situation. To allow patients to make these choices, much effort has been made to make information on price and quality available to the public. The role of the national government has changed from directly steering the system to safeguarding the proper functioning of the health markets. With the introduction of market mechanisms in the health care sector and the privatization of former sickness funds, the Dutch system presents an innovative and unique variant of a social health insurance system.

Since the stepwise realization of the blueprint of the system has not yet been completed, the health care system in the Netherlands should be characterized as being in transition. Many measures have been taken to move from the old to the new system as smoothly as possible. Financial measures intended to prevent sudden budgetary shocks and payment mechanisms have been (and are) continuously adjusted and optimized. Organizational measures aimed at

creating room for all players to become accustomed to their new role in the regulated market. As the system is still a "work in progress", it is too early to evaluate the effects and the consequences of the new system in terms of accessibility, affordability, efficiency and quality.

Dutch primary care, with gatekeeping GPs at its core, is a strong foundation of the health care system. Gatekeeping GPs are a relatively unusual element in social health insurance systems. The strong position of primary care is considered to prevent unnecessary use of more expensive secondary care, and promote consistency and coordination of individual care. It continues to be a policy priority in the Netherlands.

The position of the patient in the Netherlands is strongly anchored in several laws concerning their rights, their relation to providers and insurers, access to information, and possibilities to complain in case of maltreatment.

In terms of quality and efficiency of the health care system, the Netherlands is, with some notable exceptions (e.g. implementation of innovations such as day surgery and electronic patient records), an average performer when compared to other wealthy countries. It is too early to tell whether efficiency and quality gains will occur as a result of the 2006 reform.

Executive summary

Introduction

The Netherlands is situated in Western Europe and borders the North Sea, Germany and Belgium. It covers an area of 41 543 km² and has a population of 16.4 million (2008), the majority of whom (80.4%) are native Dutch. The Netherlands is a wealthy country and is among the world's top 20 in terms of total gross domestic product (GDP) and among the top 10 in terms of export volume. Key drivers of the Dutch economy are financial and commercial services. The Dutch political system is a parliamentary democracy with a bicameral parliament consisting of a Senate and House of Representatives. The Netherlands has been a member of several international organizations, including the United Nations, the North Atlantic Treaty Organization (NATO), the European Union (EU), the World Trade Organization (WTO) and the Council of Europe. Between 1970 and 2006 the life expectancy at birth of the Dutch population has increased from 73.6 to 79.7 years. The infant mortality rate for 2006 (4.5 per 1000 live births) was slightly below the average rate for high-income Organisation for Economic Co-operation and Development (OECD) countries (4.9), but in 2007, the Dutch average for neonatal deaths (3.2) was slightly above the EU average (3.0). In the same year, most deaths were caused by malignant neoplasms (cancer), which is in contrast with the EU, where diseases of the circulatory system are the main cause of death. The burden of disease is higher among immigrants than among native Dutch inhabitants. Between 1995 and 2006 the average number of regular daily smokers was slightly above the EU average. According to self-reported data, almost half of the population is overweight.

Organization and regulation

A major health care reform in 2006, introduced after almost two decades of preparation, has brought completely new regulatory mechanisms and structures to the Dutch health care system. The reform introduced a single compulsory insurance scheme, in which multiple private health insurers compete for insured persons. Health insurers can negotiate to a certain extent with health care providers on price, volume and quality of care; and are allowed to make a profit and pay dividends to shareholders. They are obliged to accept new applicants and they are not allowed to differentiate their premiums according to the risk profile of the applicants. The government changed its role from direct steering of the system to safeguarding the process from a distance. Responsibilities have been transferred to insurers, providers and patients. The government controls the quality, accessibility and affordability of health care. The establishment of new "watchdog" agencies in the health sector aims to avoid undesired market effects in the new system. Furthermore, in long-term care as well, increased competition among providers of outpatient services is changing the system considerably. The delegation of responsibility for domestic home care services to the municipalities has resulted in more diverse care arrangements. Traditionally, self-regulation has been an important characteristic of the Dutch health care system. Professional associations are responsible for re-registration schemes and are involved in quality improvement, for instance by developing professional guidelines. In addition to a well-developed advisory structure the Dutch health care sector can rely on an extensive infrastructure for research and development, covering medical research, health technology assessment and health services research.

Financing

In the Netherlands, 8.9% of GDP was spent on health care in 2007. Between 1998 and 2007 the expenditure (in constant prices) increased in real terms by 38%. The Dutch health insurance system is divided into three so-called compartments. The first compartment consists of a compulsory social health insurance (SHI) scheme for long-term care. This scheme provides for those with chronic conditions continuous care that involves considerable financial consequences and is regulated in the Exceptional Medical Expenses Act (*Algemene Wet Bijzondere Ziektekosten,* AWBZ). The AWBZ is mainly financed through income-dependent contributions. A complicated cost-sharing system applies to individuals using AWBZ care. The care is provided after a needs assessment and

the provision of care is organized via care offices (*Zorgkantoren*). Care offices operate independently, but are closely allied to health insurers. The second compartment also consists of a SHI system covering the whole population for "basic health insurance". Basic health insurance covers essential curative care tested against the criteria of demonstrable efficacy, cost-effectiveness and the need for collective financing. The scheme is regulated by the Health Insurance Act (*Zorgverzekeringswet,* Zvw). All Dutch citizens contribute to this scheme in two ways. First, they pay a flat-rate premium, the so-called nominal premium, directly to the health insurer of their choice. Second, an income-dependent employer contribution is deducted through their payroll and transferred to the Health Insurance Fund. The resources from this Fund are then allocated among the health insurers according to a risk-adjustment system. A "health care allowance" should partly compensate the lower incomes for their health insurance costs. The third compartment consists of complementary voluntary health insurance (VHI), which may cover health services that are not covered under the AWBZ and Zvw schemes. Prevention and social support (including certain home care services) are not part of the SHI or VHI, but are mainly financed through general taxation.

Since the introduction of the 2006 reform, the payment of the health care providers has also changed drastically. General practitioners (GPs) are now paid via a combination of capitation fees and fee-for-service. For hospitals and mental care an elaborate diagnosis-related groups (DRG)-type system called Diagnosis and Treatment Combinations (*Diagnose behandel combinaties,* DBCs) has been in place since 2005. Long-term care providers are paid according to an assessment of the care intensity needed for each patient. Both hospital payment and long-term care payment follow the principle that money follows the patient.

Physical and human resources

The structure of health care in the Netherlands comprises a dense network of premises, equipment and other physical resources. As compensation for investments is included in the tariffs, since 2008 for hospitals and since 2009 for long-term care institutions, health institutions have been fully responsible for the realization of their (re)construction and for purchase of equipment. No external approval of building plans applies, although the quality of premises is externally assessed every five years. Due to mergers, many hospitals nowadays operate from more than one location. In addition to general and university hospitals, independent treatment centres (*Zelfstandige Behandel Centra*)

have become part of the acute hospital sector. These centres provide selective non-emergency treatments for admissions up to 24 hours. The number of acute beds per population in the Netherlands is below the EU15 and EU27 averages. The average length of stay is slightly above the EU15 average, but this is also caused by a high degree of substitution to day care, leaving the more severe cases to hospital care. Both indicators show a decreasing trend. Among long-term care institutions a steady reduction of bed supply and an increasing overlap of functions between nursing homes and residential homes can be observed. The quality of long-term care facilities is a point of concern. Information technology plays an important role in the Dutch health system. Most Dutch people would welcome the opportunity to contact providers through the Internet, but this option is scarcely offered.

About 7% of the population works in the health care sector and, since the early 2000s, the total number has grown by about one-fifth. Compared to other countries the relative number of nurses is particularly high. Most numerous are nurses working in home care and in care for the elderly and disabled. At present (late 2009), substitution and transfer of tasks from medical to nursing professionals is an important trend. Furthermore, the introduction of managed competition and new governance structures has seriously affected the role of professionals, especially in relation to health insurers, with whom they now have to negotiate about quality and price of care. Medical education is provided at each of the eight Dutch universities, while nurses can either be educated at an intermediate, higher or academic level, depending on their professional profile. The quality of health care professionals is safeguarded by obligatory registration and by various licensing schemes maintained by professional associations. Workforce forecasting and careful planning of educational capacity seek to prevent shortages or oversupply of health professionals. In a small and densely populated country like the Netherlands unequal distribution of providers is not a major issue, although in some parts of large cities additional efforts need to be made to match demand and supply.

Provision of services

In the Dutch health care system, private health care providers are primarily responsible for the provision of services. Health care can be divided into preventive care, primary care, secondary care and long-term care. Preventive care is mainly provided by public health services. Disease prevention, health promotion and health protection fall under the responsibility of municipalities.

There are 29 municipal health services (*Gemeentelijk Gezondheidsdiensten,* GGDs) that carry out these tasks for all (443) municipalities. Primary care has a wide variety of providers, such as GPs, physiotherapists, pharmacists, psychologists and midwives. The GPs function as gatekeepers, which means that hospital care and specialist care (except emergency care) are only accessible upon referral from the GP. Only 4% of contacts with a GP result in a referral to secondary care. Dentists and midwives have always been directly accessible. Physiotherapists have become directly accessible since 2006, although the majority of the patients are still those referred from a GP. After receiving a referral, patients can choose in which hospital they want to be treated. Secondary care encompasses those forms of care that are only accessible upon referral from a primary care provider and are mainly provided by hospitals and mental health care providers. Hospitals have both inpatient and outpatient departments as well as 24-hour emergency wards. Patients with conditions that are not life-threatening go to special GP-posts for out-of-hours care. Outpatient hospital departments are also used for pre- or post-hospitalization diagnosis. Within hospitals, most specialists (75%) are organized in partnerships. The supply of prescription-only pharmaceuticals is exclusively reserved to independent pharmacists and dispensing GPs (in some rural areas). Over-the-counter (OTC) pharmaceuticals for self-medication are available both at pharmacies and chemists. Long-term care is mainly provided by nursing homes, residential homes and home care organizations. In 2007, approximately 1.7 million people (61% women) provided informal care (emotional support, household work, accompanying patients during visits to family members) to ill or disabled people, mostly to parents (42%) or spouses (20%). Most palliative care is integrated into the regular health care system. Palliative care is provided by GPs, home care, nursing homes, specialists and voluntary workers. Furthermore, there are growing numbers of hospices and palliative units (e.g. in nursing homes). Dental health care is provided in primary care by private dentists and dental hygienists. Most citizens register with a dentist. There are approximately 8000 dentists active in the Netherlands. There is a wide choice of alternative treatments available in the Netherlands. Examples of alternative treatments are homeopathy, acupuncture, natural medicine, magnetizing and osteopathy. In 2007, 10.5% of the population consulted an alternative care provider, including GPs who also provide alternative treatments.

Principal health care reforms

In 2006, a structural health care reform was implemented in the Netherlands. The reform can be seen as the realization of a long-standing political wish to unite the old sickness fund scheme and the voluntary private health insurance scheme. Early attempts to unite all health insurance schemes into a single mandatory scheme failed at the beginning of the 1990s, mainly because of strong opposition from health insurers, employers and physicians. During the 1990s, however, smaller reforms originating from early plans were gradually implemented. This helped pave the way for basic health insurance for the whole population before the final and successful attempt at reform in 2006. The reform introduced managed competition supervised by independent bodies. The health insurers, the health care providers and the insured became the market players. These players interact with each other on three different sub-markets: the health insurance market, the health care provision market and the health care purchasing market. Reforms therefore, aim at the proper functioning of these markets. Examples of reforms include giving patients the tools to make active decisions when taking out health insurance, the establishment of a transparent and uniform pricing system (e.g. for GPs, hospitals), selective contracting and increasing the extent of free negotiations between health insurer and provider. No structural changes in the health care system are foreseen in the future policy agenda for health. The Dutch government aims to introduce small reforms that further enable managed competition in the system. Other government aims are to strengthen the position of the patients, to further strengthen primary care, to introduce electronic patient records, and to implement further changes to mental and long-term care.

Assessment of the health system

The Dutch health system is characterized by relatively low total health care expenditure in terms of share of GDP compared to the EU15 but in terms of per capita expenditure (in PPP, purchasing power parity), health expenditure in the Netherlands was above the EU15 average in 2006. From an international perspective, financial and human resources allocated to health care seem sufficient to meet the needs of the population. In terms of physical resources, the picture is more mixed. Although the number of acute beds is below the European averages, the bed occupancy rate and average length of stay may

together indicate a sufficient quantity of beds available. The focus on waiting lists has abated, but occasional waiting times may still indicate accessibility problems for certain specialties or regions.

From an international perspective, Dutch citizens have relatively few out-of-pocket expenses for health care services. These expenses are not equally distributed across households. In 2004, the amount of out-of-pocket expenses in 90% of the households was limited to a maximum of 5% of their disposable income, and just 3% of households spent more than 10% of their disposable income. Important efficiency indicators (e.g. avoidable mortality and hospital mortality) suggest that the Netherlands performs on average compared to OECD countries and that there is still room for efficiency gains in the Dutch health care system.

Although quality gains have been made, the performance of the Netherlands is generally on the average when compared to OECD countries on indicators for curative secondary care. In long-term care some notable improvements have been made, for example with regard to incidence of pressure ulcers and malnourished patients, but questionnaires directed at both patients and personnel reveal some serious concerns. The Netherlands scores relatively well with respect to the safety of care, although serious adverse events still occur. The coordination of care could be improved. With respect to investments and the implementation of innovations (e.g. day surgery, patient records) the Netherlands scores well internationally. There is also a great deal of activity in the area of organizational innovations in the Netherlands, but too little information is available about the effectiveness of these activities.

The conclusion is justified that health care has made major contributions to the health of the Dutch population. Since the 1980s, the healthy life expectancy has increased by six or seven years, despite the rise in prevalence of chronic illness. At present (late 2009) it is too early to assess the impact of the 2006 reform on accessibility, affordability, efficiency and quality of care. In the future more information will become available from ongoing evaluations.

1. Introduction

1.1 Geography and sociodemography

The Netherlands is situated in Western Europe and borders the North Sea. It is bordered to the east by Germany and to the south by Belgium (see Fig. 1.1). The climate can be characterized as a moderate maritime climate with cool summers and mild winters. The Netherlands covers an area of 41 543 km^2 (33 756 km^2 of land and 7787 km^2 of water) (Statistics Netherlands 2009d). The terrain of the Netherlands consists mostly of coastal lowland and reclaimed land (polders), while in the south-east there are some hills.

In 2008 the Netherlands had a population of 16.4 million. The majority of the population (80.4%) is native Dutch (a native person is defined as someone both of whose parents are born in the Netherlands). Non-Western immigrants form 55% of the foreign inhabitants. According to the definitions used by Statistics Netherlands (*Centraal Bureau voor Statistiek,* CBS) these are people from Africa, Asia (Indonesia and Japan excluded), Latin America or Turkey. Most of the non-Western foreigners are from the Antilles and Aruba, Morocco, Surinam and Turkey (Statistics Netherlands 2009b). Regarding religion, in 2004, 30% were Roman Catholic, 12% Dutch Reformed, 6% Calvinist, 3% Dutch Protestant church, 5.8% Muslim, 0.6% Hindu, 1.6% other and 41% unaffiliated (Statistics Netherlands 2008b).

As in all OECD countries, the ageing of the population is an important challenge in the Netherlands. The percentage of children (age 0–14) has been steadily decreasing since 1970 and the percentage of elderly is increasing (see Table 1.1). Annual population growth has strongly decreased since the 1970s, falling to 0.21% in 2007, which is much lower than the average population growth of high-income OECD countries (0.64% in 2007). Furthermore, since the 1970s the rural population has decreased radically from 38.3% to 18.7% as a percentage of the total population. This is lower than the average percentage of the rural population in high-income OECD countries (22.9% in 2007) (World Bank 2009).

Fig. 1.1
Map of the Netherlands

Source: Ministry of Foreign Affairs 2009b.

Table 1.1
Demographic indicators, 1970–2007 (selected years)

Indicator	1970	1980	1990	2000	2005	2007
Population, total (millions)	13.0	14.2	15.0	15.9	16.3	16.4
Population, female (% of total)	50.1	50.4	50.6	50.5	50.5	n/a
Population aged 0–14 (% of total)	27.3	22.3	18.2	18.6	18.4	18.1
Population aged 15–64 (% of total)	62.6	66.2	68.9	67.8	67.4	67.4
Population aged 65 and above (% of total)	10.2	11.5	12.8	13.6	14.2	14.5
Population growth (annual %)	1.2	0.8	0.7	0.8	0.2	0.2
Population density (people per km^2)	384.9	417.7	441.3	470.1	481.7	483.5
Fertility rate, total (births per woman)	2.6	1.6	1.6	1.7	1.7	1.7
Birth rate, crude (per 1000 people)	18.3	12.8	13.2	13.0	11.6	11.0
Death rate, crude (per 1000 people)	8.4	8.1	8.6	8.8	8.4	8.1
Age dependency ratio	59.9	51.1	45.1	47.5	48.3	48.5
Rural population (% of total population)	38.3	35.3	31.3	23.2	19.8	18.7

Source: World Bank 2009.
Note: n/a = not available.

1.2 Economic context

The Dutch economy is ranked among the world's top 20 in terms of total GDP and among the top 10 in terms of export volume. This is partly due to its advanced transport infrastructure. Key drivers of the Dutch economy are financial and commercial services. The most dominant sector in the Netherlands is that of business services (Ministry of Foreign Affairs [*Ministerie van Buitenlandse Zaken*] 2009a). Industrial activity predominantly consists of food processing, chemicals and petroleum refining, as well as electrical and electronic machinery. Finally, the Netherlands has a dynamic agricultural sector and is well known for its plants and cut flowers (European Commission 2009b).

A gradual improvement in income in the second half of the 1990s and a marked improvement in purchasing power in 2001 had a positive effect on people's living situation. This is reflected above all in an increase in mobility and number of vehicles, and improvements in housing during this period. Moreover, the healthy economic growth in this period led to a low unemployment rate. In 2001 there was a reversal in economic growth. This was tempered somewhat by additional government spending in 2002. From 2005, the economic recovery gathered pace until the start of the global economic crisis of 2008 (Roes 2008). While at the moment (2009) economic growth is negative, it is expected to return to positive growth by the end of 2010 (IMF 2009).

The unemployment rate of the total labour force increased between 2001 and 2005 from 3.5% to 6.5%. Although this rate had started to fall again from 2006, reaching 3.7% in 2007 (see Table 1.2), the global economic crisis reversed this trend. The latest figures (May/July 2009) show an unemployment rate of 4.9% (Statistics Netherlands 2009c). The unemployment rate is expected to keep rising until the end of 2010 (IMF 2009).

Table 1.2
Macroeconomic indicators, 2007

Macroeconomic indicator	2007
GDP (current US$) (millions)	765 818
GDP, PPP (current international $) (millions)	633 854
GDP per capita (current US$)	46 750
GDP per capita, PPP (current international $)	38 694
GDP growth (annual %)	3.5
Industry, value added (% of GDP)	24.2
Agriculture, value added (% of GDP)	2.1
Services, etc., value added (% of GDP)	73.7
Labour force, total	8 533 047
Unemployment, total (% of total labour force)	3.7*
Real interest rate (%)	3.4

Source: World Bank 2009; *Statistics Netherlands 2009f.

1.3 Political context

The formal head (head of state) of the Netherlands is the king or queen. Since 30 April 1980, this has been Queen Beatrix. The Dutch queen (or king) has no executive power; this rests with the government. The head of government is the prime minister. Furthermore, there are 16 ministers (in 2009), each with their own responsibilities. Examples include the Minister of Justice and the Minister of Health, Welfare and Sport. Tasks and responsibilities of the members of the government are separated from the tasks of the members of parliament (described below), therefore they may not sit and vote in parliament (E-overheid 2009c).

The Dutch political system is a parliamentary democracy. This means that the parliament has the final say (E-overheid 2009b). The Dutch Constitution provides for a bicameral parliament and consists of the First Chamber (*Eerste Kamer*) and the Second Chamber (*Tweede Kamer*). The First Chamber, or Senate, has 75 members elected for four years by the 12 provincial councils.

The 150 members of the Second Chamber, or House of Representatives, are elected every four years by Dutch nationals over 18 years and represent various political parties (Den Exter et al. 2004). After the elections, a new House of Representatives is seated and a new Cabinet is constituted. The Cabinet comprises ministers and state secretaries.

The various political parties that won the elections negotiate on the formation of a new Cabinet for the next four years (Tweede Kamer der Staten-Generaal 2009a). Generally, the formation of a Cabinet is an extremely complex process that takes many weeks. To find out more on the situation concerning the formation of a Cabinet, the queen usually appoints a senior political consultant (*informateur*). When it becomes clear which parties will participate in the new Cabinet, a political consultant, also appointed by the king or queen and usually the future prime minister, is put in charge of negotiating the formation of the new Cabinet (*formateur*). Traditionally, one of these two political consultants is provided by the political party that has won the elections (E-overheid 2009a). Currently (in 2009 until the elections of 2011), the Cabinet is formed by three parties: the Christian Democrats (CDA), Social Democrats (PvdA) and Social Christians (ChristenUnie). The prime minister, since 2002, has been Jan Peter Balkenende (CDA).

The First and Second Chamber together have the power to legislate. The Second Chamber is the most powerful in the legislation process. Its tasks are to amend and approve bills put forward by the government. The First Chamber can only approve or reject laws that have already been passed by the Second Chamber (Den Exter et al. 2004).

As well as the members of the Second Chamber, the Dutch population also has the possibility to elect the members of the provincial council in their own province (12 in total) and the members of the municipal council in their own municipalities. The provinces have responsibilities in the areas of land-use planning, water and environmental management, and youth care. Further tasks are related to promoting economic development, protecting wildlife and the countryside, and social work and culture (E-overheid 2009e). As described above the provincial councils also elect the members of the First Chamber of the parliament. Municipalities are responsible for controlling the developments in housing stock, the local roads and road safety. In addition, they have tasks in the areas of education, but also health care, social work, culture, sport and recreation (E-overheid 2009d). In recent years, several tasks have been delegated from the central government to municipalities. For more detail see Section 2.4 *Concentration and (de)centralization*.

The constitutional character of the Dutch state is expressed through the Trias Politica (separation of powers) and an extensive system of checks and balances. The Trias Politica between legislative and executive power is less clear, given that the government makes laws (also in the health care field) in conjunction with parliament and can lay down binding rules upon citizens. Checks and balances come from various sources: the bicameral system, judicial control, administrative supervision, and the right of amendment by the Second Chamber (Den Exter et al. 2004).

Lastly, the Netherlands belongs to several international organizations, including the United Nations (since 1945), the North Atlantic Treaty Organization (NATO), the European Union (EU), the World Trade Organization (WTO) and the Council of Europe. Further, the country has ratified several international treaties with relevance to health care, including the General Agreement on Trade in Services (GATS), the Convention on the Rights of the Child; European Human Rights Convention and the International Bill of Human Rights.

1.4 Health status

Between 1970 and 2006 the life expectancy at birth of the Dutch population has increased from 73.6 to 79.7 years. During these years, life expectancy of women has consistently been higher than that of men, although this discrepancy has decreased through the years (World Bank 2009). Furthermore, Table 1.3 shows a decline in mortality rates of all groups (adults, infants and under-5-year-olds). The infant mortality rate for 2006 (4.5 per 1000 live births) was slightly below the average rate for high-income OECD countries (4.9) (World Bank 2009). Life expectancy compared to the other OECD countries has declined from a top ranking to an average position. The Ministry of Health, Welfare and Sport (*Ministerie van Volksgezondheid, Welzijn en Sport,* VWS) made increasing the life expectancy of the Dutch population a major policy aim. In addition, the relatively high perinatal mortality in the Netherlands is a point of concern. Currently (late 2009) a research committee is investigating the possible causes.

Table 1.3
Mortality and health indicators, 1970–2006 (selected years)

Indicator	1970	1980	1990	2000	2005	2006
Life expectancy at birth, female (years)	76.5	79.2	80.1	80.6	81.6	81.9
Life expectancy at birth, male (years)	70.8	72.5	73.8	75.5	77.2	77.6
Life expectancy at birth, total (years)	73.6	75.7	76.9	78.0	79.4	79.7
Mortality rate, adult, female (per 1 000 female adults)	87.1	72.1	67.1	67.2	61.3	59.3
Mortality rate, adult, male (per 1 000 male adults)	158.6	136.7	116.5	100.1	82.7	80.8
Mortality rate, infant (per 1 000 live births)	12.0	8.7	7.2	4.6	4.6	4.5
Mortality rate, under 5 years of age (per 1 000)	15.7	10.7	8.8	6.2	5.5	5.3

Source: World Bank 2009.

Whereas in 1970 diseases of the circulatory system were the main cause of death in the Netherlands, in 2007 most deaths are caused by malignant neoplasms (cancer). This is in contrast with the EU27, where diseases of the circulatory system are the main cause of death. Between 1970 and 2007, the decline of deaths caused by malignant neoplasms was smaller than for other causes. This trend continued in recent years. For example, from 2006 to 2007, the standardized death rate (SDR) for diseases of circulatory systems decreased by 4.6% and the SDR for diseases of the respiratory system by 3.4%, while the SDR for malignant neoplasms only declined by 1.5%. The SDR for all causes is higher among EU27 men (832.2) and women (500.44) than among Dutch men and women. The SDR for malignant neoplasms however, is slightly higher in the Netherlands (183.6) than in the EU27 (175.2) (see Table 1.4). The SDR for diseases of the circulatory system is lower in the Netherlands (167.2) than in the EU (250.4) (WHO Regional Office for Europe 2009).

The burden of disease is higher among immigrants than among native Dutch inhabitants. Looking at non-Western immigrants, in terms of DALYs (disability-adjusted life years), the burden is 21% and 24% higher among women and men respectively. Among Moroccans the burden is only 3% higher, while among other groups there are no great differences (Antilles/Aruba 25%; Surinam 26%; Turkey 31%) (Kunst et al. 2008). The difference between immigrants and natives can be ascribed mostly to diabetes mellitus (26%). Asthma, home and leisure accidents, anxiety disorders, strokes and violence (murder and manslaughter) are five other important contributors to the higher burden of disease among immigrants (Kunst et al. 2008). Health-adjusted life expectancy (HALE) has risen by two years since 2002, reaching 73 years in 2007 (see Table 1.5).

Table 1.4

Main causes of death in the Netherlands, 1970–2007 (selected years)

Indicator	1970	1980	1990	2000	2005	2006	2007
SDR all causes, all ages, per 100 000	962.4	811.7	749.0	692.5	615.8	596.2	572.1
SDR all causes, all ages, per 100 000, male	1183.4	1077.8	1001.4	883.5	767.4	724.9	708.1
SDR all causes, all ages, per 100 000, female	775.8	610.1	571.6	556.8	506.5	494.1	472.4
SDR, diseases of circulatory system, all ages per 100 000	443.3	358.8	291.1	233.8	187.4	175.3	167.2
SDR, diseases of circulatory system, all ages per 100 000, male	541.6	473.5	391.0	302.8	239.4	222.1	210.0
SDR, diseases of circulatory system, all ages per 100 000, female	359.6	269.8	217.1	182.0	147.7	138.6	134.1
SDR, malignant neoplasms, all ages per 100 000	221.9	221.3	214.9	198.5	189.5	186.5	183.6
SDR, malignant neoplasms, all ages per 100 000, male	277.7	307.6	296.4	261.4	240.0	234.6	232.0
SDR, malignant neoplasms, all ages per 100 000, female	177.2	159.6	162.4	157.9	156.7	154.3	151.3
SDR, diseases of the respiratory system, all ages per 100 000	70.0	48.8	58.1	67.3	60.1	56.1	54.2
SDR, diseases of the respiratory system, all ages per 100 000, male	98.6	76.8	95.5	100.9	85.2	79.4	77.6
SDR, diseases of the respiratory system, all ages per 100 000, female	47.2	29.8	36.7	49.0	46.3	43.3	41.0

Source: WHO Regional Office for Europe 2009.

Table 1.5

Health-adjusted life expectancy (HALE), selected years

	2002*	2003**	2007***
Healthy Life Expectancy (HALE) at birth	71	71	73
Healthy Life Expectancy (HALE) at birth, male	70	70	72
Healthy Life Expectancy (HALE) at birth, female	73	73	74

Sources: WHO 2008*, 2009a**, 2009b***.

The health status of people with a lower socioeconomic status (SES) is also lower compared to people with a higher SES. In general, people with a lower level of education are less healthy than people with a higher level of education. The differences are most pronounced in terms of physical impediments, self-perceived health and musculoskeletal disorders. There are several factors which cause these differences, one of which is an unhealthy lifestyle (De Hollander et al. 2006).

There are several risk factors affecting the health status of the Dutch population. One of these risk factors is smoking. Between 1990 and 2000, the percentage of regular daily smokers decreased by 4% (Table 1.6). After an

increase of 2% in 2001, the percentage started to decrease again and dropped to 29.1% in 2007. The EU27 average of daily smokers also showed a decline from 30.6% in 1995 to 27.0% in 2006. Between 1995 and 2006 the EU average was below the percentage of the Netherlands (WHO Regional Office for Europe 2009). Another important risk factor of the health of the Dutch population is obesity. From self-reported data on obesity, an increase of more than 10% can be observed between 1990 and 2007. Almost half of the population seems overweight. Furthermore, self-reported diabetes prevalence rose from 2.1% (2000) to 3.9% (2007) (Statistics Netherlands 2009f).

Table 1.6

Factors affecting health status, 1990–2007 (selected years)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
% of regular daily smokers in the population, age 15+	36.7	35.7	32.4	34.5	33.5	32.0	30.8	30.8	30.8	29.1
% overweight (self-reported)	34.9	n/a	44.1	44.8	44.8	46.1	46.5	44.9	46.5	45.5
Pure alcohol consumption, litres per capita	8.1	8.0	8.2	8.1	8.0	7.9	7.9	7.9	7.9	n/a
% diabetes (total) (self-reported)	n/a	n/a	2.1	2.8	2.5	2.8	3.1	3.4	3.6	3.9
Cancer incidence per 100 000	408.4	454.3	479.5	484.0	500.6	515.6	543.3	548.4	n/a	n/a
Hospital discharges, ischaemic heart disease per 100 000	545.6	614.3	525.7	511.8	522.8	523.9	555.3	541.4	531.1	n/a

Sources: WHO Regional Office for Europe 2009; Trimbos-instituut 2008; Statistics Netherlands 2009f.
Note: n/a = not available.

Between 1990 and 2002 the DMFT (decayed, missing or filled teeth) Index at age 12 has decreased from 1.7 to 0.8 (see Table 1.7). The Dutch figures were constantly below the EU average in this period (WHO Regional Office for Europe 2009). Unfortunately, no newer data is available.

Table 1.7

DMFT (decayed, missing or filled teeth) at age 12 years, 1990–2002

Year	1990	1991	1992	1993	1996	1998	2000	2002
DMFT	1.7	1.7	0.9	0.9	0.9	0.6	1.1	0.8

Source: WHO Regional Office for Europe 2009.

In 2007 there were on average 3.0 neonatal deaths per 1000 births in the EU27. This is lower than the Dutch average (3.2 in 2007). Whereas during the 1980s the average of neonatal deaths in the Netherlands was continuously below the EU average, a constantly higher average has been observed since 2000 (see Table 1.8). Furthermore, in the period 1989–2009 the average of perinatal deaths was above the EU average for most years. This is irrespective of the fact that in the Netherlands the average has been decreasing constantly during this period (WHO Regional Office for Europe 2009).

Table 1.8

Maternal and child health indicators, 1980–2007 (selected years)

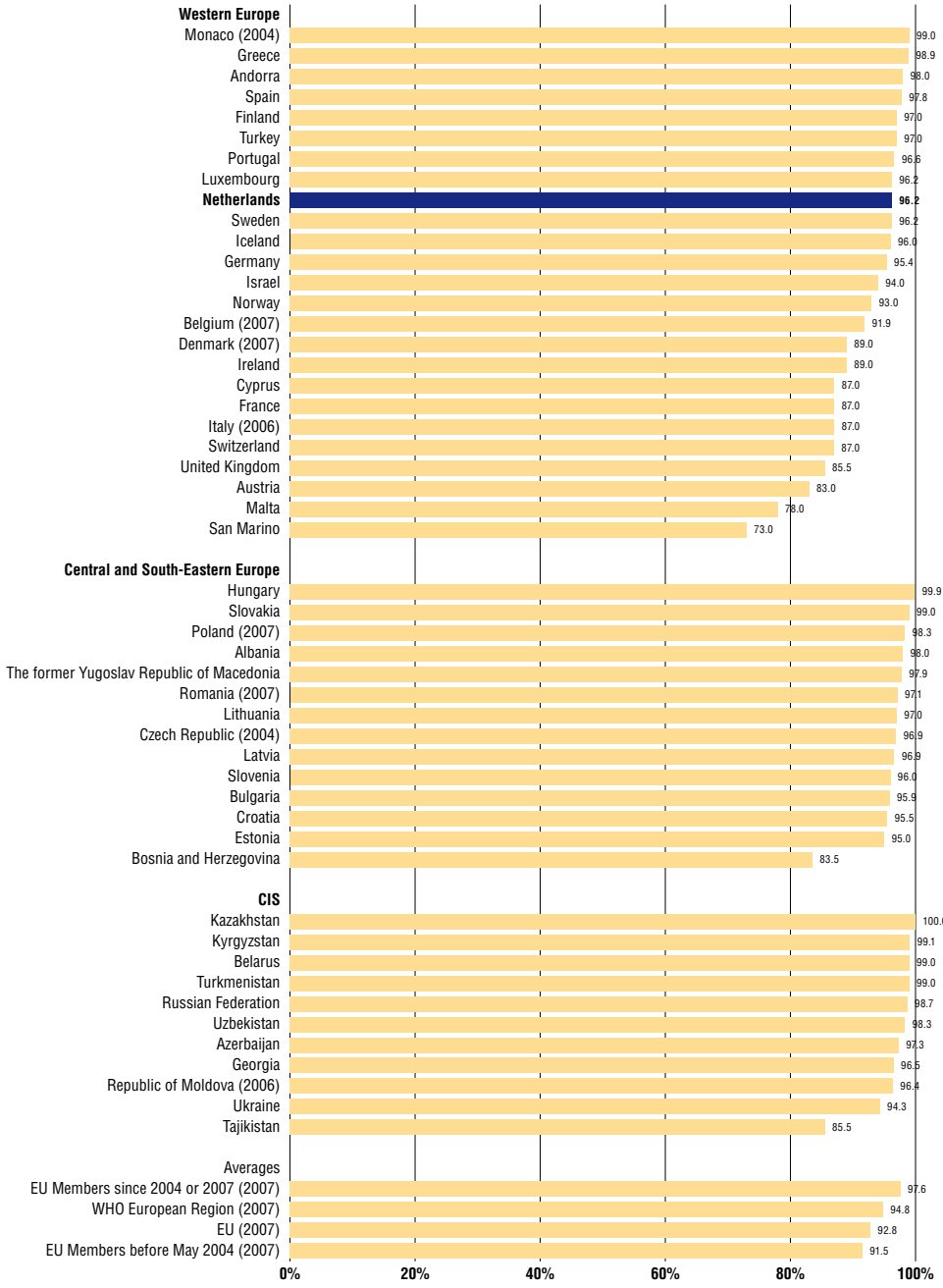
Year	1980	1985	1990	1995	2000	2005	2006	2007
Neonatal deaths per 1 000 live births	5.7	5.0	4.8	n/a	3.9	3.7	3.3	3.2
Postneonatal deaths per 1 000 live births	2.9	3.1	2.3	n/a	1.2	1.3	1.1	0.9
Perinatal deaths per 1 000 births	n/a	9.8	9.6	8.1	7.9	6.9	6.0	5.7
Maternal deaths per 100 000 live births	8.8	4.5	7.6	7.4	8.7	8.5	8.1	5.0
Syphilis incidence per 100 000	n/a	4.0	3.3	1.3	n/a	4.3	4.8	4.0
Gonococcal infection incidence per 100 000	n/a	78.5	247.5	9.2	n/a	9.3	10.8	11.2

Source: WHO Regional Office for Europe 2009.
Note: n/a = not available.

One of the measures for improvement of health status in the Netherlands is the National Vaccination Programme (see also Section 6.1 *Public health services*). In 2009, vaccination coverage in all immunization categories in this programme showed national-level uptake rates well above the lower limit of 90% (Van Lier et al. 2009). Immunization levels for measles are depicted in Fig. 1.2 and are well above the EU27 average.

Fig. 1.2

Levels of immunization for measles in the WHO European Region, 2008 or latest available year



Source: WHO Regional Office for Europe 2009.

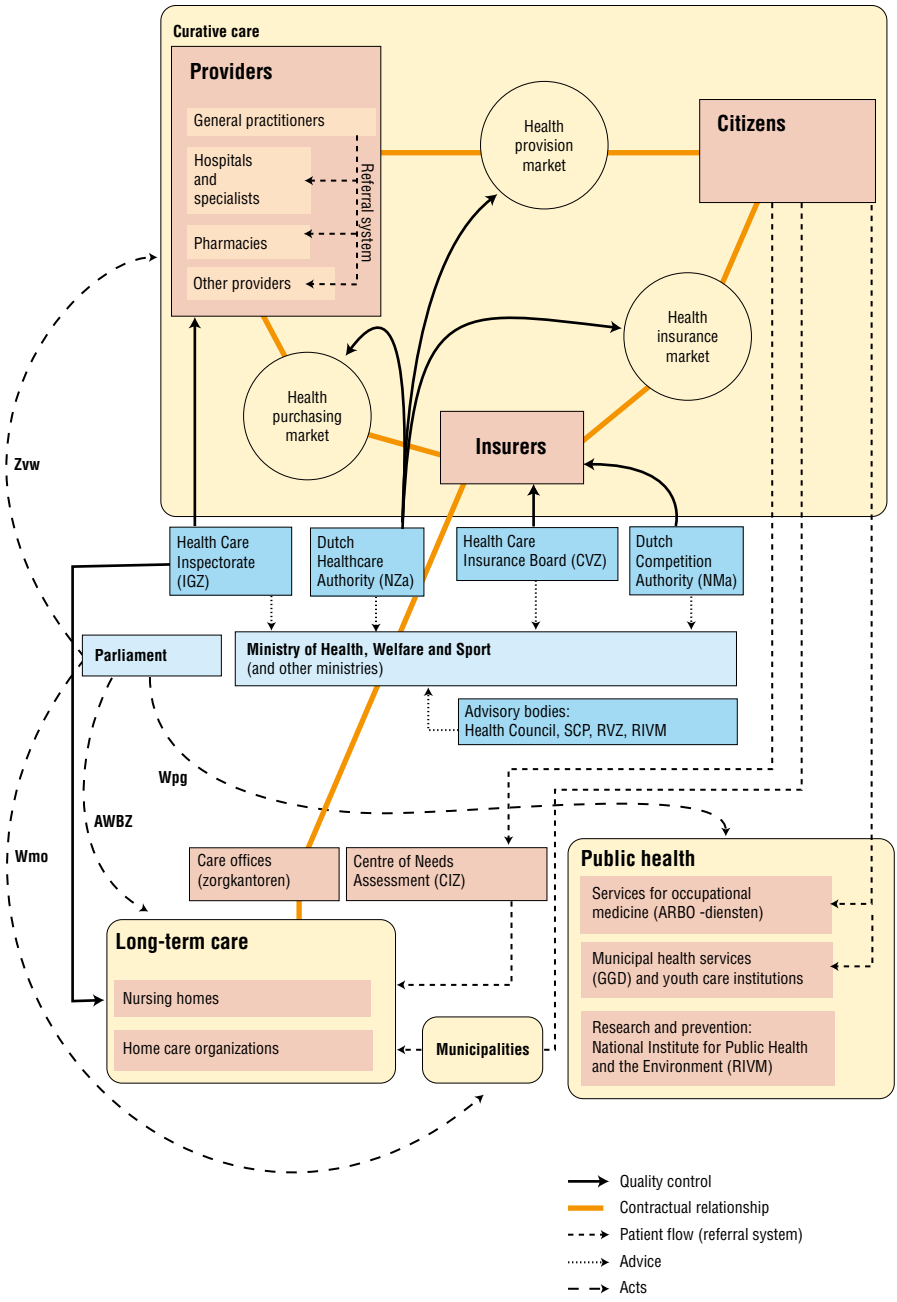
2. Organizational structure

2.1 Overview of the health system

The health care system in the Netherlands is rooted in the "Bismarckian" social insurance tradition. It was only in 1941, under pressure of the German occupier, that a social health insurance system could be introduced covering the two-thirds of the population with lower incomes. Service provision was dominated by non-profit providers and insurers as well as self-employed practitioners and the role of the government was limited. Typical features of the Dutch social health insurance variant were GPs in a gatekeeping position and independent midwives in primary care responsible for uncomplicated deliveries. In 1967 a social insurance scheme replaced subsidies to inpatient long-term care, mental health and disability services. Eligibility was broadened with long-term care, elderly care and mental health services. Major policy trends since the 1970s have been cost-containment (for instance by the introduction of hospital budget caps); measures to solve the fragmented service provision; and several fruitless attempts to abolish the dual system of social and private health insurance.

By and large, this system remained unchanged until the 2006 health care reform, which can be seen as a further innovation of the old Bismarckian system. The reform introduced a single compulsory insurance scheme, in which multiple private health insurers compete for insured persons. This reform has radically changed the roles of actors in the health care sector, in particular the role of health insurers and patients. Supervision and management of the system have been largely delegated from the government to independent bodies. The organization of social support has become a municipal responsibility. The organizational structure of the health system is depicted in Fig. 2.1.

Fig. 2.1
Organizational overview of the Dutch health care system



2.2 Historical background

2.2.1 Government involvement in public health

As in other European countries in the first half of the 19th century, disease prevention in the Netherlands strongly focused on the alleged noxious mist and fumes so frequently occurring in the lowlands. The real causes for disease, namely polluted drinking water and mosquitoes, remained as they were. After clean drinking water and systematic sewage disposal were recognized as beneficial for improving public health, it took decades until public and private law created the necessary conditions for governmental action.

In 1866, the Netherlands Society for the Promotion of Medicine (*Nederlandse Maatschappij ter Bevordering van de Geneeskunst,* NMG) published a mortality atlas in the first attempt to empirically understand the social conditions of health and mortality. Moreover, engineers became interested in issues of hygiene and sanitation, public housing and drinking water systems. The implementation of new insights and plans, however, was postponed as a result of conservatism and weak governance. Although in 1856 the central government advised municipalities to establish local health committees with medical experts to tackle poor hygiene and other public health threats, it took more than 10 years before these committees effectively cooperated in improving the urban population's health. The growing awareness of public hygiene as a matter of collective interest – the prevention of mass epidemics – eventually laid the basis for community-based sanitary activities. Such activities started in the wealthy areas of cities and were later extended to slums and rural areas (De Swaan 1989; Van der Woud 2004).

From the beginning of the 20th century, the organization of public health at local level was stimulated with the development of municipal health services (*Gemeentelijk Gezondheidsdienten,* GGDs). The first such services were established in Amsterdam, The Hague and Utrecht. Initially these departments were involved in control of infectious diseases and care for the poor. Until the Second World War, their number gradually increased, despite the absence of a legal obligation for municipalities to have a public health department. Later, new tasks were adopted, such as infant and youth welfare (including school health), TB care and district nursing. From the 1950s, smaller municipalities started to establish joint municipal health services. The 1982 Health Care Facilities Act (*Wet Voorzieningen Gezondheidszorg*) and later, in 1989, the Collective Prevention in Public Health Act (*Wet collectieve preventie volksgezondheid,*

Wcpv) made a municipal health service (GGD) obligatory and made the municipalities responsible for management and funding (GGD Zuidhollandse Eilanden 2009).

An organized system of state medical inspection was first established in 1865 following the Health Act (*Gezondheidswet*). In the 20th century, four areas of state inspection were distinguished: health care, pharmaceutical care, mental health care and veterinary care. In 1995 the former three areas merged to become the Health Care Inspectorate (*Inspectie Gezondheidszorg,* IGZ). The Inspectorate, an independent advisory body to the Ministry of Health, Welfare and Sport, supervises the quality and accessibility of care. At present (2009), in addition to IGZ two more inspectorates are relevant to public health: the Food and Consumer Product Safety Authority (*Voedsel en Waren Autoriteit,* VWA) and the VROM Inspectorate (*VROM-Inspectie*) (Health Care Inspectorate 2009). The latter enforces legislation in order to guarantee a safe, healthy and sustainable living environment in the Netherlands.

2.2.2 Towards sickness funds: development of health insurance

Early predecessors of the sickness funds were mutual funds founded in the first half of the 19th century by charities, physicians, pharmacists and other private individuals. With the rise of industrial capitalism in the late 19th century, new funds were established, for example by labour unions, to support the industrial proletariat in case of illness, the need for medical care and unemployment. Despite the gradual increase of central powers, the liberal non-interventionist traditions of those days prevented the government from taking initiatives related to health care and health insurance. However, from the beginning of the 20th century this tendency changed and the government gradually became more involved in solving social problems, including those related to illness. A reflection of this change was the 1901 Accident Act (*Ongevallenwet*), which can be seen as a first step towards a system of social insurance in the Netherlands (De Swaan 1989; Veraghtert and Widdershoven 2002).

Fragmented voluntary arrangements were gradually replaced by obligatory state health schemes (De Swaan 1989; Veraghtert and Widdershoven 2002). The adoption in 1913 of the Sickness Act (*Ziektewet*) marked the end of fully autonomous funds and the start of government interference in the health insurance sector. However, it took decades before a system of health insurance became operational. Implementation of the 1913 Sickness Act was not achieved until 1930, after many political conflicts. Eventually, the Act only covered sickness benefits, excluding medical expenses. Until the Second World War all

attempts to introduce a compulsory insurance system failed. This was caused by resistance from health care providers. The main causes of conflict were provider participation in the sickness fund boards, the level of the income threshold for people to be accepted to the funds and the conditions of being accepted as a health care provider (Boot and Knapen 2001).

A breakthrough was forced by the German occupier in 1941 with the enforcement of the Sickness Fund Decree. This 1941 Decree introduced compulsory insurance through sickness funds for employees earning less than a certain income threshold. Sickness funds were subjected to state inspection and also covered relatives of the employees. The funds were relatively strictly organized regionally (and not by occupational groups). The benefit package was uniform and broader than the standard packages offered by the pre-war funds. It included ambulatory and inpatient specialist care. Contributions were paid by employees and employers in equal proportions. Services were provided on a benefit-in-kind basis. The 1941 Decree extended population coverage from 45% to 60%. Those who were not employed (such as self-employed and retired people) could join a sickness funds on a voluntary basis (called "voluntary insurance"). The rest of the population had to rely on one of the various private health insurance schemes (Kappelhof 2005; Veraghtert and Widdershoven 2002).

After the war, recurring conflicts between physicians and sickness funds were a major reason why it took the government about 20 years to implement new health insurance legislation. Physicians opposed expansion of compulsory insurance to a larger proportion of the population, as they feared that this would result in loss of income. It was not until 1964 that the government succeeded in passing a new Sickness Fund Act (also known as the Compulsory Health Insurance Act; *Ziekenfondswet,* ZFW), which entered into force in 1966. The new Act basically continued the three-market structure as under the 1941 Decree (compulsory social schemes, voluntary social schemes and private health insurance). In addition to the sickness fund scheme, a compulsory social insurance scheme with income-related contributions for severe medical risks, covering the entire population, was introduced (*Algemene Wet Zware Geneeskundige Risico's,* AWZ). Criticism, by both the private health insurers and the sickness funds, resulted in the replacement of the AWZ in 1967 with the Exceptional Medical Expenses Act (*Algemene Wet Bijzondere Ziektekosten,* AWBZ), which had a much narrower scope of coverage and only included care provided in nursing homes and facilities for the mentally and physically disabled.

As the voluntary health insurance scheme disproportionately covered insured persons with unfavourable risks (in particular elderly people) it increasingly became a financial millstone around the neck of the system. In an attempt to curb the trend of growing financial losses, in 1986 the government proposed a reform to abolish the voluntary sickness fund scheme and to spread the voluntarily insured persons either to the compulsory sickness fund scheme, or, if their income was above the income threshold, to private health insurance. Two acts were created to prevent undesired effects. First, to compensate the sickness funds for the effects resulting from the influx of large numbers of elderly, the Act on the Joint Funding of Elderly Sickness Fund Beneficiaries (*Wet Medefinanciering Oververtegenwoordiging Oudere Ziekenfondsverzekerden,* MOOZ) was introduced. In this way, privately insured persons (in general, younger and healthier) would contribute to the coverage of the disproportionately high costs of the sickness fund scheme. Second, in order to safeguard access for the unfavourable risks to the private health insurance market, the Medical Insurance Access Act (*Wet op de Toegang tot Ziektekostenverzekeringen,* WTZ) was introduced. The WTZ specified rules that allowed people to insure themselves for a standard benefit package at a fixed premium, irrespective of their risk profile or health status.

2.2.3 Developments in service provision

The provision of health care services in the Netherlands has a tradition of private initiative, often with roots in charity along religious or ideological lines. Until the late 1950s health care, like many other sectors of Dutch society, was structured in denominational "pillars" (*zuilen*). Home nursing, hospital care, nursing home care and care for the elderly were available in facilities with a Protestant, Roman Catholic, Jewish or humanistic orientation. As a result of a trend towards larger institutions and numerous mergers, the denominational signature disappeared, but today most are still private and non-profit (Den Exter et al. 2004).

The Dutch medical specialists traditionally have worked within the walls of a hospital for both inpatient and outpatient care. Medical specialists with their own private practice outside the hospital do not exist. Their position in the hospital is unique. The large majority are formally self-employed and work as entrepreneurs on a contract basis for the hospitals. They are organized in partnership per specialty. Specialist care has become more and more integrated and multidisciplinary. A gradual shift is taking place from pure profession-based care towards care which is more based on integrated care processes. Together with a change of the financing system towards financing care processes instead

of fee-for-services, the position of medical specialists and hospitals has become more integrated. An increasing number of medical specialists are on the payroll of the hospitals, which it is hoped will establish a more unified organization. Also, more specialists participate in independent treatment centres (*Zelfstandige Behandel Centra,* ZBCs) (Companje 2008a).

In the period 1965–2005 the number of medical specialists has strongly increased (Boot and Knapen 2005). In addition, the number of different medical specialties has also increased. Examples of newly acknowledged specialties are family medicine (*huisartsgeneeskunde*) in 1973, cardiothoracic surgery (*cardiothoracale chirurgie*) in 1973, rehabilitation medicine (*revalidatiegeneeskunde*) in 1977, clinical geriatrics in 1983, clinical genetics in 1987 and nursing home medicine (*verpleeghuisgeneeskunde*) in 1990 (Kooij 2007).

In the field of primary care, the general practitioner (GP) plays the role of gatekeeper; patients need a referral from a GP before they can go to a medical specialist. Traditionally the GP used to work alone, but since the 1970s group practices have become popular. In the meantime, primary care centres emerged where GP care was combined with other primary care provision, such as district workers and physiotherapists. Until the late 1990s, out-of-hours care was organized by small groups of GPs, where each GP had night or weekend shifts on a regular basis. Since the early 2000s, out-of-hours care has become organized in a national network of so-called GP posts. A GP post is a centrally located office with a GP present after hours (Boot and Knapen 2005).

In the past, the mental health care field was characterized by a great diversity of health care supply. This has changed, among other reasons, because of regionalization (organization of supply based upon geographical regions) in the 1980s and mergers since the 1990s. The changes have led to a more integrated organization of supply (Boot and Knapen 2005). As of 2008, large-scale integrated institutions form a large proportion of mental health care institutions and offer almost the entire range of mental health care facilities (Van Hoof et al. 2008).

2.2.4 Growing willingness to change: plans and reforms since the 1970s

During the post-war era of "national reconstruction" the government had a tight grip on health care. However, from the early 1960s, which was the beginning of a period of continuing economic growth, the health care sector was allowed to develop without too much government interference, resulting in steadily

growing health care expenditures. Furthermore, as already mentioned, the Exceptional Medical Expenses Act (AWBZ) was introduced in 1967 to cover catastrophic illness. The scheme was expanded over the years that followed and eventually included psychiatric care, certain pharmaceutical services, rehabilitation and home care services. The idea behind these successive expansions of the AWBZ was gradually to develop a basic insurance scheme for all Dutch citizens. In the 1990s, however, this aim was abandoned and the dual system of health insurance for short-term and long-term care remained in place.

The 1973 oil crisis put pressure on the government to reverse its "laissez-faire" health policy and to develop plans for far-reaching reforms of the system with the aim, among others, of curbing rising expenditure on health care. The basis for these plans was the 1974 White Paper on the Structure of Health Care (*Structuurnota Gezondheidszorg*) (Hendriks 1974) in which the government expressed its concern about the sharply increasing cost of health care and, for the first time, formulated a coherent vision for the health care sector. The most important characteristics of the intended reforms were: more government influence on health care; decentralized planning of health care facilities combined with more community influence and involvement; and the substitution of care in hospitals by primary care, facilitated by a strengthened primary care sector (Sixma 1997). A single national health insurance scheme for all citizens, as proposed in the document, was rejected. However, despite the measures taken, the costs continued to rise.

The strengthening of primary care became a priority again in 1983 with the publication of the White Paper on Primary Care (*Nota Eerstelijnszorg*). This proposed to promote efficiency in the health care system through a more coherent provision of primary care services. In the meantime, patients started to organize themselves and became an increasingly important driver for change. The request for patient participation, in addition to the need to control expenditure, contributed to the political insight that structural reforms were unavoidable (Kappelhof 2005).

The 1987 Dekker Plan, called "Willingness to change" (*Bereidheid tot Verandering*) was another attempt to realize the desired single health insurance scheme for all Dutch residents. In contrast to previous plans, however, this one was based on market principles. In a regulated market environment (managed competition) health insurers would compete for insured persons, and, to a limited extent, would negotiate contracts with health care providers. This should result in lower and better controlled health care expenses. Ideas from the Dekker Plan formed the basis of the Simons Plan in 1992, which was introduced

to parliament, but eventually failed in 1993 because employers feared cost effects, labour unions feared income effects and health insurers expected to lose influence. Moreover, opinions about the feasibility and desirability of a regulated market in health care continued to be strongly divergent (Maarse 2001).

2.2.5 Most recent reforms: three regulated health care markets

After the failures of the 1980s and 1990s reforms, the momentum for a "revolutionary" change in the health sector seemed to be gone. The new Minister of Health, tired of endless ideological discussions, opted for an "evolutionary" policy of small, well-considered steps, originating from the previous plans. Examples of these steps were the possibility for insured persons to switch sickness funds, allowing sickness funds to operate nationwide, the harmonization of tariffs for privately insured and sickness fund insured persons, and freely negotiable tariffs for physiotherapeutic care. Patients received reimbursement up to a certain amount and had to pay the difference between the reimbursed amount and the price of the physiotherapeutic care themselves. However, as (financial) problems remained, the need for structural reforms endured. Therefore, after continued debate, in 2001 a new policy paper was presented to the Parliament, called "A question of demand" (*Vraag aan bod*). In this paper many elements of the previous plans were included, but it contained new elements as well. From 2003, it resulted in a series of new Acts, which together formed the basis for a systemic reform. This included managed competition elements and the strongly desired single compulsory health insurance scheme for all Dutch residents. At the core of this new system is the Health Insurance Act (*Zorgverzekeringswet,* Zvw), which came into force on 1 January 2006 (for more information on the background of this reform, see Section 7.1 *Analysis of recent reforms*).

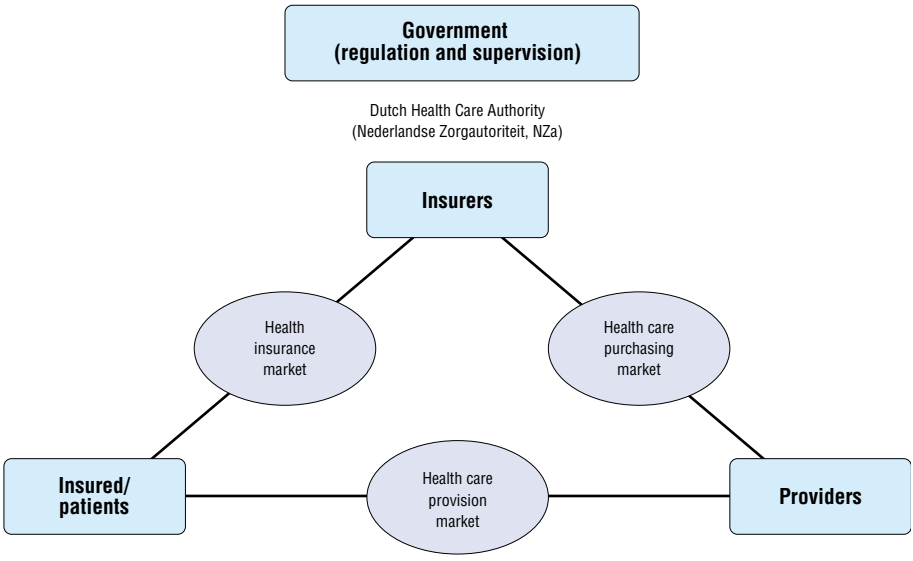
2.3 Organizational overview

The 2006 Health Insurance Act (Zvw) abolished the distinction between mandatory sickness fund insurance and voluntary private insurance, which had existed in the Netherlands since the Second World War. As a central regulatory mechanism the reform introduced managed competition among actors in health care. This fundamentally changed the role of these actors. The role of the government changed from direct control of volumes, prices and productive capacity to setting the "rules of the game" and overseeing whether markets are

working properly. This leaves the health care insurers, insured or patients, and health care providers as the actual market players. Interactions between these actors take place in three markets: the markets for (1) health insurance, (2) health care provision and (3) health care purchasing (see Fig. 2.2). In the health insurance market, health insurers offer the basic insurance package to citizens, who are obliged to insure themselves. In the health care purchasing market health insurers can negotiate with providers on price, volume and quality of care. In the health care provision market, providers offer care to patients. In principle, patients are free to choose their provider. However, health insurers may impose restrictions to this free choice.

Fig. 2.2

Actors and markets in the Dutch health care system since 2006



Essential for a proper functioning of this system is the existence of choice for actors, in particular for patients. Patients are free to choose their health insurer as well as providers. Patients will only be able to make an informed choice if they have sufficient and reliable information on the insurers and providers at their disposal. Therefore, the government provides information on waiting lists, quality and prices of care through the Internet (for more information on patient choice and patient information see Section 2.5 *Patient empowerment*). Insurers are obliged to provide all care as defined in the basic health insurance package, but they can compete for patients on the price of the basic health insurance, the quality of care and may offer complementary voluntary health

insurance (VHI). Furthermore, insurers are free to contract, or not to contract, health care providers (selective contracting) and are expected to make this decision based on the quality and cost of care that providers offer. Negotiation on price and quality is still heavily regulated by the supervisory bodies but is being introduced gradually. At this time, only a limited number of services are freely negotiable. Selective contracting of providers is not very common as of late 2009, though it is increasing. Providers compete for patients by offering care of good quality and compete for insurers by offering attractive care arrangements. For the proper functioning of the market the Dutch Health Care Authority (*Nederlandse Zorgautoriteit,* NZa) was established (for more detailed information see Section 3.5 *Purchasing and purchaser–provider relations*).

An important feature of the Dutch health care system is the gatekeeping role of GPs. Citizens with health complaints first go to the GP where they receive a referral to specialist care if necessary. In the long-term care sector patients receive care in nursing homes or at home (home nursing care). Health insurers are responsible for purchasing long-term inpatient care, but they have delegated these tasks to care offices (*Zorgkantoren*). Patients who want to organize their own care may apply for a personal budget. The Centre for Needs Assessments (*Centrum Indicatiestelling Zorg,* CIZ) assesses the care that is necessary for a patient. The 2007 Social Support Act (*Wet maatschappelijke ondersteuning,* Wmo) has made municipalities responsible for certain forms of home care. The Health Care Inspectorate (IGZ) supervises compliance with laws and regulations by care providers and institutions. Public health is provided by services for occupational medicine and institutions for youth health care and municipal health services (GGDs). These latter institutes are regionally organized. Public health research and prevention is the task of the National Institute for Public Health and the Environment. In the Netherlands, the government is not directly involved in health care. Instead, the Ministry of Health, Welfare and Sport has delegated tasks such as supervision and administration to independent bodies.

The next sections provide an overview of all the institutes involved in health care. First the roles of the relevant ministries will be described. Second, the roles of the supervisory and advisory bodies will be discussed. Third, the (expanding) role of municipalities will be explained. Furthermore, the organization of the three market players (health insurers, providers and patients) will be examined. And finally, because of their strong influence on Dutch health care, special attention will be paid to the role of research organizations and knowledge institutes.

2.3.1 Government ministries

2.3.1.1 Ministry of Health, Welfare and Sport

Like all ministries in the Netherlands, the Ministry of Health, Welfare and Sport is a separate administrative body, headed by a minister accountable to parliament. The Ministry defines policies that aim to ensure the well-being of the population in the Netherlands and to help the population to lead healthy lives. A major objective is to guarantee access to a high-quality system of health care facilities and services (Den Exter et al. 2004). Since the provision of health care services is largely based on private initiative, the role of the government in the delivery of services is rather limited. The Ministry and local authorities bear joint responsibility for public health services. Furthermore, both the Ministry of Health, Welfare and Sport and the Ministry of Interior and Kingdom Relations (*Ministerie van Binnenlandse Zaken en Koninkrijksrelaties,* BZK) are involved in integrated public safety policy (Den Exter et al. 2004).

2.3.1.2 Other ministries

The main tasks of the Ministry of Social Affairs and Employment (*Ministerie van Sociale Zaken en Werkgelegenheid,* SZW) are to stimulate employment, encourage modern labour relations and oversee social security policy. To realize these tasks, the Ministry collaborates with other ministries. The Ministry has its own responsibilities for health-related social security schemes covering sickness benefits and disability benefits. These benefits are outside the health insurance scheme, although they are funded by contributions jointly paid by employers and employees.

2.3.1.3 The Dutch Tax and Customs Administration

The Dutch Tax and Customs Administration (*Belastingdienst*), hereafter referred to as the "Tax Office", levies and collects taxes and social health insurance (SHI) (employer) contributions. In addition, the agency pays out the so-called "health care allowance" (*zorgtoeslag*). This compensates lower-income groups for an excessive premium burden. The health care allowance was implemented in 2006 as a part of the new health care system.

2.3.2 Supervisory bodies

2.3.2.1 Dutch Health Care Authority (NZa)

The NZa is an independent administrative body, funded by the Ministry of Health, Welfare and Sport, whose tasks are defined in the Health Care Market Regulation Act (*Wet marktordening gezondheidsorg,* Wmg). The NZa is responsible for the supervision of the three health care markets in the Netherlands. In addition, the NZa may impose tariff and performance regulation.

The NZa developed from two predecessors, namely the Board for Health Care Tariffs (*College tarieven gezondheidszorg,* CTG), and the Supervisory Board for Health Care Insurance (*College Toezicht Zorgverzekeringen,* CTZ). The tasks of NZa are monitoring and administering the markets for health care provision, health insurance and the purchasing of health care; overseeing the lawful implementation of the Health Insurance Act and Exceptional Medical Expenses Act by all stakeholders. The NZa has power to impose specific obligations on players that have obtained "significant market power" (Ministry of Health, Welfare and Sport 2005). For instance, it may request adapting price setting in line with NZa rules. NZa also has powers to lay down general rules for care providers and health insurers to increase the transparency of the market for consumers (Ministry of Health, Welfare and Sport 2005).

2.3.2.2 Health Care Inspectorate (IGZ)

The IGZ supervises the quality and accessibility of health care. The Inspectorate is independent from the Ministry of Health, Welfare and Sport. Among others, it enforces statutory regulations on public health; it investigates complaints and accidents in health care; and it takes appropriate measures. The IGZ is also an advisory body to the Minister of Health, Welfare and Sport. It is subdivided into a preventive and curative health care sub-inspectorate, a mental health care sub-inspectorate, and a pharmacy and medical technology sub-inspectorate. Inspectors are empowered to submit a complaint about a physician to the Medical Disciplinary Board at any time (Den Exter et al. 2004). For the supervision of the quality of youth health care and youth protection, a separate body has been established: the Dutch Inspectorate for Youth Care (*Inspectie jeugdzorg,* IJZ).

2.3.2.3 Dutch Competition Authority (*Nederlandse Mededingingsautoriteit,* NMa)

The NMa has a general mission to enforce fair competition in all sectors of the Dutch economy. With regard to health care, the NMa supervises health insurers and health care providers, as these are subject to the Dutch Competition Act (*Mededingingswet,* Mw). The Competition Act empowers the NMa to track down cartels, enforce the prohibition against cartels, assess consolidations and enforce the prohibition of the abuse of a dominant market position. The latter task overlaps with the task of the Dutch Health Care Authority (NZa) to impose obligations on parties with significant market power (Dutch Competition Authority 2007). Where the tasks of the NMa and NZa overlap, the NZa is the designated institute.

2.3.2.4 Other supervisors

In addition to supervision by the NMa, health insurers are also subject to supervision from the Netherlands Authority for the Financial Markets (*Autoriteit Financiële Markten,* AFM) and the Dutch Central Bank (*De Nederlandsche Bank,* DNB). The AFM supervises the activities of financial institutions and the DNB looks at the integrity and the solvency of the health insurers.

2.3.3 Advisory bodies

Decision-making in the Dutch health care system is characterized by consultation and consensus between the government and stakeholder groups. Advisory bodies play an important role in this process and their number rapidly increased during the decades after the Second World War. As the proliferation of advisory bodies tended to obscure the decision-making process, from the early 1990s the government has started to reduce their number (Den Exter et al. 2004). In 2008, the organization of advisory structures to the Ministry of Health, Welfare and Sport was further revised, resulting in the integration of the Advisory Council of Health Research (*Raad voor Gezondheidsonderzoek,* RGO) into the Health Council.

2.3.3.1 Health Council (*Gezondheidsraad*)

The Health Council is a statutory advisory body to the government, including the Ministry of Health, Welfare and Sport. It advises on the scientific state of the art in medicine, health care, public health and environmental protection. To this end, the Council brings together experts on specific topics, on request of the government, or undertakes studies on its own initiative (Den Exter et al. 2004). The Council is presided over by a president and two vice-presidents and consists of nearly 200 members, selected from scientific and health care societies. Members and external experts together fill around 40 ad hoc committees and seven standing committees. The standing committees have a very broad remit and focus on draft reports of the ad hoc committees as well as on issues subject to advice. The Health Council is financed completely by the government (Health Council of the Netherlands 2009).

2.3.3.2 Council for Public Health and Health Care (*Raad voor de Volksgezondheid en Zorg,* RVZ)

The RVZ is an independent governmental advisory body, installed by the Minister of Health, Welfare and Sport for strategic advice on health care and welfare policy. The Council consists of nine members, including the chair, with varying backgrounds. They have an affinity with the health care sector but they should serve the public interest (Den Exter et al. 2004). If advice is requested

prior to taking a political decision, the Council balances pros and cons of possible solutions and describes long-term and short-term consequences of the options. Requests for advice are usually received from the Minister of Health, Welfare and Sport, but they can also be submitted by other ministries and from members of parliament. Normally, advice is on request, but occasionally the Council takes the initiative (Den Exter et al. 2004).

2.3.3.3 Health Care Insurance Board (*College voor Zorgverzekeringen,* CVZ)

The CVZ is an independent organization with three important tasks regarding the Health Insurance Act (Zvw) and the Exceptional Medical Expenses Act (AWBZ). First, the Board must make sure that the health insurers explain regulations and the implementation of the Health Insurance Act and the Exceptional Medical Expenses Act uniformly, in particular since the limits of the benefits package may be ambiguous and prone to different interpretations. The second important task of the Board is to manage and administer the Health Insurance Fund and the General Fund for Exceptional Medical Expenses (*Algemeen Fonds Bijzondere Ziektekosten,* AFBZ) (Hamilton 2008); more on the Health Insurance Fund and risk adjustment can be found in Chapter 3 *Financing.* The members of the Executive Board of CVZ and are appointed by the Minister of Health, Welfare and Sport. And, finally, the CVZ advises the Ministry of Health, Welfare and Sport on the basic health insurance package.

2.3.4 Knowledge and research institutes of the Ministry of Health, Welfare and Sport

2.3.4.1 National Institute for Public Health and the Environment (*Rijksinstituut voor de Volksgezondheid en Milieuhygiëne,* RIVM)

The RIVM is a large institute employing about 1500 people. It has several functions and is a major adviser to several ministries. It advises two ministries on environmental issues and it provides policy support to the Ministry of Health, Welfare and Sport in key public health areas. The RIVM has the following functions. First, it is the central institute for infectious disease surveillance and control, including quality control of the National Vaccination Programme. Second, RIVM operates in various disease prevention areas, such as integrated assessment of food quality and consumer safety. Third, it develops knowledge on pharmaceuticals and has an important role in the regulatory chain for the introduction of new pharmaceuticals. Finally, the public health branch of the RIVM publishes, every fourth year, a national health report, called "Public Health Status and Forecasts" (Den Exter et al. 2004).

2.3.4.2 The Netherlands Institute for Social Research (*Sociaal en Cultureel Planbureau, SCP*)

The SCP is a scientific research institute, which is formally subordinate to the government but carries out independent research. Its tasks include describing the social and cultural situation in the Netherlands, forecasting of developments, providing information and evidence for policy-making and evaluating government policy. The SCP is staffed by about 90 academic researchers from various disciplines (Netherlands Institute for Social Research 2009).

2.3.5 Other organizations related to the government

The Medicines Evaluation Board (*College ter Beoordeling van Geneesmiddelen,* CBG) assesses and guards the efficacy, safety and quality of both human and veterinary medicinal products. The Board operates independently and is responsible for the authorization and monitoring of pharmaceuticals in the Netherlands, but also has a shared responsibility for authorization throughout the EU.

The Netherlands Vaccine Institute (*Nederlands Vaccin Instituut,* NVI) focuses on purchase and distribution of vaccines and on research and development. Formerly, the Institute had a function as a manufacturer of vaccines. In 2009, it was decided to abolish the manufacturer function, since the institute was considered a too small vaccine manufacturer to apply the strict quality restrictions of manufacturing at acceptable costs. At present (late 2009) the search for partners to take over this function is ongoing. The research and development functions continue to exist.

The Central Information Unit on Health Care Professions (*Centraal Informatiepunt Beroepen Gezondheidszorg,* CIBG) is an agency of the Ministry of Health, Welfare and Sport for the registration of data within health care, which will lead to decisions, regulations and licences (which can be granted by the organization). The organization provides support to commissions and boards in Dutch health care.

Formerly, the Board for Health Care Institutions (*College Bouw Zorginstellingen,* CBZ) considered applications for building permits of intramural health care facilities and issued them. Today, their task is mainly to provide knowledge on construction of health care facilities. From January 2009 the tasks of the board have been transferred to *Centrum Zorg en Bouw* as a department of TNO. TNO is an independent research organization whose

expertise and research make an important contribution to the competitiveness of companies and organizations, to the economy and to the quality of society as a whole.

2.3.6 Municipalities

In order to fulfil tasks in public health, municipalities are obliged to set up a municipal health service (GGD). The municipal health services are involved in prevention, for example by collecting information on the health situation of the population, contributing to prevention programmes, promoting medical environmentology, implementing youth health care and the control on infectious diseases. Furthermore, municipal health services advise municipalities on public health policy issues and they may be involved in other activities, such as care indications for acute psychiatric hospitalizations (Mackenbach and van der Maas 2008). It should be noted, however, that the roles of municipal health services are not uniform all over the country.

Since 2007, municipalities have become responsible for implementing the Social Support Act (Wmo); this includes the provision of a range of home care services to citizens who have limitations due to (chronic) health problems, ageing or disabilities. Examples of these services are domestic aid; adapted housing; provision of wheelchairs and other aids; transport facilities for people with limitations; support to informal carers. Clients can choose between either a personal budget (and organizing the care himself/herself) or provision in kind. Most municipalities have created a special information and entry facility for Wmo care. Municipalities have a great deal of freedom to organize these services and consequently there are many variations in the practice of Wmo-related services.

2.3.7 Health care professionals

Most professional groups in Dutch health care have a professional organization. Some professions have separate organizations for professional "emancipation" or defending the interests and for scientific and professional development, while in other professions these functions are united in one organization. The professional groups contain employers' organizations as well as employees' organizations. There are also professional organizations in which employers and employees are joined together. The listing in Box 2.1 is non-exhaustive; it merely seeks to provide an overview on how professionals within Dutch health care are organized.

Box 2.1
Professional groups in the Netherlands

The Royal Dutch Medical Association (*Koninklijke Nederlandsche Maatschappij ter bevordering van de Geneeskunst,* KNMG) is a private organization set up in 1849 to represent doctors in the Netherlands. The objective of the Association is "to promote medicine in its broadest sense". Six main professional groups work within the Association; these are the Association of Medical Specialists (*Orde van Medisch Specialisten,* OMS), the National Association of General Practitioners (*Landelijke Huisartsen Vereniging,* LHV), the National Organization of Salaried Doctors (*Landelijke Vereninging van Artsen in Dienstverband,* LAD), the Netherlands Society of Occupational Medicine (*Nederlandse Vereniging voor Arbeids- en Bedrijfsgeneeskunde,* NVAB), the Professional Association of Nursing Home Physicians and Social Geriatrists (*Beroepsvereniging van Verpleeghuisartsen en Sociaal Geriaters,* NVVA) and the Dutch Association for Insurance Medicine (*Nederlandse Vereniging voor Verzekeringsgeneeskunde,* NVVG). These organizations aim to defend the interests of their specific group of physicians (Den Exter et al. 2004).

Nurses and Carers Netherlands (*Verpleegkundigen en Verzorgenden Nederland,* V&VN) is a professional association for all professionals in the nursing and caring sector. The association defends the interests of its members and aims to promote professional working conditions. The association represents several sections and platforms of nurses and carers, for example nurse practitioners, primary care nurses and medium care nurses.

There are several professional organizations for primary care physicians. The Dutch College of General Practitioners (*Nederlands Huisartsen Genootschap,* NHG), which was established in 1956 as the scientific organization of GPs, is one example. Its intention is to provide maximum scientific support for general practice, thus facilitating the work of the individual GP. The NHG is an independent organization with close links to the National Association of General Practitioners (LHV). One way in which the NHG provides support to GPs is through the development of medical and pharmacotherapeutical guidelines. The guidelines cannot be enforced legally, but are held in high regard by Dutch GPs. Furthermore, the NHG and the LHV have jointly taken the initiative to implement a quality system in general practice. NHG membership is voluntary, but a large majority of GPs in the Netherlands are members. Most NHG staff members combine their work as a GP with NHG activities.

The Royal Dutch Society for Physical Therapy (*Koninklijk Nederlands Genootschap voor Fysiotherapie,* KNGF), established in 1889, is a professional organization for physiotherapy, representing over 20 000 members, including students and non-active therapists. The KNGF's objectives are to create conditions to ensure optimal physiotherapy care and quality accessible to the whole population, and recognition for the professional expertise of the physiotherapist. The KNGF offers support to the physiotherapist in curative care as well as preventive care.

The Royal Dutch Association of Midwives (*Koninklijke Nederlandse Organisatie van Verloskundigen,* KNOV) aims to strengthen the independent position of midwives in the Netherlands, among other things, by promoting the quality of and access to midwifery and promoting the professional quality of midwives. KNOV defends the socioeconomic and other interests of midwives in the Netherlands.

A final example of a primary care professional organization is the Royal Dutch Association for the Advancement of Pharmacy (*Koninklijke Nederlandse Maatschappij ter Bevordering van de Pharmacie,* KNMP). The organization was established in 1842 and is the umbrella organization for professional pharmacists and pharmacy in general. It promotes both the interests of its members and the interests of the pharmacy sector. KNMP provides

support to pharmacists in their daily practice, and contributes to maintaining quality in the pharmaceutical sector. Most members of the KNMP work in primary care. However, there are also hospital pharmacists, for example, who have joined the association.

A large organization in secondary care is the Association of Medical Specialists (OMS). The association aims to strengthen the (legal) position of medical specialists and to support quality of care as provided by medical specialists. The association also advises their members on legal and financial matters (orde.artsennet.nl, only in Dutch). Besides this association there are many other organizations which are directed at specific medical specialties.

In the preventive care sector, the Dutch Association for Prevention and Health Promotion (*Nederlandse Vereniging voor Preventie en Gezondheidsbevordering,* NVPG) promotes the interest of persons that are active in the public health and prevention sector. The association is also involved in quality improvement.

In addition to these organizations there are professional organizations for health care employers. Examples of such organizations are the National Hospital Association (*Vereniging van Ziekenhuizen,* NVZ), which represents the interests of hospitals, GGZ Nederland (for employers within mental health care) and Actiz (employers' federation within health care).

2.3.8 Health insurers

Dutch health insurers originate from two different backgrounds; the former (public) sickness funds and (private) indemnity insurers. Since 2006, all health insurers operate under private law, and are allowed to make profits and pay dividends to shareholders. However, the market is still dominated by insurers operating on a non-profit basis. From the four largest insurers (having together a market share of 88%), only one insurer is for-profit (Achmea), the other three (UVIT, CZ and Menzis) are non-profit. Health Insurers Netherlands (*Zorgverzekeraars Nederland,* ZN) is the umbrella organization of the Dutch health insurers. ZN is considered to be an important stakeholder in the field of health care, together with representatives of the state, the national organizations of health providers and the patient/consumer associations (Zorgverzekeraars Nederland 2009).

2.3.9 Patient organizations

There is a large number and variety of patient organizations in the Netherlands. Usually, two groups are distinguished: the generic organizations, defending the interest of general users of health services, and categorical organizations that unite patients with a specific condition or disease. Many patient organizations, from both categories, are under the umbrella of the Federation of Patients and Consumer Organizations in the Netherlands (*Nederlandse Patiënten Consumenten Federatie,* NPCF) founded in 1992. It combines 26 national generic or categorical networks of patients. The main focus is to strengthen

the position of patients and consumers in health care. To become a member of the NPCF, organizations are required to work patient-centred, represent patients, work at a national level with a main focus on health and not depend on one source of funding. The NPCF currently has four action programmes: costs, choices, quality of care and clients. A major activity of the NPCF is to disseminate information, either through an information telephone number or publications. The organization is mainly financed by a foundation for patients, disabled people and elderly but also receives grants from the Ministry of Health, Welfare and Sport (NPCF 2009). The organization has representatives on national advisory bodies, such as the Health Care Insurance Board (CVZ) and the Council for Public Health and Health Care (Den Exter et al. 2004).

2.3.10 Research organizations and knowledge institutes (private)

In the Netherlands there is great emphasis on health care research. There are several independent research institutes and university institutes that focus on specific aspects of health care. Box 2.2 provides an overview of the main players. Some of these institutes receive funding from the Netherlands Organization for Health Research and Development (Nederlandse Organisatie voor Gezondheidsonderzoek en Zorginnovatie, ZonMw). ZonMw is a financial fund that aims to improve prevention, care and health by stimulating and financing research, development and implementation. ZonMw is mainly commissioned by the Dutch ministries as well as the Dutch Organization for Scientific Research (*Nederlandse Organisatie voor Wetenschappelijk Onderzoek,* NWO) to study priorities and problems in health care. For these problems, ZonMw formulates programmes, in which research and health care institutes obtain the opportunity to conduct research and to develop, test and implement innovations.

Box 2.2

Overview of research institutes in the Netherlands

The Dutch Institute for Health Care Improvement (*Centraal Begeleidingsorgaan voor Intercollegiale Toetsing,* CBO) was established in 1979 as an independent foundation by the Dutch Association of Medical Specialists and the Dutch Association of Medical Directors of Hospitals (*Nederlandse Vereniging van Ziekenhuisdirecteuren,* NVZD). The CBO's mission is to improve quality assurance in the health care sector in the Netherlands and abroad. The institute has four major customer groups: medical specialists, nurses, allied health professionals and health care institutions. Its programmes and products support these groups in improving patient care. Programmes and products include the development of guidelines and indicators; visitation systems; a national registry of quality indicators; improvement models; process redesign; total quality management; application of knowledge and dissemination of best practices; education, training and advice (Den Exter et al. 2004).

The Health Institute (*Gezondheidsinstituut NIGZ,* NIGZ) offers professional support for those working in public health care and develops information for the general public on health and healthy lifestyle. The main tasks are development of health promotion campaigns and training of public health professionals.

Movisie is a knowledge institute for organizations that are involved in social participation. The institute provides advice to these organizations and develops and evaluates methods that stimulate social integration of vulnerable groups, such as disabled and homeless persons.

The Netherlands Centre for Excellence in Nursing (*Landelijk Expertisecentrum Verpleging en Verzorging,* LEVV) is an independent knowledge institute. The institute aims to improve nursing practice through the collection and dissemination of information. The LEVV offers advice and courses, supports change in management and supplies nurses with information.

The Netherlands Institute for Health Services Research (*Nederlands instituut voor onderzoek van de gezondheidszorg,* NIVEL) is involved in research into the provision and use of health care services. NIVEL conducts both national and international research, and operates several national databases, including the Netherlands Information Network of General Practice (*Landelijk Informatienetwerk huisartsenzorg,* LINH) and databases on health care professionals (see Section 5.2 *Human resources*). It also manages several survey panels: consumers; chronically ill and disabled; and nurses. NIVEL's research capacity and expertise are consulted by many different actors in health care, such as government bodies, scientific research organizations and professional organizations. NIVEL, as an independent organization, is committed to making all of its research results public.

The Netherlands Paramedical Institute (*Nederlands Paramedisch instituut,* NPi) aims to contribute to the professionalization of the paramedical occupation. It conducts applied research into the field of paramedics in close cooperation with paramedical professionals, patient associations and health insurers. Furthermore, the institute operates a knowledge database on paramedical literature, protocols and measurement instruments.

The Netherlands Youth Institute (Nederlands Jeugdinstituut) is a knowledge institute for youth care. It provides information on health conditions and collects information about best practices in youth care for organizations and professionals working in youth care.

Information on hospital production (for example on admission and discharge) is collected by Prismant in the National Medical Registration (*Landelijke Medische Registratie,* LMR) database. The database contains all information on patient discharges from hospitals for inpatient and day care. The contractors of this registration system are the National Hospital Association (NVZ) and the Association of Medical Specialists (OMS). Prismant also offers professional support and advice to health care institutes.

The Trimbo-instituut (*Netherlands Institute of Mental Health and Addiction*) is a knowledge institute for mental health care, addiction problems and associated physical diseases. The main tasks are monitoring mental and addiction problems in society; conducting research into the functioning of preventive care and addiction care; development of methods, protocols and guidelines; training for professionals; and information on mental health problems and substance abuse.

Vilans is involved in research and development of long-term care. The aim is to improve quality of life and social integration of persons who need long-term care. One of the objectives is to develop protocols to improve professional quality.

University institutes
Apart from the independent research institutes, there is also considerable capacity for health care research at Dutch universities. Several universities have special institutes that are involved in health care research. The University Medical Centre St Radboud, which is closely allied to the Radboud University Nijmegen, facilitates the Scientific Institute for Quality of Health Care. This institute is involved in scientific research and evaluations in the field of implementation science, quality of hospital and integrated care, quality of nursing and allied care, and health care ethics. At the Erasmus University Rotterdam, the Institute of Health Policy and Management (iBMG) focuses on management of health care institutions, health economics, health law, health care governance and health insurance. The EMGO institute of the VU University Medical Centre Amsterdam predominantly conducts research in primary care and public health, focusing on chronic diseases and ageing. Other universities with sizeable health care research departments include Maastricht University, Utrecht University, Tilburg University and the University of Groningen.

2.4 Concentration and (de)centralization

In the Netherlands, health care issues are the responsibility of the Ministry of Health, Welfare and Sport. As of 2009, the main role of the government is to safeguard and control the implementation of regulations and the performance of the health care sector. This is in contrast with the period between the late 1960s to the late 1980s, when there was more state control in reaction to a period of less state control before the 1960s. The degree to which responsibilities are transferred to the health care sector has varied over time. From 1974 to 1988 the government was involved in regulating tariffs, hospital construction and volume of care. During this period, cost-containment made it on to the national agenda because of rapidly increasing health care expenditure. From 1988 onwards, the government delegated more responsibilities to the health care sector and first attempts to introduce free-market principles into the health care systems emerged. Finally, in 2006 free-market principles became the leading principle in health care organization when the new Health Insurance Act entered into force. The Act contains provisions that should ensure the social character of health insurance in the Netherlands. It includes, for example, an obligation to insure, shared employer and employee contributions/premiums and precludes preferred risk selection. As a result, Dutch health care insurance can still be characterized as a social health insurance system, albeit carried out by private health insurers (Ministry of Health, Welfare and Sport 2005).

The effect of delegating the organization and provision of health care to the private market not only affects the responsibilities of the government, but also has considerable impact on the way the health care sector is organized. Since the public debate concerning the reforms began much earlier than the formal

introduction of managed competition, the health care sector anticipated the reforms and a trend towards larger organizations emerged. Private insurers and sickness funds merged into large companies in order to strengthen their competitive position and to obtain sufficient countervailing power especially in relation to health care providers (Van der Lee 2000). In addition to this, of course, there have been other arguments for mergers, such as economies of scale. As a result, the number of health insurers (both private health insurers and sickness funds) decreased from 118 in 1990 to 32 in 2008 (Vektis 2009a [unpublished material]). It is important to note, however, that a majority of these insurers belong to a small number of large insurer combinations. In 2008, four large insurance combinations had 88% of the market (Dutch Health Care Authority 2008d; Schut and Rutten 2009).

The hospitals in the Netherlands also merged into large-scale organizations, but this trend had already begun in the 1960s. Motives for mergers were, among others, market strategy: a larger hospital has more possibilities for investing in buildings or new medical technologies, and a merger may enable synergy effects by eliminating duplicate services. Moreover, government policy promoted mergers. The budget of the large new hospitals was higher compared to the sum of budgets of the smaller hospitals before the mergers (Van der Lee 2000). Finally, the introduction of market mechanisms and the preceding discussions formed an argument for hospitals to merge in the 1990s. Another argument was obtaining sufficient countervailing power against health insurers. The trend towards consolidation resulted in a reduction of the number of hospitals from 172 in 1982 (Van der Lee 2000) to 94 organizations in 2005 (MacGillavry and Zwakhals 2005).

For long-term care, the government has delegated responsibilities towards private institutions, while leaving the government indirect control, as the final budget has to be approved by the Ministry of Health, Welfare and Sport. Long-term institutionalized care can be characterized as a classical non-profit SHI system. Its provision is the responsibility of the health insurers. The health insurers need to apply for a licence to set up a Care Office (*Zorgkantoor*) at the Ministry of Health, Welfare and Sport (Ministry of Health, Welfare and Sport 2005).

Long-term care for disabled or chronically ill persons at home is partly delegated to the municipalities. The rationale was that the municipalities are closer to the population and therefore could take measures that better met the people's needs. The responsibility for care for disabled people (such as wheelchairs, transportation) was transferred to the municipalities in 1994 (under

the Services for Disabled Act, *Wet Voorzieningen Gehandicapten,* WVG). The municipalities had a certain degree of freedom in the delivery of care, although minimum requirements were described in the law. The law focused on mobility and adjustments to the homes of disabled persons. The WVG Act was integrated in the Social Support Act (Wmo) in 2007. Also long-term care for disabled and chronically ill was partly transferred from the Exceptional Medical Expenses Act (AWBZ) to the Wmo. Social support aims to enable everyone to fully participate in society. The municipalities are free to set their own policy agenda concerning the Wmo. As of 2009, the transfer of provisions from the AWBZ to the Wmo is restricted to certain forms of home care (more aimed at "home help"). In the future other forms of home care, for instance nursing home care, may be transferred as well. Although the rationale behind decentralization is that municipalities can be more effective due to their proximity to citizens, in practice it can also be seen as a cost-containment measure, since the budget for the municipalities is lower compared to the original AWBZ budget.

2.5 Patient empowerment

Since the 1980s the position of the patient in Dutch health care has been changing continuously. Whereas during the 1980s and 1990s there was a strong focus on patient rights, from 2000 the emphasis shifted towards the patient as a consumer. In the new health care system the patient is seen as an important player who is expected to make independent and rational choices (Grit, Van de Bovenkamp and Bal 2008). Therefore, the Ministry of Health, Welfare and Sport aims at patient participation and also strives for greater patient choice in the new health care system (Trappenburg 2005), although facilities for persons not able to make rational choices remain, for instance in-kind arrangements. This section will examine the various forms of patient empowerment in the Netherlands in more detail, including patient choice, patient information, patient rights, patient participation, complaints procedures and patient safety. Lastly, the role of cross-border care for patients in the Netherlands will be discussed.

2.5.1 Patient choice

Before 2006, the focus of the health care system was on the supply of services. With the introduction of the new system, focus shifted towards demand. Since competition was introduced, the choices of patients have become more important.

Patients are free to choose a health insurance policy with the health insurer of their choice. Health insurers are obliged to accept any person applying for basic health insurance and are not allowed to differentiate tariffs on grounds of the age or health status of the applicant. Patients can switch health insurers on 1 January of each year. The rationale behind this freedom of choice is that health insurers may compete on quality of care and price. When health insurers succeed in purchasing good-quality care, they may attract patients. Patients can further decide upon the level of a voluntary deductible, which is charged on top of the compulsory deductible (€155 per year). The voluntary deductible may vary between €100 and €500 per year. Furthermore, patients are given the choice between restitution and benefit in-kind policies. If a patient chooses an in-kind policy, choices between providers can be restricted, but financial risk will be absent. When a patient chooses a restitution policy, he or she is free to choose a provider, but, if this provider charges more than the maximum reimbursement set by the health insurer, the patient may have to pay the difference out-of-pocket. Besides basic health insurance, patients can choose to purchase complementary VHI policies. These can be taken out from any health insurer. Health insurers are not obliged to accept consumers for a complementary VHI policy. Consequently, choice on complementary VHI can be limited for patients.

In 2006, at the start of the new health insurance system, 18% of insured persons changed insurer (Dutch Health Care Authority 2006). In 2007, 4.4% of the insured persons changed insurer (Dutch Health Care Authority 2007d). This percentage decreased to 3.6% in 2008 (Dutch Health Care Authority 2008d). Of insured persons, 91% did not experience any limitations to their freedom in choosing a health insurer (De Boer et al. 2007). The high number of people who changed health insurer in 2006 was probably the result of the relaxation of the options to switch insurer, the great amount of attention paid to switching between health insurers, the option of group contracts with discounts of up to 10% (for groups such as employees within a company or interest groups) and the fact that health insurers were no longer allowed to refuse patients or to differentiate premiums because of patients' health risks. The group contracts especially have had a catalysing effect. Many people who where formerly sickness fund insured (i.e. for whom collective contracts were not allowed) joined their employer's collective contract.

All Dutch citizens are registered with a GP practice. GP care is covered by basic health insurance. In theory, patients are free to choose their GP. In practice, there may be limitations. An example is a mutual agreement among GPs in the city of Utrecht. Because of this agreement patient choice is limited.

They can only register themselves at GPs practising in their own district. There is also freedom of choice of other health care providers, although this may be restricted for insured persons with an in-kind health care policy. Another limitation may be the scarcity of GPs in certain areas, due to which patients may have difficulties in finding a GP. At this moment there is no great surplus or shortage of GPs. In the future, however, scarcity can be expected, caused by less full-time and more part-time GPs in combination with the ageing of the population (Dutch Health Care Authority 2009c) (also see Section 5.2 *Human resources,* Subsection *Trends in health care personnel*).

In the area of health care services, patients can choose between different (types of) health care providers. They can choose which physicians, therapists or institutions they want to go to. For long-term home care, patients can choose whether they want to receive care in kind or receive a personal budget (Groenewoud, Kreuger, and Huijsman 2006). With the personal budget, patients can buy and organize their own care. They may buy care from professional organizations, but also from non-professionals, for instance neighbours, friends and family. Between 1998 and 2007, the amount of personal budget recipients has increased (Health Care Insurance Board 2007; Ministry of Health, Welfare and Sport 2007d).

2.5.2 Patient information

The government provides information through the Internet. The National Institute for Public Health and the Environment (RIVM) has published a web site (www.kiesbeter.nl), which helps consumers choose between different health care providers and health insurers. The site offers general information, for example on which services are available, on prices, on waiting lists and also on the quality of services. There are two types of quality information available: quality information collected by the Health Care Inspectorate and quality information collected through a specific measurement instrument, the Consumer Quality Index (CQI). CQI questionnaires measure what patients find important and what their experiences are in health care are. The information from the Index is used for appointing scores to providers and their services before being published on the web site. The type of quality information published on the web site depends on the availability and therefore differs per provider and insurer. Extra attention is paid to the accessibility of the web site for the elderly and for different disabled groups, such as people with a visual impairment. People who are not connected to the Internet are referred to special information points located in libraries, which will help them searching for information. General information about public health and health

care can be found at the National Public Health Compass (*Nationaal Kompas Volksgezondheid*) (National Institute for Public Health and the Environment 2009a).

Besides the initiative of the Ministry of Health, Welfare and Sport, there are independent web sites which offer information on quality, waiting lists, prices and patient satisfaction, all collecting their information through different methods.

With regard to hospital care, the Dutch Health Care Authority (NZa) found that information on medical quality has improved since 2006, but that it is still limited. The transparency on medical quality of hospital care will be further developed through a project of the Health Care Inspectorate (IGZ). The Inspectorate is developing indicators for medical quality and aims at having 80% transparency in hospital care in 2011. Information on experiences of patients is also limited, but is becoming more transparent. The available information does not correspond yet to the information needs of the patients (Dutch Health Care Authority 2007c).

Patients looking for information on hospital quality mainly consult their GP (42%) and, to a lesser extent, friends and family (11.4%), booklets and leaflets (7.8%), the hospital web site (7.5%) or the specialist (3.4%). The Internet is used only in 3% of the cases (Halkes 2007). Of the whole Dutch population, 18% looked for information on hospital quality in 2007 and 2008. In the same years, 13% tried to find information on the quality of individual doctors. People with a low educational level consult the information on the quality of physicians less frequently than people with a high educational level (Grol and Faber 2007).

In the health insurance market, patients consider information on nominal premiums, and information on the premiums and coverage of complementary VHI most important. This information was widely available in 2008. Most of the searchers used the Internet as a source of information. Information on authorizations and cost-sharing appeared to be less available and information on quality was hard to find (Dutch Health Care Authority 2008d). A study of information provision revealed that the most frequently used web sites provide correct information (Dutch Health Care Authority 2007f). In 2008, 17% of insured people searched for information regarding their health insurance and health insurer. This was down from 35% in the year before. The Dutch Health Care Authority (NZa) has set up guidelines for health insurers on how to inform patients. In 2008, not all health insurers complied with the guidelines (Dutch Health Care Authority 2008d).

2.5.2.1 Patient information in legislation

Health care providers have obligations concerning information for patients at the individual level. Physicians are obliged to inform their patients about the planned examination and treatment and about developments regarding the examination, their medical condition and the treatment. This is regulated by the Medical Treatment Agreement Act (*Wet Geneeskundige Behandelingsovereenkomst,* WGBO). Matters on which patients have to be informed are the nature and aim of the examination or treatment; the impact and risks; other possible methods of examination and treatment; and the state of the patient's health status and health expectancies. When a patient is under the age of 11, the physician has to take into account the comprehension of the child.

For medical research involving patients, participating patients have to be informed on matters such as the purpose, nature and duration of the research and the risk to their health. This is laid down in the Medical Research Involving Human Subjects Act (*Wet medisch-wetenschappelijk onderzoek,* WMO). Furthermore, there may not be – within reason – any doubt that the information has been understood by the patient.

Finally, patients who want to be a live organ donor should be informed appropriately. The 1998 Organ Donation Act (*Wet Orgaandonatie,* WOD) stipulates that information has to be given on the nature and purpose of the removal, and on the expected consequences and risks concerning the person's health and other living conditions. Information has to be given accurately since donors have to be aware of the consequences (Legemaate 2006). As in Germany and Switzerland, post-mortal organ donation in the Netherlands is regulated through an explicit consent system by the Organ Donation Act. This means that Dutch citizens have to authorize organ removal after death in the form of an advance directive or a codicil, or by registration in a national registry. When there is no registration available, the relatives can give vicarious consent. Other European countries, such as Austria, Belgium and Spain have chosen a presumed consent system. In this system it is sufficient to verify that the potential donor did not object to organ donation (Coppen et al. 2008; Gevers, Janssen and Friele 2004).

Since the donation rates did not increase after the Organ Donation Act, a heated debate on changing the consent system emerged. The Act was evaluated twice (Friele et al. 2004, 2006) and, since international comparative research in 10 Western European countries showed that presumed consent systems do not guarantee higher donation rates (Coppen et al. 2005, 2008; Janssen and Gevers 2005), the consent system was not changed.

2.5.3 Patients' rights

Resulting from the emancipation of patients and the general trend of more patient involvement in health care, patient rights became a dominant theme in the social debate in the Netherlands in the late 1970s (Legemaate 2006). It became clear that there was a need for the strengthening of the position of the patient (Dute et al. 2000). This led to a great number of legal regulations in the second half of the 1990s (Legemaate 2006), the majority of which are still applicable today. The regulations closely converge with the principles on human rights in health care, that is: information, consent, confidentiality and privacy, care and treatment and patient choice – as mentioned in the Declaration of Patients' Rights in Europe of the WHO in 1994. The fundamental rights of human beings in health care, such as the right of self-determination and the right to privacy have been laid down in the Dutch Constitution.

2.5.3.1 Right to information

As mentioned above, the patients' right to information has been laid down in the Medical Treatment Agreement Act (WGBO), the Medical Research Involving Human Subjects Act (WMO) and the Organ Donation Act (WOD). The right to information is an important condition for self-determination (Leenen and Gevers 2000). Informing patients has legal as well as therapeutic motives. It can for example help patients to make a well-considered decision and can improve the communication between physicians and patients (Legemaate 2006). Information is necessary for patients to give permission for a treatment (informed consent) (Leenen and Gevers 2000). Furthermore, patients have a right to a second opinion.

2.5.3.2 Informed consent

The regulations on patient information, as described in the previous section, enable patients to give an "informed consent". Informed consent is made explicit in different Acts. The Medical Treatment Agreement Act (WGBO) regulates that explicit permission has to be given if the procedure is of radical nature, but may be presumed if it is not. Further, explicit permission can be omitted if there is no time to request in cases where immediate action is necessary. In practice, there are not many cases in which explicit permission is asked. In most cases, consent is derived from the behaviour and actions of the patient. There are few cases in which complaints were followed by legal proceedings on the absence or misinterpretation of permission (Legemaate 2006). In 1999 the Medical Treatment Agreement Act (WGBO) was evaluated. In general, the attitude of physicians towards informed consent is positive. However, in practice, physicians experience some problems in the implementation of specific rules,

such as the regulation on cases in which consent may be presumed (Dute et al. 2000). Other laws in which informed consent plays a role are the Medical Research Involving Human Subjects Act (WMO), Organ Donation Act (WOD) and the Psychiatric Hospitals Compulsory Admissions Act (*Wet bijzondere opnemingen in psychiatrische ziekenhuizen,* BOPZ).

2.5.3.3 Right to privacy

Supervision on the use and protection of personal data in order to protect privacy is performed by the Data Protection Authority (*College Bescherming Persoonsgegevens,* CBP). The Authority acts in compliance with the Personal Data Protection Act (*Wet bescherming persoonsgegevens,* Wbp). Health care specific regulation on the privacy and confidentiality of patient information is specified in the Medical Treatment Agreement Act (WGBO). Patients have the right to access their medical files and to the correction, adjustment and deletion of personal and medical data.

2.5.3.4. Right to quality

Rights concerning quality of care are regulated in different laws, which do not provide any detailed requirements on quality of care. However, health care institutions have to provide "responsible" care on the basis of a quality system according to the Quality of Health Facilities Act (*Kwaliteitswet Zorginstellingen,* KZi) (Ministry of Health, Welfare and Sport 1997). In this Act, responsible care is defined as "care of a good quality, which is provided effective, efficient and patient oriented and which is responsive to the actual need of the patient". The concept of responsible care can also be derived from the Individual Health Care Professions Act (*Wet Beroepen Individuele Gezondheidszorg,* BIG), the Medical Treatment Agreement Act (WGBO) and the Health Insurance Act (Zvw). Responsible care is not a direct right of the Dutch patient, but arises from the obligations of the health care provider in this area (Legemaate 2006). Furthermore, patients have the right to choose and change their own physician.

The Dutch government has developed the programme "Seven rights for the patient in health care" to strengthen the position of the patient. The idea of the programme is that the influence of patients in health care should be increased, since roles of health care have changed as a consequence of the implementation of the new health care system in 2006. The programme addresses: (1) the right to available and accessible care; (2) the right to have choice and to information that supports making informed choices; (3) the right to quality and safety; (4) the right to information, consent, medical file keeping and privacy; (5) the right to coordination between health care providers; (6) the right to effective, accessible treatment of complaints and disputes; and finally (7) the right to participation

and good governance. To guarantee these rights some policy proposals have been made. An example of a proposal is to provide hospitals with a budget to enable them to guarantee accessibility of emergency care (Parliament 2008).

2.5.4 Patient participation/involvement

During the 1970s it became clear that there was a greater need for patient participation and involvement in health care; patients had no influence on, for example, the policies of hospitals. Since then, much has changed (Trappenburg 2008). Democratization and emancipation of patients played an important role throughout the 1970s and 1980s. During these decades, patients became collectively more involved in health care, which resulted in patients influencing issues such as insurance policies, medical guidelines and medical scientific research (Trappenburg 2008). However, since the late 1990s, the emphasis on patient involvement has shifted more towards the individual level. Individual patients are now seen as actors participating in the health insurance and health care provision markets. Next to the formal participation forms such as representation councils, their involvement consists of making individual choices with regard to health insurers and providers. In Dutch health care there are many groups which represent the interests of patients. One of the most important organizations when it comes to patient participation is the NPCF (see Section 2.3 *Organizational overview*).

2.5.4.1 Involvement with health care providers

Patients can influence the policies of health care institutions. Since 1996, collectively financed organizations in the fields of social care and health care are obliged to have a representative client council to safeguard the interests of the patient. This formal right for patients to be involved with health care has been laid down in the Client Representation Act (*Wet Medezeggenschap Cliënten Zorginstellingen,* WMCZ). The Act gives clients the possibility to make recommendations with regard to several topics, such as the budget, annual accounts and important changes in the organization. The objectives of formal participation are the reinforcement of the clients' legal position and the harmonization between supply and demand. The client councils, resulting from the Client Representation Act, have not been shown to be meeting these goals in an effective and efficient way. Hospitals for example, experience difficulties in installing a representative council, since this requires a lasting relationship between the organization and patients. Also, compared with the costs of other forms of patient participation, the costs of the councils turned out to be relatively high (Van der Voet 2005).

2.5.4.2 Involvement with health insurers

With regard to purchasing decisions in health care, health insurers are obliged to involve patients in these decisions. According to the Health Insurance Act (Zvw), patients should be enabled to influence the policy of insurers to a reasonable extent. This influence can be realized in different ways. Examples include health insurers conducting satisfaction surveys among insured persons or health insurers setting up a Members Council. The councils consist of elected insured persons and may be given the authority to determine the annual accounts or to advise the board of directors. In 2000 a study among members of councils of the former sickness funds has shown that 39.4% found their influence to be low or fairly low, while 49.2% found their influence to be fairly high or high (Van der Schee et al. 2000). The Health Care Authority (NZa) supervises the obligation for health insurers to involve patients.

2.5.5 Complaints procedures (mediation, claims)

There are different possibilities for patients to file their complaints with regard to health care providers in the Dutch health care system. Patients who want to lodge a complaint are not obliged to follow a certain pathway. The options described in Table 2.1 are directly accessible. It is possible for patients to lodge the same complaint more than once. If a patient chooses another pathway the process can have another outcome. It is not known, however, how often this happens (Legemaate 2006).

Table 2.1

Parallel options for patients to complain regarding health care services

Directly to health care provider	• Can also be mediated through complaints officer or complaints service
Complaints committee	• Obligation for all health care providers to set up complaints committees • Appeal only possible for patients of psychiatric hospitals
Disciplinary board	• Applies to physicians, dentists, pharmacists, health care psychologists, psychotherapists, physiotherapists, midwives and nurses • Appeal possible at Central Disciplinary Board
Dispute committee	• Only applicable if provider has joined a dispute committee • Financial compensation when caregiver agrees • No possibility to make an appeal
Other options	• Penal Code, Civil Law, Labour Law and Criminal Law • Professional codes or codes of conduct

2.5.5.1 Directly to health care provider

First, patients can complain directly to the health care provider. Patients can also go to a complaints officer or to the Health Care Information and Complaints Service (*Informatie- en Klachtbureaus Gezondheidszorg,* IKG) (Hout 2006). Complaints officers are sometimes hired by the health care provider and can act as mediators between patients and doctors. The information and complaint services operate independently from the health care providers. The services are set up to provide information to patients and to support them in case of complaints. Furthermore, psychiatric hospitals have to give patients the possibility to consult a patients' confidant according to the Psychiatric Hospitals Compulsory Admissions Act (BOPZ). The role of patients' confidants has not been legislated by law within other sectors of health care (Legemaate 2006).

2.5.5.2 Complaints committee

Second, if patients want to complain about an institution or individual person in health care, they have the option to turn to a complaints committee (Hout 2006). According to the Act governing the right of clients in care to complain (*Wet klachtrecht clienten zorgsector,* WKCZ), all health care providers have to set up a complaints committee. Complaints committees consist of at least three members. The chair of the committee cannot be employed by or working for the provider. If the complaint is considered to be valid, the committee can make recommendations for the health care provider. There are no measures or sanctions that can be enforced by a complaints committee. When a complaint has been dealt with, it is not possible to make an appeal. Compared to the informal way described in the paragraph above, relatively few complaints are made by patients through a complaints committee (Legemaate 2006). However, research from 2004 found that two-thirds of the patients were satisfied with the conduct of the complaints committees of hospitals (Friele, Sluijs and Legemaate 2008). In 2008 this was 74% (Kruikemeier et al. 2009).

Patients can lodge a complaint with the boards of psychiatric hospitals, according to Article 41 of the Psychiatric Hospitals Compulsory Admissions Act (BOPZ). Subsequently the board has to set up a committee that will deal with the complaint. This regulation differs in three important ways from the rulings in the Act governing the right of clients in care to complain (WKCZ). First, the grounds on which a complaint can be made are limited; second the committee can suspend the procedure against which the complaint is directed; and, finally, the patient can appeal if the committee decides that the complaint is unfounded (Legemaate 2006).

2.5.5.3 Disciplinary board

Third, the Dutch government has set up a disciplinary system on complaints against physicians, dentists, pharmacists, health care psychologists, psychotherapists, physiotherapists, midwives and nurses. According to the Individual Health Care Professions Act (BIG), any person who is directly involved can make a complaint at one of the five regional disciplinary boards, which consist of legally qualified members and health professionals (Hout 2006). A complaint, either by organizations or individuals, can also be made via the Health Care Inspectorate (IGZ). The complaints made by individuals may concern violation of disciplinary standards, such as actions or lack of actions that are in conflict with care for the patient or with good professional practice. A disciplinary board can take different measures, which are, in order of severity: (1) a warning, (2) a reprimand, (3) a fine up to a maximum amount of €4500, (4) a temporary suspension from the register for a maximum of one year, (5) partial denial of licence to practise the profession and (6) removal from the register. If the complaint is not considered valid, patients can appeal to the Central Disciplinary Board. The number of complaints to a disciplinary board made by patients and their families was about 1300 every year between 2003 and 2007 (Tuchtcolleges voor de Gezondheidszorg 2007). This represents one complaint per 300 health care providers per year (Hout, Friele and Legemaate 2009). Evidence from research on the experiences of patients with complaints shows that in 2008 75% were satisfied with the regional disciplinary boards (Kruikemeier et al. 2009).

2.5.5.4 Dispute committee

The complaints committees and disciplinary boards cannot grant financial compensation to patients. If a case requires financial compensation for damages, an assessment can be carried out by a dispute committee (Hout 2006). An example of damage can be an injury as a result of a medical error. The complaint first has to be reported to the health care provider. When a complaint is reported, the provider has to agree to the amount of compensation, which may not be higher than €5000. It is not always possible to have a dispute committee assess a complaint, since not all health care providers have joined a dispute committee (Health Care Inspectorate 2008). Before 2008 the dispute committees concerned only hospitals. The number of complaints was limited: in 2007 there were 42 new complaints and in the same year 26 complaints were assessed by a dispute committee. Furthermore, it is worth noticing that only 12% of complaints were found to be valid and 12% partly valid (Stichting Geschillencommissies voor Consumentenzaken 2007). It is not possible to make an appeal following the judgement of the dispute committee.

2.5.5.5 Other options

In addition to the specific regulations on health care, there are also general regulations which apply to complaints in health care. These are regulations from the Penal Code, Civil Law, Labour Law and Criminal Law. For patients Civil Law plays an important role. Rulings from the Civil Code and the Code of Civil Procedure enable financial compensation to be made. Each year only a limited number of complaints go to the civil court (Legemaate 2006). Furthermore, there are professional groups with their own professional codes or codes of conduct (Hout 2006). Patients can make a complaint to these organizations. The findings of the professional groups however, do not influence the registration of the physicians.

2.5.5.6 Complaints on health insurers

If patients disagree with health insurers' decisions, for example on the amount of reimbursement, they have the possibility to file a complaint with (1) the health insurer, (2) the Foundation for Complaints and Disputes Health care Insurances (*Stichting Klachten en Geschillen Zorgverzekeringen*) or (3) to make an appeal to court. A complaint directed to the Foundation may lead to mediation between insurer and consumer, or to binding advice of the Dispute Committee. In 2007, the number of complaints filed was 1440 and the number of filed disputes was 703 (Stichting Klachten en Geschillen Zorgverzekeringen 2007). Bearing in mind that in the Netherlands every citizen is insured, this number is relatively small.

2.5.6 Patient safety and compensation

To protect patient safety and prevent health care-related harm, umbrella organizations of health care providers have developed different safety programs. A well known programme is "Prevent harm, work safe" (*Voorkom schade, werk veilig*), which began on 1 January 2008. This programme is an initiative of the professional associations of hospitals, nurses and physicians. The programme is directed at reducing avoidable, unintentional harm by means of improvement projects and the implementation of a safety management system. Hospitals are obliged to implement a safety management system and the programme supports them in doing so (NVZ et al. 2008). The safety programme is a result of research on unintentional harm in Dutch hospitals. It was concluded that 5.7% of the patients are exposed to unintentional events with harm and that in 40% of these cases harm could have been prevented (De Bruijne et al. 2007). Other initiatives in the area of preventing health care-related harm are organized by umbrella organizations in, for example, mental health care and primary care.

The Health Care Inspectorate (IGZ) supervises the health care providers in the areas of quality and safety. According to the Quality of Health Facilities Act (KZi) health care providers have to report irregularities to the Inspectorate. An irregularity is defined as an unintentional or unexpected event with the consequence of death or severe permanent injury. For more details on quality supervision and quality management see Section 4.1.4 *Regulating quality of care*.

There are three phases in legal cases following health care-related harm. In the first phase it is decided whether the harm can be seen as an error or complication. If the harm could have been prevented by sufficient effort of the medical practitioner one speaks of an error. Otherwise the treatment has led to a complication. If the physician has made an error, it is the question whether there is a causal relationship between the treatment and error. In case of a complication it is questioned whether the patient has been well informed. If not, it is asked whether a reasonable patient, under the same circumstances, had given up the treatment. In the third phase the damage is determined. Cases rarely reach this third phase. If one does, the patient can receive compensation for loss in income or costs for household support for example. In general, compensation is organized through liability insurance of health care providers. In all phases of the legal cases the burden of proof lies with the patient. To support patients, physicians have to provide information on the treatment (Stichting De Ombudsman 2008).

Physicians are obliged to report severe adverse medical drug reactions to the Dutch Pharmacovigilance Centre (*Landelijke Registratie en Evaluatie van Bijwerkingen,* LAREB) (see 4.2.2 *Information systems*) according to the Medicines Act (*Geneesmiddelenwet*). Public advertising of prescription only pharmaceuticals or pharmaceuticals containing certain substances is forbidden. Both these regulations have been transposed from European legislation into Dutch law. For more information on the organization of pharmaceutical care, see Section 6.6 *Pharmaceutical care.*

2.5.7 Patient satisfaction

It is difficult to compare the results of the different Dutch studies into patient satisfaction with health care providers, since satisfaction has been measured by a variety of (research) agencies using different methodologies (Hendriks et al. 2008). However, since 2005, the Consumer Quality Index measures the general satisfaction of patients with health care, GPs and medical specialists. In 2008 patients were in general satisfied with health care. About 91% rated the health

care they received 7 or higher on a scale between 0 and 10. This was slightly less compared to the previous year (see Table 2.2). In 2008, 86.6% and 85.5% of the patients rated GPs and medical specialists respectively 7 or higher (Reitsma-van Rooijen et al. 2008).

Table 2.2
Ratings of the health system by the general public from 0 (very bad) to 10 (excellent)

	0–6	7–8	9–10
2005	9.5%	65.7%	24.8%
2006	10.2%	64.4%	25.5%
2007	8.4%	62.9%	28.7%
2008	9.1%	64.7%	26.2%

Sources: Damman et al. 2006; De Boer et al. 2007; Hendriks et al. 2005; Reitsma-van Rooijen et al. 2008.

Looking at the health system as a whole, it can be said that about 40% of Dutch people think that on the whole the system works well. In Germany and the United Kingdom people were less satisfied with the system (see Table 2.3).

Table 2.3
Overall satisfaction with the health care system

	Netherlands	Germany	United Kingdom
On the whole, the system works fairly well	42%	20%	26%
Fundamental changes are needed to make it work better	49%	51%	57%
The system needs to be completely rebuilt	9%	27%	15%

Source: Grol and Faber 2007.

2.5.8 Physical access

A specific regulation on physical access to health facilities can be found in the Building Decree (*Bouwbesluit*). The Decree has adapted a regulation for health facilities specifically aimed at accessibility for wheelchair users. In addition to the Building Decree there are also Dutch Standards (*NEderlandse Normen,* NEN). These standards contain agreements between stakeholders. There are specific NEN-standards on the accessibility of the environment of the building, buildings and houses.

Another arrangement to guarantee access for disabled people is the right to reimbursement of the costs for transport to health care facilities for treatments under basic health insurance and in some cases for care under the Exceptional

Medical Expenses Act (AWBZ). Persons who are entitled to this reimbursement are wheelchair users, patients who receive chemotherapy/radiotherapy and people with visual impairments or haemodialysis patients (Ministry of Health, Welfare and Sport 2009d).

In 2003 the accessibility of inpatient health care facilities for disabled with over 50 residents was generally good for wheelchair users. Accessibility for wheelchair users of inpatient health care facilities for disabled with less than 50 residents was less good, since living rooms, corridors and doors were smaller (Board for Health Care Institutions 2003a). In 2006, the nearest hospital with an emergency department was available for 99.6% of the population within 30 minutes of travel time. For half the population, travel time was less than 10 minutes. The travel times concern travelling in a private car to an emergency ward that is open 24 hours a day (Deuning 2008).

2.5.9 Patients and cross-border care

The Dutch regulations on cross-border care comply with European regulations and jurisprudence. The regulations and case law on cross-border care have been incorporated in the 2006 Health Insurance Act. People with basic health insurance have the right to reimbursement of health care services abroad according to the conditions and reimbursements levels of the act (Hamilton 2008). Next to the right to care according to the Health Insurance Act, people who live outside, but work within the Netherlands can be subject to the Act and therefore obliged to take out health insurance within the Netherlands. Furthermore, the Act regulates the payment of premiums of people who are not working in the Netherlands, but who have a right to care under basic health insurance (Hamilton 2008). The Netherlands was one of the first countries in the EU to implement these regulations and case law. For insured Dutch persons, arrangements have been made with the other EU/European Economic Area (EEA) countries and with Australia, Bosnia and Herzegovina, Cape Verde, Croatia, the former Yugoslav Republic of Macedonia, Morocco, Serbia, Montenegro, Tunisia and Turkey. Costs for care in these countries will be reimbursed, often under certain conditions (Health Care Insurance Board 2009a). Unfortunately, there is no systematic centralized collection of cross-border care data in the Netherlands.

In 2007, 80% of Dutch people knew that they were entitled to receive medical treatment in another EU country and be reimbursed for that treatment by the national health authority or insurer (Gallup Organization 2007). Most patients using health care abroad are either those who work abroad or immigrants. Reasons for the few other people to cross borders are waiting times or shorter distance from home to a foreign health care facility than to a facility in their own country (Brouwer et al. 2003). Patients are also willing to travel abroad for medical specialist with a good reputation (Loermans and De Jong 2008).

In 2006 there were many cross-border arrangements between the Netherlands and Belgium, and to a lesser extent between the Netherlands and Germany. These cross-border arrangements are mostly based on bilateral agreements between providers and health insurers/sickness funds across borders; they therefore function in parallel to the opportunities enabled by European regulations and case law. There was insufficient information on the number of patients making use of cross-border arrangements. Nevertheless, an arrangement between the university hospitals of Maastricht and Aachen came along with significant patient flows (Busse et al. 2006).

At the moment (2009) there are many Dutch health insurers that have agreements with health care providers abroad. For example, the insurer VGZ has made arrangements with six hospitals in Belgium regarding inpatient and outpatient care (excluding several treatments such as plastic surgery). There are also arrangements with three hospitals in Germany on knee and hip surgeries, including rehabilitation (VGZ 2009).

There are distinctions in willingness to travel between different groups. People who live in the border area, and younger people, have a higher willingness to travel abroad than people outside the border area and older people. Patients with higher incomes are more willing to travel to other countries for medical specialist care than people with lower incomes (Loermans and De Jong 2008). Overall, in 2007 77% of the Dutch people said that they were willing to travel to another EU country to receive medical treatment. In the same year, 4% said they had received medical treatment in another EU member state in the last 12 months. This percentage is equal to the EU27 average (Gallup Organization 2007).

3. Financing

In the Netherlands, 8.9% of GDP was spent on health care in 2007 (OECD 2008a). Between 1998 and 2007 the expenditure (in constant prices) increased in real terms by 38% (Statistics Netherlands 2008a). The Dutch health insurance system is divided into three so-called compartments (*compartimenten*).

The first compartment consists of a compulsory SHI scheme for long-term care. This scheme is intended to provide the insured with chronic and continuous care that involves considerable financial consequences, such as care for disabled people with congenital physical or mental disorders. This is regulated in the Exceptional Medical Expenses Act (AWBZ). The AWBZ is a compulsory scheme that is mainly financed through income-dependent contributions. The AWBZ comprises 41% of contribution-financed[1] health care in the Netherlands in 2008 (Tweede Kamer der Staten-Generaal 2009b). A complicated (means-tested) income-dependent cost-sharing system applies to individuals using AWBZ care. The care is provided after a needs assessment and the provision of care is organized via care offices (*Zorgkantoren*). Care offices operate independently, but are closely allied to health insurers.

The second compartment consists of an SHI system covering the whole population for "basic health insurance". Basic health insurance covers essential curative care tested against the criteria of demonstrable efficacy, cost-effectiveness and the need for collective financing. The scheme is regulated by the Health Insurance Act (Zvw). Basic health insurance comprises of 59% contribution-financed health care in the Netherlands. All insured contribute to this scheme in two ways. First, they pay a flat-rate premium, the so-called nominal premium, directly to the health insurer of their choice. The nominal

[1] The term "contribution-financed" is here used for health care that is mainly financed through premiums and income-dependent contributions. Income may consist of salary and/or social security payments such as unemployment benefits or disability benefits and/or profit for entrepreneurs.

premium is community rated, which means that for each product an insurer must ask the same amount from each individual, independent of the individual's risk characteristics (Van de Ven and Schut 2007). Second, an income-dependent employer contribution is deducted through their payroll and transferred to the Health Insurance Fund. The resources from this Fund are then allocated among the health insurers according to a risk-adjustment system. A "health care allowance" should partly compensate those on lower incomes for their health insurance costs. The 2006 health reform was mainly aimed at this compartment (see Chapter 7 *Principal health care reforms*). Health insurers now operate under private law; can negotiate to a certain extent with health care providers on price, volume and quality of care; and are allowed to make a profit and pay dividends to shareholders. In combination with the AWBZ, the Zvw should ensure adequate health care coverage for the population.

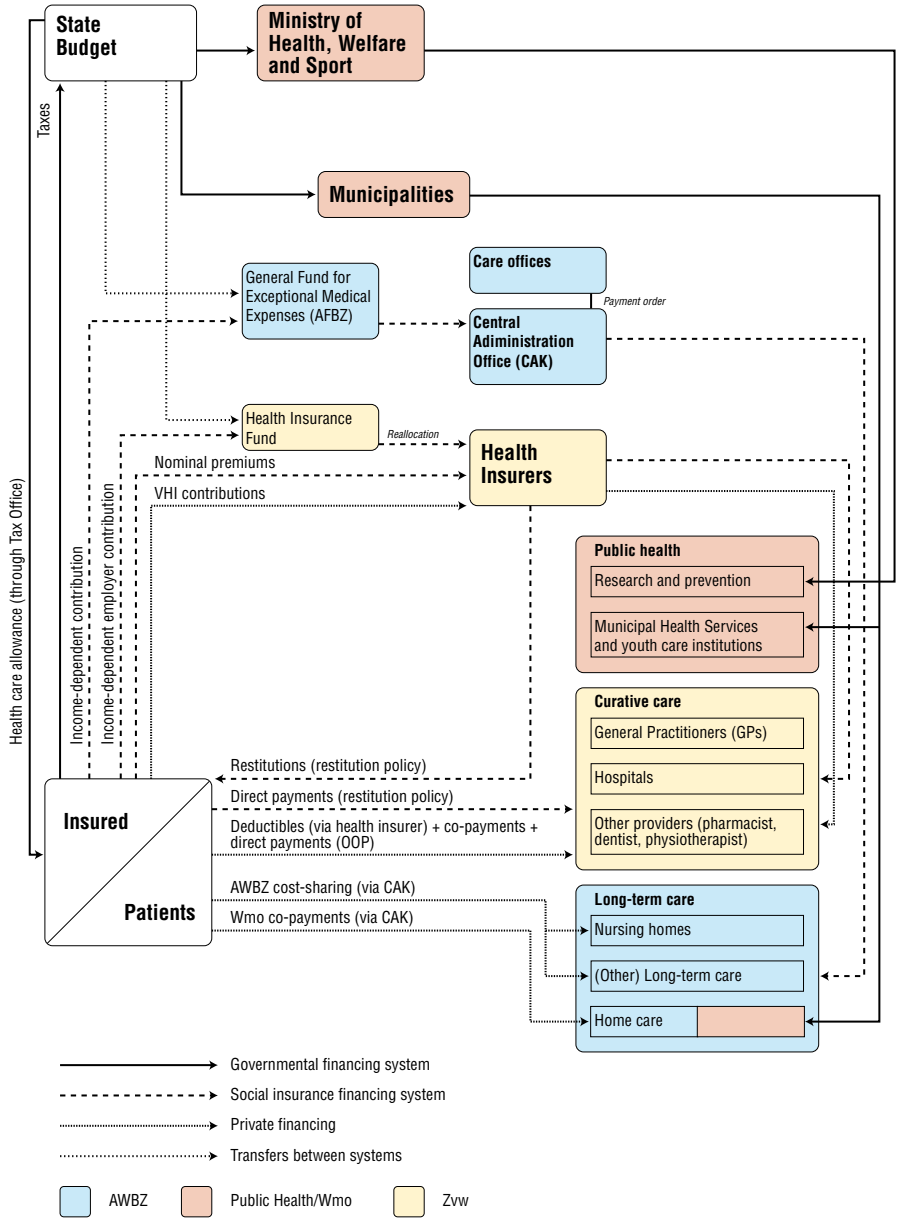
The third compartment consists of complementary voluntary health insurance (VHI), which may cover health services that are not covered under the AWBZ and Zvw schemes.

Prevention and social support (including certain home care services) are not part of the SHI or VHI, but are mainly financed through general taxation.

Since the introduction of the 2006 reform, the payment of the health care providers has also changed drastically. GPs are now paid via a combination of capitation fees and fee-for-service. For hospitals and mental care a system called Diagnosis and Treatment Combinations (*Diagnose behandel combinaties,* DBCs) is in place. Long-term care providers are paid according to care intensity packages. The care intensity of each patient is independently assessed. Both hospital payment and long-term care payment originate from the principle that money should follow the patient. For a schematic overview of the financing flows in the Netherlands, see Fig. 3.1. At present (late 2009) several transitional measures are still in place to prevent sudden large shortfalls resulting from the new payment systems.

Fig. 3.1

Financial flow chart of the health care system in the Netherlands



3.1 Health expenditure

In 2007, health care expenditure according to the System of Health Accounts definition as used by the OECD was 8.9% of GDP (see Fig. 3.2). Health care expenditure as a share of GDP reveals that between 1990 and 2005 these expenditures were consequently on, or slightly below, the EU15 average (see Fig. 3.2 and Fig. 3.3). In terms of per capita expenditure (in US$ PPP), health expenditure in the Netherlands was above the EU15 average in 2006 (see Fig. 3.4). The fact that per capita expenditure is above the EU15 average while health care expenditure as a share of GDP is below this average can be explained by the high (above EU15) average per capita incomes in the Netherlands. Health expenditure from public sources in the Netherlands (81.5% in 2007) was slightly above the average in EU15 (76.8%) (see Fig. 3.5). Before the 2006 health reform, the Netherlands had a much lower public share, ranging from 62.7% in 1999 to 64.8% in 2005 (WHO Regional Office for Europe 2009). The higher post-2006 shares are the result of the abolition of the substitutive private health insurance system, which covered around 30% of the population. These people are now covered under the Health Insurance Act (Zvw) and obliged to take out (publicly funded) basic health insurance.

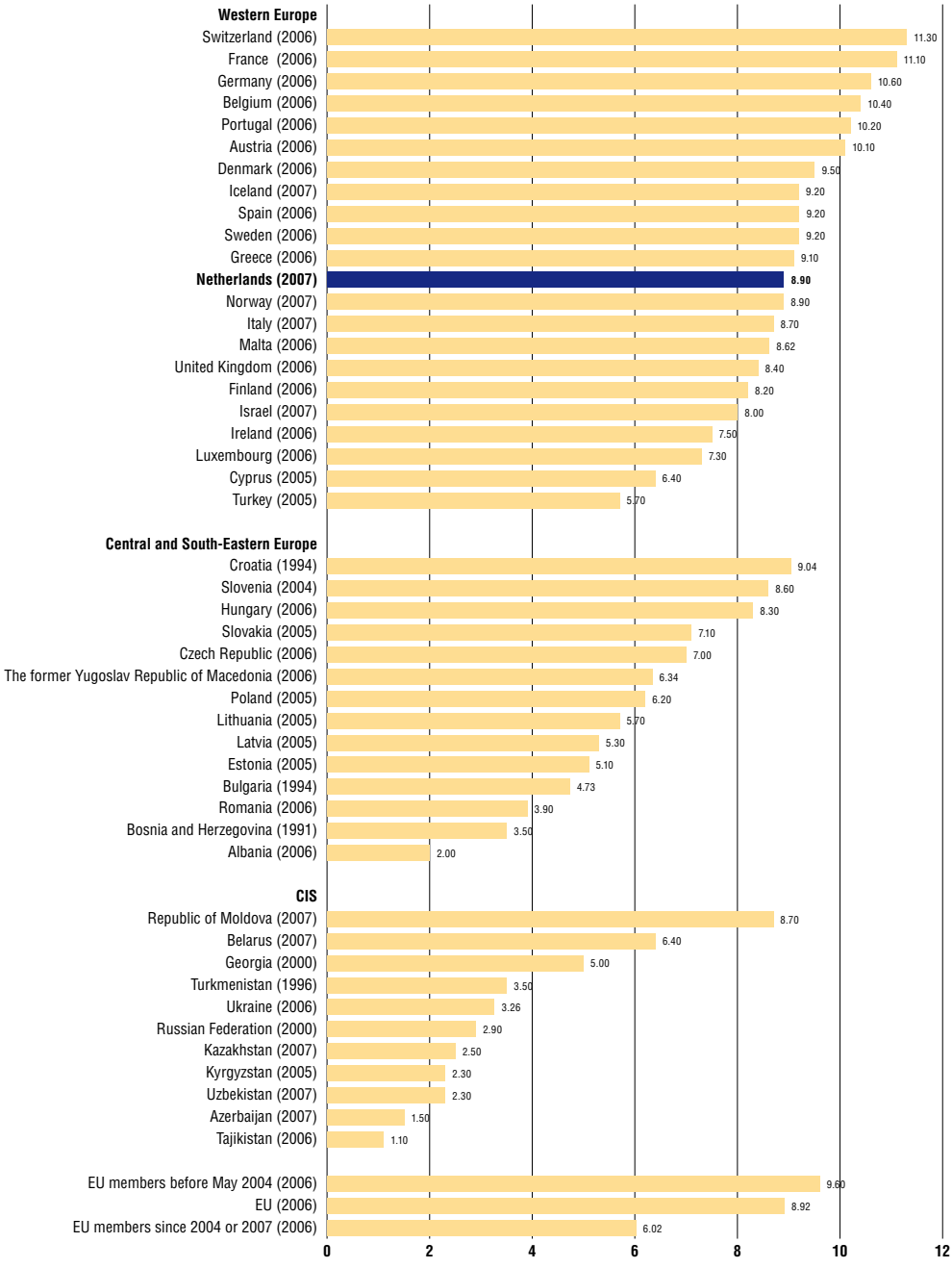
Total care expenditure[2] (which is more broadly defined compared to the System of Health Accounts and includes both social care and health care expenditures) as a share of GDP has increased between 2000 and 2005, but has been constant since (see Table 3.1). However, when evaluated in constant prices, expenditure in 2007 was 38% higher when compared to 1998. Expenditures of the different health care providers as a share of total care expenditure have remained relatively constant over the years (see Table 3.2).

From 2004 to 2007, health care expenditure grew in line with economic development. The favourable economic growth in this period has ensured that health expenditure as a proportion of GDP scarcely rose between 2004 and 2006 (Westert et al. 2008) (see also Table 3.1). The sectors with the highest share of total health care expenditure are the hospital and the elderly care sector (see Table 3.2). The new financing system, introduced through the 2006 health care reform, caused some start-up problems. As a result of the introduction

[2] There is a difference between health care expenditure according to the OECD System of Health Accounts and the care expenditure used by Statistics Netherlands (CBS). Statistics Netherlands uses a broader definition of care which includes, for instance, children's day care. The Ministry of Health, Welfare and Sport uses the Budgetary Framework Health Care (*Budgettair Kader Zorg,* BKZ), which provides an insight in public expenditure and budgetary policy (Council for Public Health and Health Care 2008b). For international comparisons, OECD definitions are used; for information on Dutch health care expenditure Statistics Netherlands (CBS) data is used.

Fig. 3.2

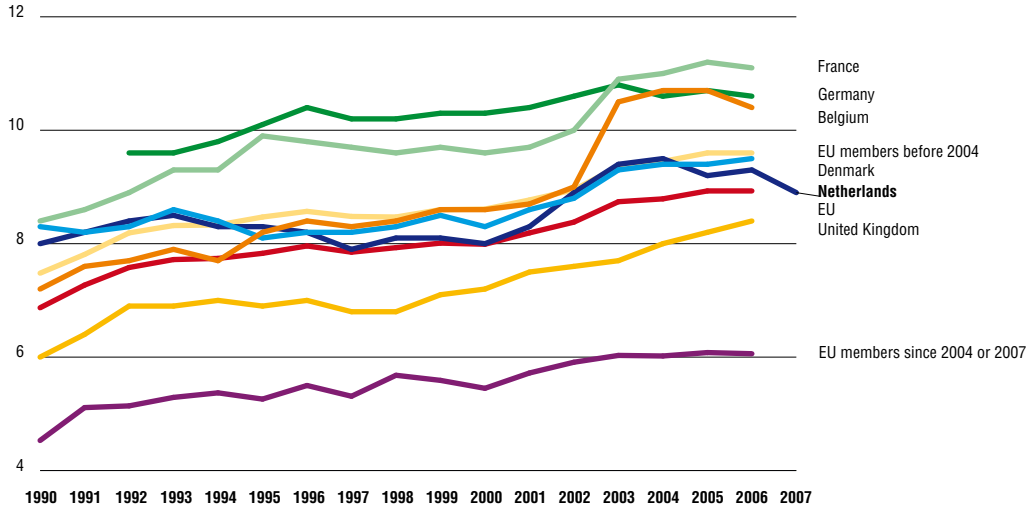
Health expenditure as a share (%) of GDP in the WHO European Region, or latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 3.3

Trends in health expenditure as a share (%) of GDP in the Netherlands and selected countries and averages, 1990 to latest available year

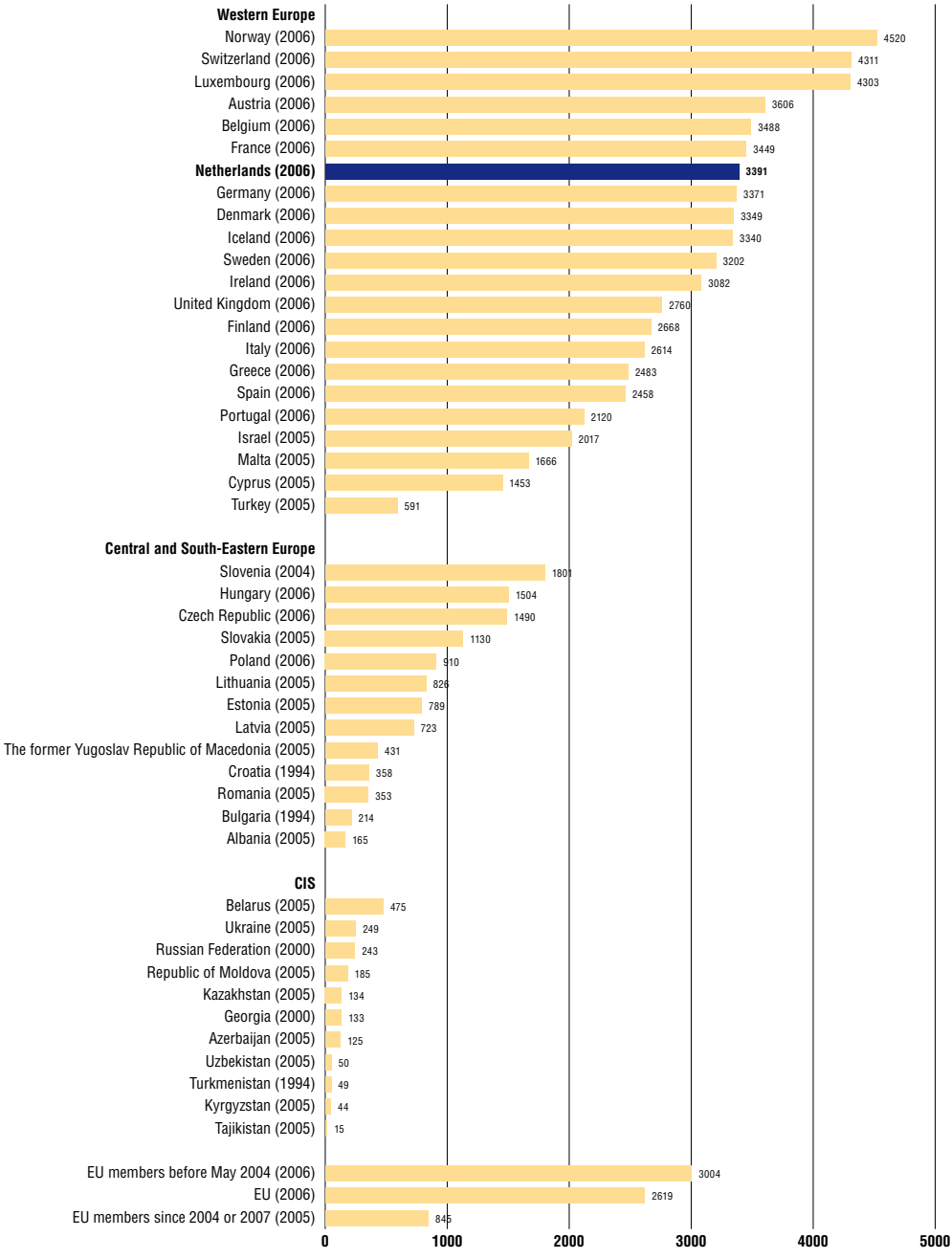


Source: WHO Regional Office for Europe 2009.

of the Diagnosis Treatment Combinations (DBCs) (see Section 3.6 *Payment mechanisms*), the hospital sector was overfunded in 2006 as the DBC tariffs were set too high. Hospital expenditures in 2006 rose by 7.9% compared to 2005, but this does not reveal the real growth. The real increase in expenditure was approximately 5%. The overfunding will have to be paid back to the health insurers. In Table 3.2 the figures are corrected for this overfunding of approximately €1.8 billion (Statistics Netherlands 2007b). The new financing system of GP care (see Section 3.6 *Payment mechanisms*) also led to an increase in expenditure of about 17% in 2006 (Te Brake et al. 2007; Westert et al. 2008). A study revealed that GPs (in full-time equivalents) generated an extra income of €54 257 in 2006. The higher revenue, 14% more than estimated, was mainly due to the level of the tariffs for consultations and a higher number of consultations than expected (Dutch Health Care Authority 2008f; Karssen, Schipper and Jurling 2009). According to the National Association of General Practitioners (LHV), this increase can be explained by the substitution of secondary care with primary care, resulting in more work for GPs and savings in secondary care.

Fig. 3.4

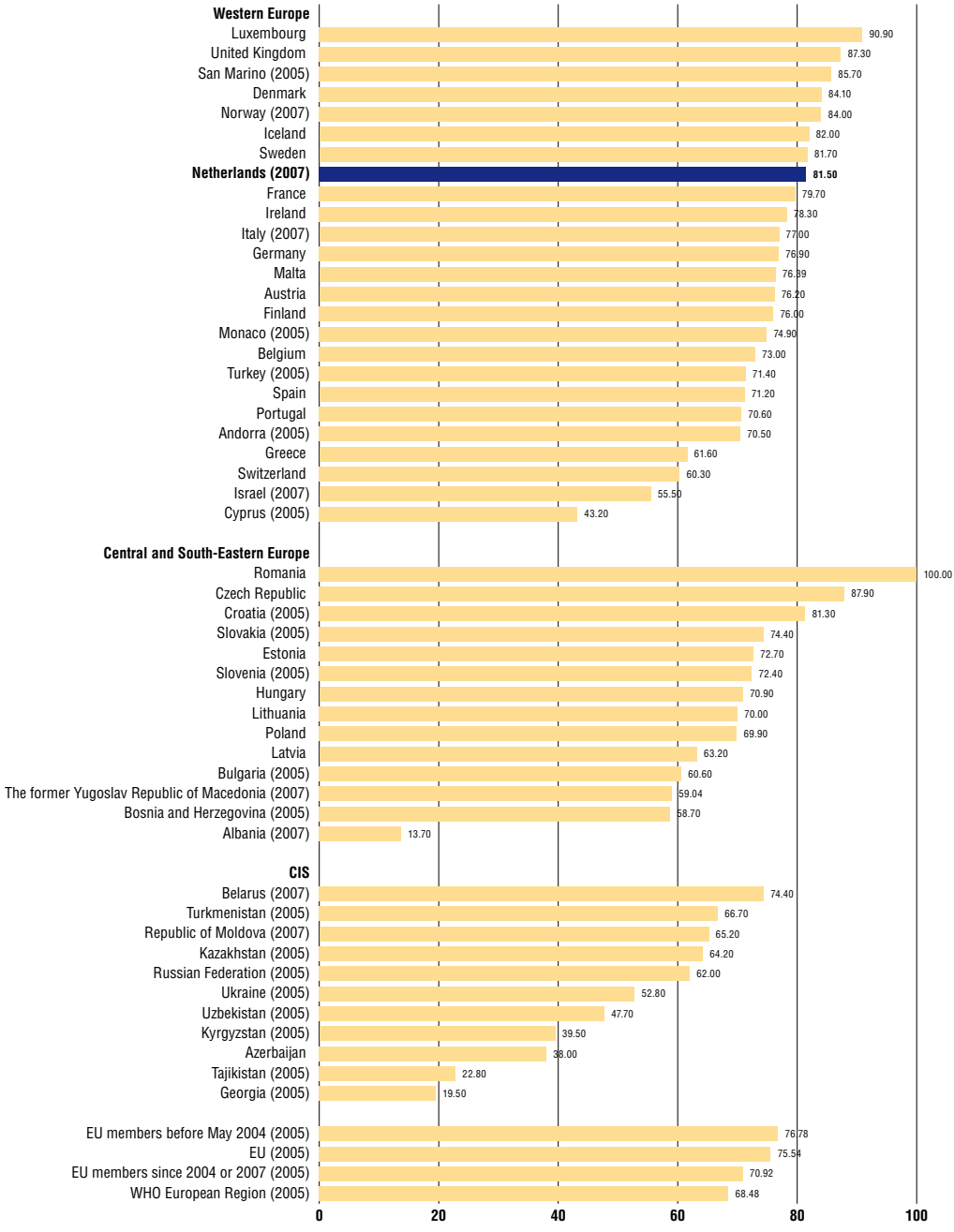
Health expenditure in US$ PPP per capita in the WHO European Region, latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 3.5

Health expenditure from public sources as a percentage of total health expenditure in the WHO European Region, 2006 or latest available year



Source: WHO Regional Office for Europe 2009.

Table 3.1

Trends in care expenditure in the Netherlands, 1990–2007

	1990		1995		2000		2005		2006		2007*	
		%		%		%		%		%		%
Expenditure (in million €)												
Health care	15 649	*59*	20 625	*59*	26 874	*57*	39 188	*58*	40 678	*58*	42 735	*58*
Social care	9 934	*37*	13 062	*37*	18 408	*39*	26 337	*39*	27 542	*39*	28 908	*39*
Management and control organizations	1 075	*4*	1 461	*4*	1 684	*4*	2 291	*3*	2 329	*3*	2 462	*3*
Total care expenditure	26 658	*100*	35 148	*100*	46 967	*100*	67 816	*100*	70 549	*100*	74 104	*100*
Financial sources (in million €)												
Government and social insurances	19 199	*72*	26 306	*75*	33 157	*71*	46 796	*69*	56 596	*80*	59 372	*80*
Government	5 018	*19*	6 706	*19*	6 521	*14*	7 708	*11*	7 854	*11*	10 071	*14*
Health Insurance Act/sickness fund act (Zvw/ZFW, before 2006)	6 940	*26*	12 030	*34*	12 687	*27*	17 635	*26*	26 247	*37*	26 979	*36*
Exceptional Medical Expenses Act (AWBZ)	7 241	*27*	7 570	*22*	14 492	*31*	22 040	*32*	23 104	*33*	22 961	*31*
Other sources of financing	7 459	*28*	8 842	*25*	13 266	*28*	20 433	*30*	13 343	*19*	14 093	*19*
Complementary VHI	n/a		n/a		5 705	*12*	9 004	*13*	2 904	*4*	3 241	*4*
Out-of-pocket payments	n/a		n/a		4 195	*9*	6 986	*10*	6 661	*9*	7 111	*10*
Other sources of financing	n/a		n/a		3 366	*7*	4 443	*7*	3 779	*5*	3 741	*5*
Total care financing	26 658	*100*	35 148	*100*	46 967	*100*	67 816	*100*	70 549	*100*	74 104	*100*
Care expenditure per capita in €	–		2 274		2 949		4 155		4 316		4 524	–
Care expenditure as % of gross domestic product	–		11.5		11.2		13.2		13.1		13.1	–
Index figures of care (1998 = 100)												
Expenditure on health care	–		–		114		166		172		181	–
Expenditure on social care	–		–		118		168		176		185	–
Dutch population	–		–		101		104		104		104	–
Expenditure per capita	–		–		113		160		166		174	–
Care expenditure in constant prices	–		–		107		130		134		138	–

Sources: Statistics Netherlands 2008a; Statistics Netherlands 2009j.
Notes: *Provisional data. Between 2005 and 2006 there is a break in the series because of the introduction of the health care reform in 2006,n/a = not available.

Table 3.2
Care expenditure by provider

	1998		2000		2005		2006		2007*	
Health care expenditure by providers	**Million Euro**	**%**	**Million Euro**	**%**	**Million Euro**	**%**	**Million Euro**	**%**	**Million Euro**	**%**
Hospitals and medical specialists	10 079	42.7	11 261	41.9	16 979	43.3	17 566	43.2	18 315	42.9
Mental care	2 262	9.6	2 572	9.6	4 048	10.3	4 208	10.3	4 497	10.5
General practitioners	1 318	5.6	1 492	5.6	1 970	5.0	2 296	5.6	2 446	5.7
Dentists	1 191	5.0	1 324	4.9	1 852	4.7	1 886	4.6	2 058	4.8
Ancillary care	778	3.3	915	3.4	1 227	3.1	1 471	3.6	1 632	3.8
Municipal health care	384	1.6	439	1.6	707	1.8	744	1.8	796	1.9
Occupational health care	679	2.9	872	3.2	1 137	2.9	1 030	2.5	963	2.3
Pharmaceutical care	3 363	14.2	4 006	14.9	5 482	14.0	5 601	13.8	5 980	14.0
Therapeutic devices	1 663	7.0	1 853	6.9	2 479	6.3	2 597	6.4	2 672	6.3
Providers of supportive services	619	2.6	737	2.7	1 145	2.9	1 190	2.9	1 184	2.8
Other health care providers	1 268	5.4	1 402	5.2	2 162	5.5	2 088	5.1	2 191	5.1
Total expenditure by health care providers	**23 602**	**100**	**26 874**	**100**	**39 188**	**100**	**40 678**	**100**	**42 735**	**100**
Providers of social care										
Care for the elderly	7 641	48.8	8 673	47.1	12 660	48.1	13 392	48.6	14 103	48.8
Care for the disabled	3 494	22.3	3 994	21.7	6 316	24.0	6 581	23.9	6 762	23.4
Other social care providers	4 514	28.8	5 743	31.2	7 361	27.9	7 569	27.5	8 044	27.8
Total social care providers	**15 648**	**100**	**18 408**	**100**	**26 337**	**100**	**27 542**	**100**	**28 908**	**100**
Organizations for administration and control										
Organizations for administration and control	1 578	3.9	1 684	3.6	2 291	3.4	2 329	3.3	2 462	3.3
Total expenditure on care	**40 828**	**100**	**46 967**	**100**	**67 816**	**100**	**70 549**	**100**	**74 104**	**100**

Source: Statistics Netherlands 2008a.
Note: *Provisional data.

There is a growing concern regarding the financial position of health care providers. As financial government support is now withdrawn gradually, health care providers are required to bear liability for capital costs in the future. On top of that, competition in the health care sector is increasing. Consequently, health care providers are bearing more financial risks (Westert et al. 2008). Nearly two-thirds of the health care organizations experienced a profitability decrease in 2006. This could be an indication of strong competition between health care providers. The solvency positions of providers have hardly increased and this is, in part, attributable to the small margins. For instance, the profit margin for Dutch hospitals in 2007 was 1.1% (SiRM 2008). The financial position of the majority of the providers does not meet the solvency requirement of 25%.[3] In 2006, the solvency of the hospital sector was 10% while in the long-term care sector this was 13%. This can make it harder for organizations to bear more risk and to acquire loans in the private market (Westert et al. 2008).

The health insurers, on balance, suffered a loss on basic health insurance as well as complementary VHI. As mobility was expected to increase dramatically in the first years after the reform, premiums were set below cost-covering level by the health insurers in order to attract more insured persons. However, in general the health insurers could afford this owing to the fact that their equity capital was higher than required, although the margin is decreasing. The Dutch Central Bank (DNB) reported that there was a continuing uncertainty about the financial position of health insurers due to policy changes between 2006 and 2008. These changes include the expansion of the basic health insurance package to include mental health care, the replacement of the no-claim restitution with a compulsory deductible, and an increase in the number of treatments for which free negotiations are allowed. This made it difficult for insurers to estimate the burden of claims and thus the calculation of a realistic premium was problematic (Dutch Central Bank 2008; Westert et al. 2008). The solvency requirement for health insurers was 8% in 2009 (9% in 2010). The solvency requirement is imposed upon health insurers by the Dutch Central Bank (DNB). This is lower than required by the European guidelines for indemnity insurers, because Dutch health insurers implement a social health insurance system, for which a lower solvency is considered sufficient. This is regulated by the Health Insurance Act (Zvw).

[3] The solvency rate is an indication of the ability of organizations to meet their financial obligations in the long term. At organization level, this indicator is defined as the ratio of equity capital to turnover.

The increased competition in the health insurance market and the setting of competitive premiums has put pressure on the profits of the health insurers. In the short term, this will not threaten the affordability of health care as health insurers have a strong capital position. However, in the long-term, continuing losses may lead to a sudden strong increase of the nominal premium.

3.2 Population coverage and basis for entitlement

3.2.1 Population coverage and content of basic health insurance under the Health Insurance Act (Zvw)

Basic health insurance is obligatory for all Dutch residents. Those working in the Netherlands and paying income tax to the Tax Office (*Belastingdienst*) but living abroad are also compulsorily insured. For two groups of persons an exception was made. The first group are persons who refuse to insure themselves on grounds of religious beliefs or their philosophy of life (*gemoedsbezwaarden*). They do not have to take out basic health insurance but have to pay a general income tax equal to the income-dependent employer contribution. These contributions are deposited in personal accounts (i.e. there is no pooling), which are managed by the Health Care Insurance Board (CVZ). The health care expenditures for these individuals are reimbursed from their personal account. If health care expenditure exceeds the credit on the account, the individual has to pay the costs out-of-pocket. An application for acknowledgement as "*gemoedsbezwaarde*" should be requested at the Social Insurance Bank (*Sociale Verzekeringsbank*) (Postbus 51 2009). The second group are members of the armed forces. The Ministry of Defence finances and organizes health care for military personnel.

Children under the age of 18 are insured free of charge but have to be included in one of the parents' policies. Most insurers also offer free complementary VHI for children together with the parents' complementary VHI policy (Roos and Schut 2008). The nominal premium for children is paid by the government and amounted to €2.2 billion in 2007 (Dutch Government 2007). If the child is under supervision of a guardian, the guardian is responsible to take out the free-of-charge insurance on behalf of the child.

The benefit package of the basic health insurance in 2009 consisted of:

- medical care, including care provided by GPs, hospitals, medical specialists and midwives;
- hospital stay;
- dental care for children until the age of 22. For older people only specialist dental care and a set of false teeth are covered;
- medical aids and devices;
- pharmaceutical care;
- maternity care (midwifery care and maternity care assistance);
- transportation of sick people by ambulance or taxi;
- professions additional to medicine (allied health care): physiotherapy for persons with a chronic medical condition (the first 10 sessions per year are excluded); exercise therapy and dietary advice to a limited extent; speech therapy; and
- mental care: ambulatory mental care (primary care psychologist: eight sessions) and inpatient mental care for the first year, (after one year, inpatient mental care is considered long-term care and financed by the Exceptional Medical Expenses Act (AWBZ)).

The benefit package is defined by the government, based on an advice of the Health Insurance Board (CVZ). When there is need for clarification, a detailed interpretation of the package is delegated to the Health Care Insurance Board.

For some treatments, there are exclusions from the basic insurance package:

- for allied health care, generally, a maximum number of sessions are reimbursed;
- for physiotherapy this limitation is not applicable for a fixed list of chronic diseases;
- some elective procedures, for instance cosmetic plastic surgery without a medical indication, are excluded; and
- in vitro fertilization: only the first three attempts are included.

Since 2008 for all care except GP care, obstetric and maternity care and dental care under the age of 22, there is a compulsory deductible (in 2009 the deductible amounts to €155; see Section 3.3.3 *Out-of-pocket payments*). Reimbursement for pharmaceutical care is based on a reference pricing system

called the Medicine Reimbursement System (*Geneesmiddelen Vergoedings Systeem,* GVS). This system categorizes pharmaceuticals in groups of therapeutic equivalents (also see Section 6.6 *Pharmaceutical care*).

Health insurers have to offer the basic benefit package. They may only compete on service, price and quality of care, and citizens are free to switch insurers yearly. The insurers may offer two kinds of policies: a benefits in-kind (*natura*) policy and a restitution (*restitutie*) policy. The type of policy influences the access the insured has to health care providers.

The in-kind policy implies that insurers have to provide care to their insured persons through health care providers that are either employed or contracted by the insurer. The insured person does not receive a bill for the provided care. If the insured person decides to choose a non-contracted provider, the health insurer may establish the level of the compensation for the insured person. The compensation should, however, be such that the choice of a non-contracted provider remains a financially feasible option. Providers are obliged to publish their tariffs for non-contracted care (also see "walk-in" tariffs in Section 3.5 *Purchasing and purchaser–provider relations*). In 2009 selective contracting was applied only to a limited degree and concerned more individual health care providers than hospitals (Dutch Health Care Authority 2009d).

The second type of policy is the restitution policy, which grants the insured a free choice of provider. In principle, the insured pay the bill out-of-pocket and are reimbursed afterwards by the health insurer, although in practice expensive health care bills are paid directly by the insurer. The health insurer is not allowed to limit the reimbursement for the insured person. However, the health insurer does not have to reimburse more than is considered reasonable in the Dutch health care market (in an order in council "reasonable" is described as in accordance with the market; Staat der Nederlanden 2005). The health insurer is obliged to mediate between patient and provider to facilitate the care requested by the insured person.

In practice, there are also combinations of these two policies. For instance, some insurers offer a restitution policy, but provide the opportunity for patients to pay bills directly to providers that have contracts with the insurer. In 2009, about 40% of Dutch citizens had an in-kind policy, about 25% a restitution policy and approximately one-third had a combination policy (Dutch Health Care Authority 2009d).

3.2.1.1 Uninsured

Although basic health insurance is compulsory, not every citizen is insured. In 2008, 171 000 persons were uninsured. This is 1% of the population (Statistics Netherlands 2009e). These persons can take out an insurance policy the moment they are in need of care, but they risk a penalty of 130% of total nominal premiums for the period they were uninsured (Ministry of Health, Welfare and Sport 2007b). Children under the age of 18 who are uninsured do not have to pay a penalty, but there is no reimbursement for their health care costs. In 2008 there were 35 000 children without insurance (Klink 2008a). In addition to the uninsured, there were 210 000 defaulters by late 2007. These are defined as persons who had not paid their premium for six months or more (Statistics Netherlands 2007b). Health insurers receive compensation from the government for defaulters on condition that the defaulters do not lose their coverage. Since the end of 2007, defaulters are not allowed to switch insurers before they have settled their debts. In this way, the insured cannot avoid the insurer's claim. However, the number of defaulters is still increasing, resulting in stricter measures, which entered into effect in September 2009. After two months of non-payment, defaulters receive a proposal for settlement. After four months they receive a warning letter. After six months, the Health Care Insurance Board (CVZ) charges an administrative fee of approximately €130. This fee will be charged monthly until the debt with the insurer is settled (Ministry of Health, Welfare and Sport 2009k).

Immigrants without a residence permit (illegal immigrants) cannot apply for basic health insurance. However, medically essential health care cannot be denied to them. In principle they have to pay for their health care out-of-pocket. If they cannot pay the bill themselves, the health care provider can, under certain conditions, receive a refund from the government. The regulation for the payment of care for illegal immigrants is the responsibility of the Health Care Insurance Board (CVZ). As of January 2009, two types of care were distinguished: directly accessible care and care that needs a referral or prescription. Directly accessible care consists of primary care (except pharmaceutical care) and emergency hospital care. Care that needs a referral or a prescription is only refunded to institutions that have a contract with the CVZ for this purpose. In order to receive a refund, the following conditions should be met: (1) there has to be an unpaid bill that cannot be collected from or on behalf of the patient; (2) the patient is not insured and cannot apply for insurance because of his or her illegal status; (3) the care should be essential; and (4) the care should be part of the basic health insurance package or the Exceptional Medical Expenses Act (AWBZ). The health care provider that

provides the treatment decides whether the care was essential with respect to the type of service, the nature of the treatment and the expected length of stay in the Netherlands. The compensation is in most cases 80% of the non-collectible expenses. For pregnancy and delivery, 100% of the non-collectible expenses are refunded (Health Care Insurance Board 2009c).

3.2.2 Population coverage and content of the Exceptional Medical Expenses Act (AWBZ)

The Exceptional Medical Expenses Act (AWBZ) is an SHI scheme for long-term care. This scheme is intended to provide for those with chronic conditions requiring continuous care that involves considerable financial consequences, such as care for disabled people with congenital physical or mental disorders. Everyone who is legally residing in the Netherlands and non-residents who are employed in, and therefore liable for payroll tax in the Netherlands, is compulsorily insured under this Act (Ministry of Health, Welfare and Sport 2007d). Exceptions are made for two groups, analogous to the exceptions for basic health insurance. The first group are persons who do not want to insure themselves on grounds of religious beliefs or philosophy of life (*gemoedsbezwaarden*). Instead of paying a contribution for the AWBZ, they have to pay a general income tax that is equal to the employer contribution for the AWBZ. However, they are still entitled to receive care under the AWBZ (Hoogervorst 2006). The second group are members of the armed forces, who are in active service. They are covered under the Military Health Care Service (*Militair Geneeskundige Dienst*).

3.2.2.1 Entitlements

The entitlements that exist under the Exceptional Medical Expenses Act (AWBZ) have been defined in terms of functions. The functions are broadly defined and should describe the need of the patient, thus following demand instead of supply. The functions are:

- personal care regarding activities of daily living: e.g. help with taking a shower, bed baths, dressing, shaving, skin care, going to the toilet, eating and drinking;
- nursing: e.g. dressing wounds, giving injections, advising on how to cope with illness, showing clients how to self-inject;

- guidance: e.g. helping the client organize his/her day and manage his/her life better, as well as day care or provision of daytime activities, or talking to the client to help him modify his behaviour or learn new forms of behaviour in cases where moderate to severe behavioural or psychological problems exist;
- treatment: e.g. care in connection with an ailment, such as dementia;
- accommodation: e.g. some people are not capable of living independent lives, but require, for example, sheltered housing or continuous supervision in connection with serious absent-mindedness. In some cases, a client's care requirements may be too great to address in a home environment, making admission to an institution necessary (Ministry of Health, Welfare and Sport 2007c; Ministry of Health, Welfare and Sport 2008a).

In addition, the insured is entitled to the use of a nursing aid for a maximum of 26 weeks because of a somatic disability or illness, the use of an interpreter for the deaf, examination into congenital diseases of the metabolism as regulated in the Regulation care entitlements AWBZ (*Regeling zorgaanspraken AWBZ*).

Health insurers have to implement the Exceptional Medical Expenses Act (AWBZ), a task which they often delegate to regional care offices (*Zorgkantoren*). People who are insured under the AWBZ and have basic health insurance with a health insurer are automatically registered for entitlements under the AWBZ. Before a person can qualify for care under the AWBZ, it is necessary to establish whether care is really required and, if so, what type of care and how much care are needed. The patient has to apply for a needs assessment (*indicatie*) at the Centre for Needs Assessment (CIZ). The CIZ defines, based on the situation of the patient, the need for care in terms of the care functions as mentioned above.

The client then has the choice of receiving his or her entitlement as benefits in kind, or in the form of a personal care budget (*persoonsgebonden budget*); a combination of the two is also possible. A client who opts for a personal budget may individually purchase care from professional organizations, but also from family or other non-professionals. If the client opts for benefits in kind, the care is organized by a Care Office. Care offices are organized regionally and are operated by the regionally dominant health insurer. This health insurer acts on behalf of all health insurers for the organization of care for people residing in a certain Care Office area. Administratively, the insured remains a member of his

or her (possibly different) health insurer for basic health insurance. The aim of these care offices is to contract health care providers for care that is sufficient, qualitatively suitable and efficient (Agis 2007).

Preventive health care such as childhood vaccinations, influenza vaccinations for the population at high risk, and cervical screening and breast cancer screening are since 2005 regulated under the Public Health Subsidy Regulation (*Subsidieregeling Publieke Gezondheid*). Previously, this care was provided under the AWBZ.

3.2.3 Financial protection

In the Netherlands, financial protection is organized separately from health care insurance. Employers have to pay sick employees 70% of their salary (up to a certain maximum) for the first two years of their illness. The first two days of sickness may be deducted from their salary. In most branches collective negotiations between employers and employees have resulted in a 100% salary payment in the first year of illness.

3.2.3.1 Maternity leave

Maternity leave is a right and allows for a leave of (at least) 16 weeks. Maternity leave may start six to four weeks before the expected date of birth. For employees on maternity leave, 100% of the salary is paid, with a maximum of approximately €4000 per month in 2008. The income in this period is compensated by the Social Security Implementation Body (*Uitvoeringsorgaan Werknemers Verzekeringen,* UWV). Since 2008, self-employed women are also entitled to receive an allowance depending on the income of the previous year with a maximum level of the legal minimum salary (Kennisring 2009).

3.2.3.2 Disability allowances

After two years of illness, employees receive a disability pension based on the percentage of income loss they experience due to their disability. The disability can be both mental and physical. Entitlement for a disability allowance and settlement of the percentage of disability is established by the Social Security Implementation Body (UWV). The disability allowance is up to 70% of the last income for those who are partly disabled. These individuals receive an allowance only for the percentage to which they are considered to be disabled. The allowance is up to 75% of the last income for those who are fully disabled (Act on Income and Labour, *Wet inkomen en arbeid,* WIA). This act was introduced in 2004 and replaced the Disablement Benefit Act (*Wet op de Arbeidsongeschiktheidsverzekering,* WAO). The main difference between both acts is that the period that employers have to continue to pay the salary was

extended from one year to two years. Under the Act on Income and Labour, the employer and employee both have to work on reintegration into the labour process during the two-year waiting period. A steady increase of persons who received a disability allowance led to a re-examination, since October 2004, of all persons younger than 45 years of age to establish their disability based on stricter rules. In total, 340 000 persons had to be re-examined. As a result, about 40% of the allowances were terminated and 10% were reduced (Ministry of Social Affairs 2005).

Persons who were disabled before reaching 17 years of age or who became disabled during their formal education are entitled to an allowance of maximum 75% of the legal minimum salary (*Wet arbeidsongeschiktheidsvoorziening voor jonggehandicapten,* Wajong).

3.2.3.3 Allowance for taking care of chronically ill family members

Family members who care for chronically ill people may receive an allowance of €250 per year in 2008 (*mantelzorgcompliment*).

3.2.4 Voluntary health insurance (VHI)

In the Netherlands, VHI can be characterized as complementary as it provides cover for services excluded or not fully covered by the SHI schemes under the Exceptional Medical Expenses Act (AWBZ) and Health Insurance Act (Zvw). Health insurers are allowed to refuse applicants based on medical risk. Health insurers offer a variety of complementary VHI that may cover all kinds of extra care or out-of-pocket payments, but not the €155 compulsory deductible. Health insurers are free to establish complementary VHI and may vary both the risks covered and the premium level. In 2009 91% of the insured took out complementary VHI (Dutch Health Care Authority 2009d). Most health insurers offer free complementary VHI for children. In most cases this is covered by the complementary VHI of the parent (Roos and Schut 2008; Smit et al. 2006).

Complementary VHI may include health care that is not evidence-based, health care that is not considered medically necessary and care that can reasonably be afforded by an individual. VHI covers for instance dental care (for adults older than 22 years), glasses or physiotherapy (for persons without a chronic indication). In addition, some co-payments may be covered, for instance for ambulatory mental care. Complementary VHI packages vary considerably among insurers, but also individual insurers offer several different packages.

Health insurers offer complementary VHI in combination with basic health insurance but are not allowed to deny persons complementary VHI if they decide to take out basic health insurance with another health insurer.

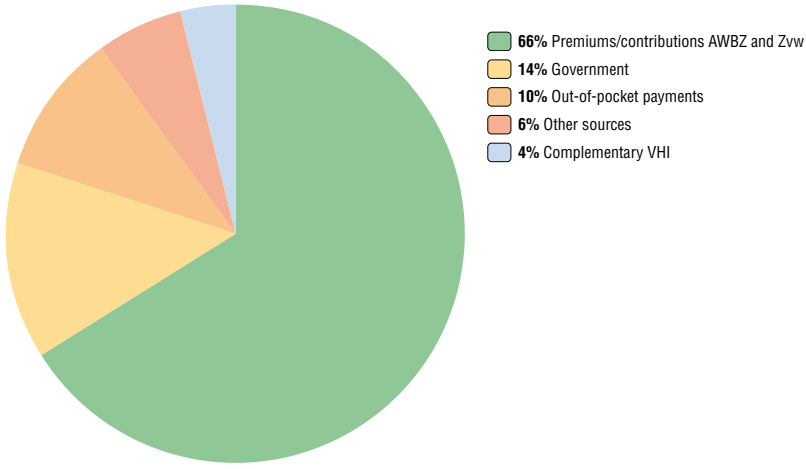
Before the 2006 health care reform, approximately one-third of the population was insured via substitutive VHI, whereas the other two-thirds were insured through a SHI scheme. The SHI scheme was compulsory for all employees with an income below a certain threshold. Independent entrepreneurs and employees with a higher income had no other option than to take out health insurance via private health insurers. After the reform substitutive VHI disappeared, and SHI became compulsory for all citizens via the Health Insurance Act (Zvw).

3.3 Revenue collection/sources of funds

In 2007, the health care sector was mainly financed by compulsory contributions and premiums (66%, of which 36% was for Zvw and 31% for AWBZ), followed by private expenditure (14%, of which 10% was for out-of-pocket payments, and 4% for complementary VHI) and government (14%) (see Fig. 3.6, cf. also Table 3.1).

The contribution of the Ministry of Health, Welfare and Sport in the health care budget mainly consists of the contribution for children under 18, compensations (health care allowance and compensation for disability), the development of the hospital financing system, health promotion and the costs of recognized training for medical and dental specialists and a number of medical specialties. The Social Support Act (Wmo) is funded from the municipalities through the Municipality Fund (*Gemeentefonds*).

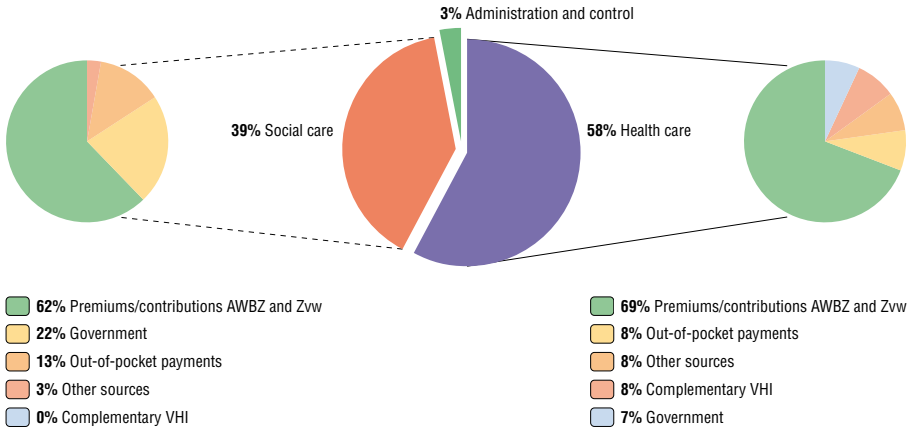
Fig. 3.6
Share of total health care financing



Source: Statistics Netherlands 2008a.

The highest share of government expenditure can be found in the social care sector, where the government finances one-fifth of the total social care expenditure (see Fig. 3.7).

Fig. 3.7
Share of health care expenditure and financing sources per type of care in 2007



Source: Statistics Netherlands 2008b.

3.3.1 Compulsory sources of financing

3.3.1.1 Basic health insurance under the Health Insurance Act (Zvw)

The nominal premium was on average around €1100 per year in 2008, approximately 6% of a net "modal income" (defined by the Netherlands Bureau for Economic Policy Analysis (*Centraal Planbureau,* CPB) as gross €32 500 per year) for 2009 in the Netherlands. In 2009, the nominal premium varied from €933 to €1150. Health insurers are free to set the nominal premium level. The insured persons pay these premiums directly to their health insurer. For children below the age of 18, the government covers the premium through a contribution into the Health Insurance Fund.

Insurers are not allowed to differentiate the premium of one specific policy for different groups of people. There is one exemption: insurers may offer collective contracts. Collective contracts are established between groups of insured (e.g. employers) and the health insurer. Insured people are free to join a collective policy or buy an individual policy. Health insurers are allowed to offer a maximum of 10% reduction on the individual premium. Collective arrangements can be made by several legal bodies such as employers and patient organizations. This system is established to give the insured more influence ("voice") on the health insurers. The threat of the loss of a large number of insured persons may persuade insurers to satisfy the members of the collective contract and compete on price and quality of care. In addition, successful negotiations may lead to more demand-driven care and care that is tailored to the needs of the target group of the collective (Groenewegen and De Jong 2007). In 2007, 56% of the insured persons participated in a collective insurance policy (Vektis 2008).

The income-dependent contribution is collected by the Tax Office, which levies the contribution from salary together with payroll taxes. For self-employed persons, the income-dependent contribution is based on the tax assessment of their income. The income-dependent contribution amounts to 6.9% of income (with a ceiling of €2233 per year) for employees and social security recipients in 2009. Employers are legally obliged to compensate their employees for their income-related contributions (independent of the chosen insurer) (Van de Ven and Schut 2007). These compensations are taxable income for the employees. For self-employed persons the contribution is 4.8% of income (with a ceiling of €1554 per year) in 2009. The different rate for employees and self-employed persons is based on the fact that employers and social security institutions have to compensate their employees for the income-dependent contribution (making it in effect an employer contribution), whereas self-employed persons have to

pay this contribution themselves. The lower rate and ceiling therefore seek to alleviate the financial burden on self-employed persons. After collecting all the contributions, the Tax Office transfers the money to the Health Insurance Fund (*Zorgverzekeringsfonds*), from which the money is allocated after risk adjustment to the health insurers (also see Section 3.4 *Pooling of funds*).

Until 2009, the premiums and contributions paid for basic health insurance were, above a certain threshold, tax-deductible under the regulation for the costs of extraordinary medical expenses (*buitengewone uitgaven regeling*). In 2009 this regulation was changed into an allowance for certain groups of chronically ill and disabled persons. Medical expenditures and costs for certain services (e.g. extra home help, disability devices) are still subject to tax-deduction, provided that they exceed a certain threshold and that no other means of compensation was available.

3.3.1.2 Health care allowance

To ensure access to basic health insurance under a system with flat-rate premiums and to compensate for undesired income effects for lower-income groups, a "health care allowance" funded from general tax was created under the Health Care Allowance Act (*Wet op de zorgtoeslag,* Wzt). To ensure the proper functioning of managed competition among health insurers, the allowance is not based on the premium burden as a result of the premium that was actually paid by the insured person, but on a "standard premium". The "standard premium" is the estimated average of the premiums offered by health insurers plus the compulsory deductible and is set by the Minister of Health (Ministry of Health, Welfare and Sport 2008b). As a result, insured persons who chose an insurer with a lower premium are not "punished" with a lower health care allowance. The Tax Office can pay the allowance either to the insured person or to the health insurer directly. The allowance is an advance payment per month and based on the final tax-assessment. Any difference between the total advance payment and the final entitlement will be settled with the individual. About one in three adult individuals received this allowance in 2006, ranging from €24 to €1155 (which is the maximum for families in 2007) per year, with an average of €690 (Statistics Netherlands 2007c). In 2009, the maximum income for receiving health care allowance is €32 502 per year for one-person households and €47 880 for families. The maximum allowance is €692 per year for one-person households and €1461 for families.

3.3.1.3 Exceptional Medical Expenses Act (AWBZ)

To cover the expenses for the AWBZ, a contribution of 12.15% is levied on the salary of citizens, with a maximum of €3838 per year (2008). This contribution is collected by the Tax Office. The revenues are transferred to the General Fund for Exceptional Medical Expenses (AFBZ), administered by the Health Care Insurance Board (CVZ).

3.3.1.4 Financing mental health care

Since 2008, mental health care is financed through basic health insurance under the Health Insurance Act (Zvw). This implies that for admission in a (mental) hospital no user charges are applicable. After 365 days, however, the financing of mental health care is transferred to the Exceptional Medical Expenses Act (AWBZ). From that moment, user charges are applicable for patients of 18 years and older. Also, for outpatient mental health care out-of-pocket payments in the form of deductibles exist (see Section 3.3.3 *Out-of-pocket payments*).

3.3.1.5 Financing social support

The Social Support Act (Wmo) is implemented by municipalities. The municipalities are compensated for the expenses related to social support from the contribution that the central government pays into the Municipalities Fund (*gemeentefonds*). The Municipality Fund provides municipalities with the financial means to perform their tasks, which include certain home care services. This construction was chosen to maximize the freedom that municipalities have to set their own policies and to minimize implementation expenses by reducing the administrative burden. Apart from the obligation for municipalities to provide care, central government does not impose any restrictions that limit the freedom of a municipality to set its own policy. As a consequence, municipalities differ in their needs assessments, which results to some extent in inequalities in access to care among citizens of different municipalities. Accountability for policy and implementation of the Social Support Act takes place primarily at municipal level.

3.3.2 Voluntary health insurance (VHI)

Most health insurers offer voluntary packages in combination with the basic-benefit package (Roos and Schut 2008). Unlike with basic health insurance, health insurers are free to set premium levels and may apply preferred risk selection for complementary VHI based on medical criteria or other risks. Most insurers make it unattractive to have VHI without basic insurance. As a result of preferred risk selection for VHI and the fact that almost all citizens have VHI,

access to basic health insurance may be influenced as well. At present (2009) this appears not to be the case (Roos and Schut 2009). The Dutch Health Care Authority (NZa) announced it was closely monitoring this phenomenon (Dutch Health Care Authority 2009d).

3.3.3 Out-of-pocket payments

3.3.3.1 Health Insurance Act (Zvw)

For basic health insurance, a compulsory deductible of €155 (2009) is levied for all individuals aged 18 or older. The deductible is levied on all health care expenditure, except general practice care, maternity care and dental care for those under the age of 22. The deductible should be paid to the health insurer. The deductible should make citizens more aware of the costs of health care in order to prevent undesired moral hazard, that is, the use or provision of more or more expensive medical services caused by the fact that expenditures are (partly) compensated by insurance (Schut and Rutten 2009).

Since 2009, health insurers may choose not to charge this deductible when patients (1) go to preferred providers, (2) use preferred pharmaceuticals (also see Section 6.6 *Pharmaceutical care*) or medical aids, or (3) follow preventive programmes for diabetes, depression, cardiovascular diseases, COPD (e.g. chronic bronchitis) or overweight (Ministry of Health, Welfare and Sport 2009j). Preferred providers are those providers that are contracted by the health insurers and that have made special agreements with the health insurer on price or quality of services. As of 2009, health insurers have only just begun to implement selective contracting or to encourage their insured to go to preferred providers. The deductible includes expenditure on pharmaceutical care, but co-payments for pharmaceuticals as a result of the Medicine Reimbursement System (GVS) (see Section 6.6 *Pharmaceutical care*) are not included in the compulsory deductible. Certain groups of chronically ill persons are partly compensated for this deductible. Groups of individuals with high medicine use and those living in long-term care institutions received a compensation of €47 (2008), transferred to them at the end of the year.

Health insurers offer in addition to the compulsory deductible a voluntary deductible, varying between €100 and the legal maximum of €500 per year. The level can be chosen each year by the insured. The choice for a voluntary deductible results in a reduction of the nominal premium. Health care expenses are first balanced with the compulsory deductible and then with the voluntary deductible, so a voluntary deductible of €500 results for the patient in a risk of

€655 (€155 + €500). For the voluntary deductible the same exemptions are in place as for the compulsory deductible (general practice care, maternity care and dental care for those under the age of 22).

The insurer is not allowed to extend the compulsory and voluntary deductible to complementary VHI reimbursements.

3.3.3.2 Exceptional Medical Expenditure Act (AWBZ)

For long-term inpatient care, a complicated system of income-dependent cost-sharing requirements exists, in the form of co-insurance with an out-of-pocket ceiling. Co-insurance means that the user pays a fixed share of the cost of a service, with a third party paying the remaining share. There are two types of co-insurance rates: the high co-insurance rate and the low co-insurance rate. For the first six months of care, all patients pay the low co-insurance rate. If patients have a partner and/or dependent children at home, they continue paying the low co-insurance. All others then have to start paying the high co-insurance rate. The amount of the co-insurance depends on the income. The low co-insurance is 12.5% of income (i.e. the insured pays up to 12.5% of his income, the remaining costs, if applicable, are paid via the AWBZ) with a €138.60 minimum and a €727.60 ceiling per month. The high co-insurance rate is 8.5% with a €1804.60 ceiling per month. The patient may keep a fixed pocket money and dressing allowance (between €3219 and €3864 for single people and €5006 and €6296 for couples per year). Until 2009, co-insurance above a certain threshold could be partly deducted from income taxes as extraordinary medical expenses. The co-insurance for inpatient long-term care is calculated and levied by the Central Administration Office (*Centraal administratiekantoor,* CAK).

For nursing care at home, an income-dependent cost-sharing system with out-of-pocket ceilings exists. The maximum tariff that patients have to pay for home nursing care is €12.60 per hour in 2009. The actual amount may be lower, depending on the income situation and age of the patient, as well as number of persons in the household. The cost-sharing requirements for home nursing care are also calculated and levied by the Central Administration Office (CAK). A one-person household of someone younger than 65 years and with an income below €21 703 pays a maximum out-of-pocket payment (*maximale periodebijdrage*) of €17.20 per period of four weeks. If the income is higher, 15% of the income above €21 703 has to be added to the maximum out-of-pocket payment. If the patient receives less care than the maximum payment, only the real expenditure has to be paid. For persons older than 65 years, the income limit for the lowest maximum out-of-pocket payment is €14 812. For

families, the maximum four-week period payment is €24.60 added to 15% of the income above the income limit. For persons below the age of 65 this income limit is €26 535 and for 65 years and older €20 431.

3.3.3.3 Mental health care

Outpatient mental health care is divided into primary care and secondary care. Primary care deals with relatively mild mental problems that require short-term interventions. There are eight sessions included in the basic health insurance package. The co-payment for the patient is €10 per session. Secondary mental care deals with mental problems that are too complex for short-term interventions. In 2008, a co-payment of €15.60 per consultation in secondary care is levied and there is no limit on the number of sessions (Nederlands Instituut van Psychologen 2008).

3.3.3.4 Social Support Act (Wmo)

An income-dependent cost-sharing system for home care provided under the Wmo also exists. For 2009, the Central Administration Office (CAK) uses the same calculation method as for nursing home care provided under the Exceptional Medical Expenses Act (AWBZ). However, municipalities are free to set their own maximum out-of-pocket payment. Patients who receive both home nursing care under the AWBZ and home care under the Wmo do not have to pay more than the maximum out-of-pocket payment for home nursing care. This maximum is set by the Central Administration Office (CAK).

3.4 Pooling of funds

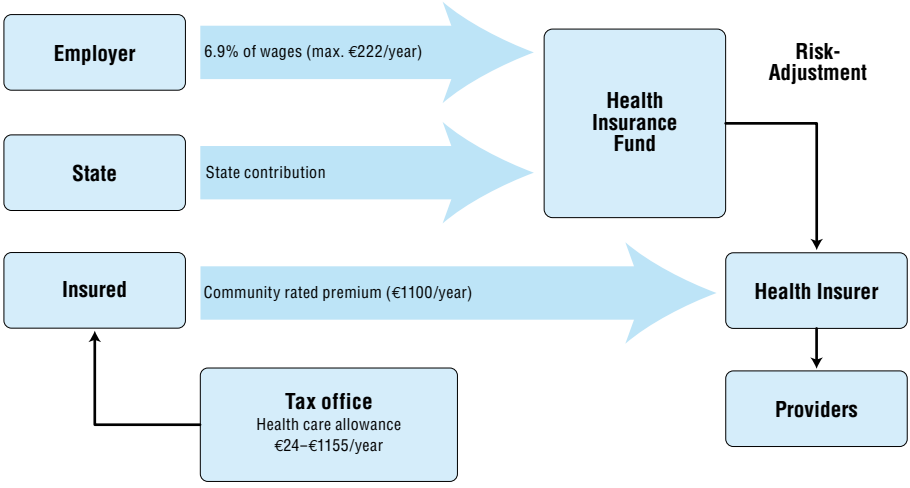
3.4.1 Pooling agencies and allocation

3.4.1.1 Basic health insurance under the Health Insurance Act (Zvw)

In the Netherlands, administering and providing basic health insurance is delegated to private health insurers. These insurers are funded by the nominal premium directly received from clients and a contribution from the Health Insurance Fund, which pools the income-dependent employer contributions (collected by the Tax Office) and the state contribution (e.g. to cover children under 18) (see Fig. 3.8). The allocation among the health insurers is based on the health risks profile of their insured population. The Health Insurance Fund and risk adjustment are administered by the Health Care Insurance Board (CVZ). The government sets the level of the income-dependent contribution, with the notion that, at national level, the total income-dependent contributions for adults should amount to approximately 50% of the total funding of basic health

insurance, while the nominal premiums should account for the other 50%. In 2008 44% of the funding was collected directly by the insurers in the form of the nominal premium (40%) and the compulsory deductible (4%), and 56% came from the Health Insurance Fund (Health Care Insurance Board 2009d).

Fig. 3.8
Simplified depiction of financial flows under the Health Insurance Act (Zvw)



3.4.1.2 Long-term care (AWBZ)

The Exceptional Medical Expenses Act (AWBZ) is funded from the income-dependent contributions collected by the Tax Office from Dutch residents. In addition, those individuals who receive long-term care are required to share in the costs. The total amount of cost-sharing depends on the individual's income and is levied by the Central Administration Office (CAK). Both sources of funding are pooled in the General Fund for Exceptional Medical Expenses (AFBZ), which is administered by the Health Care Insurance Board (CVZ). The Central Administration Office (CAK) then acts upon the payment order of the care offices and pays the long-term care providers from this fund, based on the intensity of care that is needed for their clients as assessed by the Centre for Needs Assessment (CIZ). This is discussed in more detail in Section 3.6.1 *Paying for health services*.

3.4.2 Mechanisms for allocating funds among health insurers

Risk adjustment is a tool the government uses to prevent preferred risk selection in the provision of basic health insurance and to promote fair competition. Health insurers are not allowed to differentiate their nominal premium towards health

risks and are obliged to accept each person that applies for an insurance policy. Risk adjustment implies that health insurers receive financial compensation for insured persons with unfavourable risk profiles, for example the elderly, chronically ill and people who are incapacitated and have higher health costs (Ministry of Health, Welfare and Sport 2008d). The assumption is that if the system works well, it should make individuals with unfavourable risk profiles equally profitable customers as those in good health. Differences in the nominal premium between insurers should reflect differences in efficiency rather than differences in the risk profiles of their respective insured population.

3.4.2.1 *Ex ante* risk adjustment

Each year all health insurers receive from the Health Insurance Fund a risk-adjusted contribution, in the form of risk-adjusted (weighted) capitation payments. The risk adjusted contribution from the Health Insurance Fund is calculated as the insurer's total estimated health expenditure based on the risk profiles of their insured population minus the estimated income from their nominal premium based on the calculation premium (*rekenpremie*). The calculation premium is a virtual nominal premium used in the calculation for the national budget for health, welfare and sport (*Rijksbegroting Volksgezondheid*). If the individual nominal premium levels were to be used for calculation instead of the nominal calculation premium, it could be an incentive for insurers to set the nominal premium too low in order to receive a higher contribution from the Health Insurance Fund. Furthermore, even though only 50% of the funds are pooled, the risk adjustment is thus calculated on the basis of 100% of funds. The risk-adjustment system is not a new feature of the 2006 reform, but draws upon the experiences with risk adjustment in the former sickness fund system scheme (ZFW). The Health Insurance Board (CVZ) administers the Health Insurance Fund.

The risk-adjustment contribution is an *ex ante* system that is not based on real expenditure but based on expected expenditure. It is calculated by means of the following factors.

- Age and gender: older persons have on average higher health care costs compared to younger people. Females aged between 20 and 40 years have on average higher health care costs compared to men because of health care related to childbearing.
- Nature of the income (social security recipient, salary, self-employed) and socioeconomic status: this should compensate for socioeconomic differences in health among insured persons.

- Region: the Netherlands is divided into regions based on characteristics of the inhabitants of a zip-code area. Higher compensation is provided for individuals living in regions with relatively high numbers of non-Western immigrants, an above-average risk of mortality and a low average income.
- The average consumption of pharmaceuticals for groups of patients with chronic diseases (such as diabetes) who have a high pharmaceutical consumption and who are treated in an outpatient setting is used as an indicator for morbidity. Patients who use these pharmaceuticals are considered to be at risk for higher health care expenditure. The risk adjustment for pharmaceutical costs is divided into 20 pharmaceutical cost groups (*Farmaceutische kosten groepen,* FKGs). Compensation for a FKG may amount to €20 000.
- Some chronic conditions mainly treated in an inpatient setting. These chronic conditions are clustered in 13 diagnostic cost groups (*Diagnose kosten groepen,* DKGs) based on expenditure patterns. For each patient belonging to such a pattern, compensation is provided. (Ministry of Health, Welfare and Sport 2007a). Compensations for a DKG may amount to more than €50 000.
- The risk-adjustment factors described above are based on statistical estimates of the health risks and the related costs of these individuals.

The rationale behind this system is that more efficiently operating health insurers will have surplus revenue and will be able to reduce their nominal premium (or increase their reserves) and attract insured persons from less efficient insurance plans. The result will be lower overall costs. Box 3.1 provides two examples of *ex ante* risk-adjustment. With a properly working risk-adjustment system, efficiently operating health insurers with a relatively large number of insured persons with poor health risks can obtain a better market position than inefficient health insurers with a relatively large number of insured persons with good health risks (Ministry of Health, Welfare and Sport 2008a).

Box 3.1
Examples of *ex ante* risk adjustment

Two (fictitious) examples will be elaborated. First, a 67-year-old women, who lives in a village in the countryside in a wealthy neighbourhood and suffers from a thyroid gland disorder. She uses medicines for her disease. The insurer receives compensation for her age and disorder. The woman has not been hospitalized in the past years. Her living situation represents a favourable risk profile. The second example is a 19-year-old male student in Amsterdam who has rented a room in a relatively wealthy district. He is healthy, needs no medication for a chronic disorder and has not been hospitalized in the past years. The health insurer receives the difference between the calculated risk-adjustment contribution and the calculation premium of its insured population from the Health Insurance Fund (Ministry of Health, Welfare and Sport 2008b).

Risk-adjustment contribution for two fictitious persons

Person and characteristics	**Risk adjusted contribution**
Woman, aged 67	970
Suffers from thyroid disorder	174
No hospitalizations in the past years	-97
Living in countryside, in good neighbourhood	-31
Source of income: state old-age pension	0
Total	**1016**
Man, aged 19	389
No chronic conditions	-109
No hospitalizations in the past years	-97
Living in the city	36
Source of income: paid employment/other	-20
Total	**199**

3.4.2.2 *Ex post* compensation

Since health insurers cannot influence the expenditure for all costs yet, *ex post* compensation mechanisms are established. In addition, *ex post* compensation mechanisms should correct insufficient *ex ante* risk adjustment, due to changes in the insured population for example. The *ex post* mechanisms determine the degree to which health insurers are risk-bearing. In 2009 the health insurers will bear 60% of the risk of hospital care (Klink 2008c) and in 2010 this will be 80% (Klink 2009b). On the assumption that the predictive value of the *ex ante* risk adjustment keeps improving and insurers will acquire more tools to influence the costs (e.g. through increasing the share of negotiable DBCs – see also Section 3.6 *Payment mechanisms*), the *ex post* mechanisms will be cut back gradually. Even though the Minister of Health, Welfare and Sport judges the quality of the risk adjustment for somatic care and mental health care as good, he stressed the need to keep improving the system (Klink 2008c). The most important compensation mechanisms are described below.

Furthermore, the health insurers receive an *ex post* "outlier risk sharing" (*Hogekostencompensatie*) to cover actual expenses for high-cost care. In 2008, the threshold above which *ex post* outlier risk sharing applied was increased from €12 500 to €20 000 (Klink 2007, 2008c). Above this threshold, 90% of the costs will be reimbursed. In 2010 the high cost threshold will be increased to €25 000 (Klink 2009b).

In addition, the bandwidth arrangement (*bandbreedteregeling*) limits the risk for health insurers. The application of this regulation depends on the deviation of the average costs for an insurer from the national average. If the variable costs for hospital care and the costs of freely negotiable DBCs per insured person after applying all compensation mechanisms are more than €22.50 above the national average, any additional amount is compensated up to 90%. If these costs are more than €22.50 below the national average, the insurer has to pay back 90% of the difference up to that figure (amounts are valid for the year 2009 and 2010).

Finally, the retrospective correction of total costs (*macronacalculatie*) protects insurers against macro developments that cannot be influenced by the insurers, but influences their expenditures. The retrospective correction ensures that the total budget that is divided between the health insurers is equal to the subsequent calculated actual health care expenditure. When the actual health care expenditures are higher than expected, the extra money will be divided between the health insurers. If the actual costs are lower, health insurers have to pay back the money.

There are several reasons for these regulations. First, they provide certainty about the maximum loss an insurer can suffer. Thus, the insurer does not have to apply a (large) risk surcharge to the nominal premium. The regulation was supported by the Dutch Central Bank (DNB), since the (as yet) unstable financing system of hospitals leads to uncertainty for the insurers. Second, existing imperfections in the risk-adjustment system may level out for large insurers but for smaller insurers this may have grave consequences. Third, having a range in which insurers are risk-bearing may apply an incentive for efficient purchasing by insurers (Klink 2008c). In practice, it is mainly the *ex post* mechanisms that determine the risk of the health insurer.

3.5 Purchasing and purchaser–provider relations

The organizational relationship between purchasers and providers in the Netherlands is based on contracting. Health care providers are independent and are contracted by the health insurers. Since 2006, managed competition is gradually being introduced into the Dutch health care purchasing market. This should give the health insurers time to build up the necessary expertise and experience to assume their purchaser role. With regard to the purchasing of curative (Health Insurance Act, Zvw) care, the health insurers have two major negotiation tools at their disposal when contracting providers. These are (1) negotiating services with providers on the basis of volume, quality and prices; and (2) selective contracting. The use of these tools should result in the purchasing of efficient care. At least theoretically, these mechanisms would lead to the disappearance of low-quality care providers. Since free negotiations are relatively new, the share of freely negotiable health services is still limited. Furthermore, selective contracting was applied only to a limited degree: as of 2009, there was one insurance policy that explicitly practises selective contracting and some insurers do not compensate 100% of care provided by non-contracted providers.

The contract negotiations for GP care do not take place with individual GPs, but with committees that represent GPs (*huisartsenkringen*); representatives of the National Association of General Practitioners (LHV); and committees that represent both GPs and the Association of GPs (Dutch Health Care Authority 2007e). Health insurers negotiate with one or some of these committees over a standard contract or a framework contract. On average a GP receives 14 contracts, of which 93% are signed (Dutch Health Care Authority 2007e). To rationalize the negotiation process, GP committees only negotiate with the regionally dominant health insurer. The other insurers follow this contract, on request of the GPs. In practice, the majority of the GPs negotiated with the dominant health insurer (68%) and presented that agreement to the other insurers (72%). Most health insurers (77%) accepted this agreement (Dutch Health Care Authority 2007e). In addition, insurers in some cases make contracts with individual GPs. These individual contracts mainly concern Modernization and Innovation (M&I) activities. These activities are aimed at increasing the efficiency of GP care and relieving secondary care. Examples include the introduction of a practice nurse, small surgical treatments, ECG-diagnostics and MRSA screening. In 2006 about half of the GPs received funding for M&I activities (Dutch Health Care Authority 2007e; Westert et al. 2008).

Since January 2005, hospitals are remunerated through Diagnosis Treatment Combinations (DBCs). For more detailed information on DBCs, see 3.6.1 *Paying for health services*. The aim of the DBC system is to have price and quality negotiations between insurers and hospitals during the contracting process. However, at the moment only a small share of the DBCs, the so-called B-segment, is freely negotiable between health insurers and hospitals. At the introduction in 2005, this share was 10% of the DBCs. In 2008 this share increased to 20% and in 2009 to 34%. In future the number of DBCs in the B-segment should increase further. The DBC segment for which prices are set at national level by the Dutch Health Care Authority (NZa) is called the A-segment. Free negotiations are introduced gradually to prevent hospitals experiencing large deviations from their former budget, and to let insurers and hospitals get used to their role of negotiation partners. In 2005, capital investments were not freely negotiable in the DBCs. For these costs, a normative compensation was established by the Dutch Health Care Authority (NZa). As of 2009, capital investments became part of the negotiation process (see also Section 5.1 *Physical resources*).

The DBC system is not stable yet. This has led to, among others, overfunding of hospitals (see Section 3.1 *Health expenditure*). There are also problems with the large number of DBCs (about 30 000), which complicates negotiations and finalizing contracts. In March 2009 none of the contracts for 2009 between hospitals and insurers had been finalized. Currently all actors in the field are working on a major revision of the DBC system that should reduce the number of DBCs to 3000. This should simplify the negotiating and contracting process. The new system should be implemented in 2011.

When there is no contract between insurer and hospital for a DBC in the B-segment and an insured person receives care for such a non-contracted DBC, this may have financial consequences for the patient. The hospital has to set a "walk-in tariff" for all B-DBCs. These tariffs are applicable if a patient receives care for which there is no contract. The hospital is obliged to publish these tariffs. If this tariff is higher than the tariff that the insurer of the patient has negotiated with their contracted hospitals, the insurer is allowed to charge the patient for the difference. In 2007, 3% of the realized DBCs were billed as "walk-in tariff" (Dutch Health Care Authority 2008b). There is no information available as to what extent the difference is charged to the patient.

For long-term care, care offices (*Zorgkantoren*) negotiate with providers about the price and quality of the care. The purchasing budgets for care offices are set by the Dutch Health Care Authority (NZa) and approved by the Minister

of Health. For ambulatory long-term care, there is no contract obligation, but care is granted to providers based on tenders. Criteria for granting are quality indicators and the extent to which the price of care is under the maximum tariff for this type of care. For inpatient long-term care, the care offices are obliged to contract the provider the patient has chosen. When patients receive a personal budget instead of care-in-kind, they are free to purchase their own care. There are no formal quality requirements for the care purchased via a personal budget.

3.6 Payment mechanisms

3.6.1 Paying for health services

3.6.1.1 Hospital care under the Health Insurance Act (Zvw)

As mentioned above, hospitals have been paid through Diagnosis Treatment Combinations (DBCs) since 2005. The DBC system was inspired by the concept of DRGs (diagnosis-related groups), but it constitutes a newly developed classification system. While DRG systems group patients according to the diagnosis or procedure with the highest amount of needed resources into exactly one DRG, the DBC system provides a DBC for each diagnosis-treatment combination and thus, more than one DBC per patient is possible. This provides more flexibility in the case of multi-morbidity, where more than one medical specialist treats the patient during one admission or the patient receives more than one treatment from one medical specialist. The DBC system was considered to concur more with the health care demands of the patient, although in practice the results were disappointing. This contributed to a planned reform of the DBC system by 2011.

Under the old system, all services (e.g. consultations, diagnostics and hospital stay) were billed for separately. The DBC system forces hospitals to provide an overview of the total costs of each treatment from the first consultation until final follow-up check after the treatment. The DBC-system is considered the basis of managed competition in hospital care and should increase the efficiency of the hospital sector. The Ministry of Health, Welfare and Sport, together with the hospitals, medical specialists and insurers, has established the treatment options and associated costs for each diagnosis. This information was used to set average tariffs for each DBC. These tariffs include the costs of medical specialist care, nursing care, and the use of medical equipment and diagnostic procedures. Apart from these direct costs, indirect costs such as education, research and emergency care are also included. The reimbursement for each

DBC is not influenced by longer hospital or shorter hospital stay, or more or fewer diagnostic procedures for a certain patient. For patients who go to the hospital for medical advice, but who do not receive a diagnosis or a treatment, special, less costly DBCs are available (Kiesbeter.nl 2009; Netherlands Cancer Institute 2009).

DBC Maintenance (*DBC-Onderhoud*) is an independent foundation responsible for adjusting and updating the DBC system. The hospital care providers are obliged to provide their DBC data to the DBC information system. In 2007, a project was initiated to decrease the number of DBCs from 30 000 to 3000, since the large number of DBCs was considered too complicated and error-prone. The final aim of the project is to derive DBCs automatically from the basic hospital administration so that they can be used for billing purposes. As of 2009, the project has not yielded any practical results (Zorgverzekeraars Nederland 2009). On the board of DBC Maintenance the main players (health insurers, physicians, hospitals and patients) are represented.

For the A-segment (non-negotiable DBCs), the actual hospital budget is still established with the old functional budget system, which is based on capacity and functions of the hospital. The hospital sends invoices to health insurers or patients based on DBCs. At the end of the year, the total revenue from A-DBCs is calculated. When this is higher than the functional budget for the A-segment, the hospital has to pay the difference to the Dutch Health Care Authority (NZa), and when it is lower, the hospital receive the difference reimbursed (Boot and Knapen 2005; Zorgverzekeraars Nederland 2009). The Dutch Health Care Authority (NZa) does not set a budget limit for the freely negotiable B-DBCs. Since the calculation system of the functional budget is applied to the total hospital production and does not differentiate between A-DBCs and B-DBCs, the division of this budget between both DBC segments has to be established in order to be able to calculate the budget for the A-DBCs. In the period 2005–2008, this was done by the Dutch Health Care Authority (NZa). In 2009 this division is subject to negotiations between hospitals and health insurers (Dutch Health Care Authority 2008g). There were plans to abolish the functional budgeting system from January 2009, but these plans failed.

3.6.1.2 Long-term care provided under the Exceptional Medical Expenses Act (AWBZ)

Effective from January 2009, the payment system for long-term care was reformed. Before, the institutions were paid on the basis of capacity (the number of places available for patients). After the reform, this was changed to payments based on the intensity and complexity of the care provided.

Intensity and complexity of care is divided into several care intensity packages (*zorgzwaartepakketten*). There are different care intensity packages for different sectors of care. There are 10 packages for the nursing and caring sector, 13 packages for the mental care sector and 29 for the care for disabled people. The budget for each care intensity package is set by the Dutch Health Care Authority (NZa). The tariffs of care intensity packages vary from €55 per day to €300 per day (Dutch Health Care Authority 2008e). To prevent budget shortfalls of more than 13% compared to the budget under the former system, temporary financial arrangements have been made to guarantee continuity of care (Van den Boomen 2008). The intensity of care a patient needs, and thus the corresponding care intensity package, is assessed by an independent organization, the Centre for Needs Assessment (CIZ). The introduction of the care intensity packages may have consequences for individual patients, in the sense that they receive fewer or more hours of care. These changes will be introduced gradually (Ministry of Health, Welfare and Sport 2009l). The responsibility of purchasing inpatient long-term care is delegated to care offices (*Zorgkantoren*).

The actual payment of AWBZ care depends on whether the patient receives the care in kind or whether they choose a personal budget. For care that is provided in kind, the patient settles the income-dependent cost-sharing requirements with the Central Administration Office (CAK). The CAK then pays the providers from the General Fund for Exceptional Health Care Expenses (AFBZ) on receiving a payment order from the care offices. When the patient has chosen a personal budget, he or she directly pays the providers. The CAK then transfers the personal budget to the patient after settling the income-dependent cost-sharing requirements.

3.6.1.3 Social support services provided under the Social Support Act (Wmo)

The municipalities pay the providers for Wmo home care services. The municipality settles the cost-sharing requirements or outsources this to the Central Administration Office (CAK). Municipalities purchase care from home care organizations via a public procurement procedure. This care is offered to the clients in kind. Municipalities can independently establish the level of out-of-pocket payment by the clients. Clients may also choose a personal budget and organize their own care. For patients who prefer to organize and purchase their own care, the possibility of a personal budget exists. Patients receive a budget based on their need for care. They can purchase this care from professional organizations or arrange their own care personnel. These may be professionals, but also family members or other non-professionals, who are directly employed by the patient.

3.6.1.4 Mental health care

Curative mental care was formerly exclusively financed through the Exceptional Medical Expenses Act (AWBZ). Since 2008, however, the first 365 days of this type of care are covered under the Health Insurance Act (Zvw). The payment for mental care providers under this act is based on the same system as curative hospital care, that is, DBCs.

There are two main determinants for establishing DBCs in mental care: (1) the type of health care demand and diagnosis; and (2) the care profile (diagnostics, counselling, treatment, stay). Combined, this leads to product groups which are split into "treatment" and "stay" groups. In 2009, 145 treatment groups and 70 stay groups were established. The treatment groups consist of a diagnosis and duration of the treatment component. The stay groups concern inpatient stays of 24 hours or more. Treatment groups and stay groups may be combined, theoretically leading to 145 x 70 different DBCs. The type of DBC is automatically established through the DBC registration module, a computer program that mental care providers have to use to register the care they provide. To preserve mental care providers from large budget shortfalls or increases as a result of the new payment system, a temporary budget guarantee based on the former budgeting system is in force.

The DBC system was introduced to enable negotiations between mental care providers and health insurers. However, at the moment, free negotiations are not yet implemented. Mental care providers are not allowed to introduce their own DBCs. The Health Care Insurance Board (CVZ) will first assess whether new DBCs fit into the basic health insurance package. Next, the Minister of Health has to approve the DBCs before they can be fully implemented. The mental care providers are obliged to provide their DBC data to the DBC information system. The expectation is that it will take several years before the DBC structure in the mental care sector is well attuned to mental health care in practice (Schut and Rutten 2009).

For patients who stay longer than one year in a mental hospital, the stay will be financed under the Exceptional Medical Expenses Act (AWBZ). The payment system is described above.

3.6.1.5 Pharmaceutical care

Inpatient pharmaceutical care (for both somatic and mental care) is included in the DBC system for institutional care. In outpatient care, pharmaceuticals will only be reimbursed by health insurers if included in the Medicine

Reimbursement System (GVS). For more detailed information on the Medicine Reimbursement System (GVS) and pharmaceutical policy in general, see Section 6.6 *Pharmaceutical care*.

An overview of the payment mechanisms for health services is given in Table 3.3.

Table 3.3
Overview: paying for health services

		Patient	Health insurer	National funds/ organizations
Basic package				
Restitution policy		Pays the bill directly to the provider	Reimburses the patient, after deducting the out-of-pocket payment	Health Insurance Fund transfers risk-adjusted contribution to the health insurer
In-kind policy		Pays the deductible to the health insurer	Directly reimburses the providers, charges the patient for the deductible	Health Insurance Fund transfers risk adjusted contribution to the health insurer
Long-term care				
Care provided in kind	In institutions	Patient settles income-dependent cost-sharing requirements with the CAK	Care offices (organized by health insurers) negotiate the price of care with the provider	CAK pays the providers upon a payment order of the Care Office and collects cost-sharing
	Nursing care	Patient settles income-dependent cost-sharing requirements with the CAK	Care offices (organized by health insurers) negotiate the price of care with the provider	CAK pays the providers upon a payment order of the Care Office and establishes and collects cost-sharing requirements
	Home care	Patient settles income-dependent cost-sharing requirements with the CAK	Municipalities pay the providers	CAK collects the cost-sharing requirements (not for every municipality) and pays them to the municipalities
Personal budget		Patient receives a budget (for home care by the municipality and for other long-term care by the CAK) and purchases care independently		CAK pays the personal budget (for nursing care) and establishes and collects cost-sharing requirements
Uninsured care		Patient pays provider directly	Health insurer reimburses patient in the case of coverage by VHI	

3.6.2 Paying for health care personnel

The Dutch Health Care Authority (NZa) establishes the tariffs for most health care professionals for whom managed competition has not yet been implemented, for example dentists and midwives. However, one pilot with free market tariffs exists. Since 2005, physiotherapists have negotiated with health insurers about the price of their product. The aim of this experiment is to gain insight into the impact of free prices on efficiency, quality, accessibility and affordability

of care. According the Dutch Health Care Authority (NZa), the pilot resulted in more freedom of choice for consumers while no limitation in the access to physiotherapy was observed. Furthermore, the pilot stimulated innovation, a broader variation in supply and more cooperation among physiotherapists (Dutch Health Care Authority 2007b).

3.6.2.1 General practitioners

Since the 2006 reform, GPs are remunerated according to a mix between the old payment system for ZFW insured (capitation fee per registered patient) and the old payment system for the privately insured (fee-for-service). As a result, the system consists of several components:

- a capitation fee per registered patient;
- a consultation fee for GPs;
- a consultation fee for practice nurses (if any);
- a contribution for activities that either increase efficiency of GPs or substitute for secondary care (fee for service); and
- compensation for providing out-of-hours care.

The maximum fees for GP services and practice nurses active in GP practices are the result of negotiations between the National Association of General Practitioners (LHV), Health Insurers Netherlands (*Zorgverzekeraars Nederland*) and the Ministry of Health, Welfare and Sport. After successful negotiations, the maximum fees are established by the Dutch Health Care Authority (NZa). The capitation fee is a flat fee per year. For older patients and patients from deprived areas a higher fee may be applicable if negotiated with the health insurers (Dutch Health Care Authority 2008g). The consultation fees consist of fees for practice consultations, home visits, telephone consultations and prescription refills. Practice nurses take part in the routine care of chronically ill persons in the general practice, such as diabetes, hypertension and COPD/asthma (Lamkaddem et al. 2004). For care provided by practice nurses, specific fees are applicable (see Table 3.4). Negotiation between insurers and GPs for lower fees is allowed. However, in practice this seldom occurs. Only one health insurer negotiated slightly lower tariffs (Dutch Health Care Authority 2007e). GPs are allowed to bill health insurers for GP services even if no contract exists between them.

Table 3.4

Maximum fees for selected services for GPs and practice nurses in 2009

Quarterly capitation fees		
Insured persons not living in deprived areas		
Insured persons < 65 years	€13.00	
Insured persons 65–75 years	€14.70	
Insured persons > = 75 years	€15.40	
Insured persons living in deprived areas		
Insured persons < 65 years	€14.70	
Insured persons 65–75 years	€16.50	
Insured persons > = 75 years	€17.20	
Consultation fees	**GP**	**Practice nurse**
Consultation	€9.00	€9.00
Consultation > 20 minutes	€18.00	€18.00
Home visit	€13.50	€13.50
Home visit > 20 minutes	€22.50	€22.50
Telephone consultation	€4.50	€4.50
Repeat prescription (regardless of the number of prescription lines)	€4.50	€4.50
Vaccination	€4.50	€4.50
E-mail consultation (under certain conditions)	€4.50	€4.50
Out-of-hours services in out-of-hours cooperatives, per hour	€50.20	

Source: Dutch Health Care Authority 2008f.

Out-of-hour services for GP care are mostly provided by GP out-of-hours cooperatives. GPs who participate in this system receive a per hour compensation. For GPs who do not participate, specific fees for consultations, home visits and prescription refills are applicable that are higher than the fees during office hours. The majority of GPs participate in a GP out-of-hours cooperative (approximately 95% in 2005) (Lugtenberg, Van der Velden and Hingstman 2006).

The division between a short consultation and a long consultation results in an incentive to stretch short consultations. The Dutch Health Care Authority (NZa) advised health insurers to implement structural efficiency checks in order to avoid this phenomenon (Dutch Health Care Authority 2009b). The actual income of a GP will vary and depends on factors such as practice size, claimed fees and practice costs. If they work more efficiently, they will earn more.

3.6.2.2 Medical specialists

Medical specialists are either independent professionals organized in partnerships working in a hospital (75%) or they are in salaried service of a hospital (NIVEL 2009). Since 2008, medical specialists are paid through the DBC system (Notten 2008). For each DBC a normative time spent by the specialist and an hourly tariff were established. The tariff is equal for all medical specialties. The norms are established by the Dutch Health Care Authority (NZa). The hourly tariff is based on research from the Commission Normative Hourly Tariff (*Commissie Normatief Uurtarief*), which was set up by the Minister of Health in 2004 after consultation with the Association of Medical Specialists (OMS). However, the Commission could not agree on a single tariff. There was a low variant (supported by the majority of the Commission) and a high variant (supported by a minority of the Commission). Further negotiations between the Minister of Health and the Association of Medical Specialists led to an agreement (early 2007) of a uniform tariff within a certain range. Within this range, hospitals and medical specialists are free to negotiate (Association of Medical Specialists 2007). This tariff is €132.50 plus or minus €6 and consists of an income part and a compensation for practice costs.

The income is based on 1555 claimable hours per year. The normative income is €129 500 per year and the normative practice costs are €75 760 (Minister of Health, Welfare and Sport 2009b). The actual income of medical specialists in partnerships, however, will vary and depends on the actual hours claimed and actual practice costs. If they work more efficiently, they will earn more. At present (late 2009) there is a major discussion surrounding the income of medical specialists, because in practice they appear to earn much more than the normative income, probably due to imperfections of the DBC system. At national level, the incomes of medical specialists have increased by 30% between 2007 (lump sum financing) and 2008 (DBC financing). Only 4% of the increase was due to an increase in number of treatments. There are large differences between the different specialisms (Vektis 2009b). The income of salaried medical specialists ranges from €5368 to €9851 per month, based on the collective labour agreement for medical specialists (*Arbeidsvoorwaarden medisch specialisten 2008–2009*).

3.6.2.3 Pharmacists

The remuneration of pharmacists and dispensing GPs is based on two components: (1) a fixed dispensing fee (*receptregelvergoeding*) and (2) reimbursement for the costs of the pharmaceuticals. Pharmacies receive price reductions from the pharmaceutical industry when buying pharmaceuticals. In order to redistribute this profit from pharmacies to consumers, a percentage of these financial advantages is taken back by the government through the so-called "clawback". This percentage of 6.82% in 2009 is subtracted from the total remuneration pharmacies receive from the health insurers and may vary in the case of a contract. In 2009, the maximum dispensing fee is €7.28. If the pharmacy and the health insurance company have negotiated a contract, the dispensing fee may increase to €7.94. Room for negotiation with regard to the tariff was introduced in 2009. Before, the tariffs were set by the Dutch Health Care Authority (NZa) (Dutch Health Care Authority 2009a).

A summary of the payment mechanisms for health care providers is provided in Table 3.5.

Table 3.5
Overview: paying health care providers

Provider	Payment system
General practitioners	The remuneration is a combination of: • capitation fees • consultation fees • out-of-hours care: mainly per hour • extra income from innovation and substitution • prevention (influenza vaccination, cervical screening), medical examinations: fee-for-service • some GPs are in salaried service of a GP practice or primary care centre
Practice nurses	Same as above (except for out-of-hours care)
Other primary care providers (dentists, etc.)	Fee-for-service
Medical specialists	Independent professionals are paid via the DBC system, and they receive a normative hourly tariff for a normative time spent per DBC. A quarter of medical specialists are in salaried service of the hospital.
Nurses	Salary
Home helps	Salary

4. Regulation and planning

The 2006 health care reform has brought completely new regulatory mechanisms and structures to the Dutch health care system. The government has changed its role from direct steering of the system to safeguarding the process from a distance. Responsibilities have been transferred to insurers, providers and patients, and the government only controls the quality, accessibility and affordability of health care. The establishment of new "watchdog" agencies in the health sector aims to avoid undesired market effects in the new system. What is more, in long-term care as well, competition among providers of outpatient services changes the system considerably. The delegation of the responsibility for domestic home care services to the municipalities has resulted in more diverse care arrangements. Traditionally, self-regulation has been an important characteristic of the Dutch health care system. Professional associations are responsible for re-registration schemes and are involved in quality improvement, for instance by developing professional guidelines.

Obviously, a regulated market system is not compatible with extensive central planning. Institutions are subject to governmental licensing, but decisions on construction plans or other capital investments are largely left to facilities based on (local) economic considerations. The health workforce, however, is subject to strict central capacity planning. The inflow of medical students and the volume of training for medical specialties is strictly regulated and based on forecasting and capacity plans.

In addition to a well-developed advisory structure the Dutch health care sector can rely on an extensive infrastructure for research and development, covering medical research, health technology assessment and health services research (see Section 2.3 *Organizational overview*). Table 4.1 at the end of this chapter provides an overview with all relevant actors and their tasks in the Dutch regulatory system.

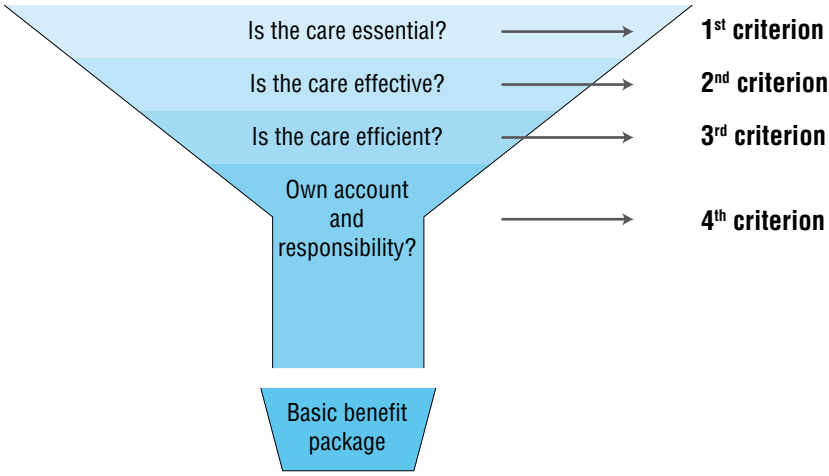
4.1 Regulation

The government should ensure that managed competition results in safe, accessible and affordable health care of good quality. Only a few instruments have been left to the government to directly interfere in the health care system. An essential competence of the government is setting the budget for health care expenditures. Other important competences of the central government are taking decisions on the content of the basic health insurance package (see Box 4.1), on cost-sharing, tariffs for health services if not negotiable (based on advice by the Dutch Health Care Authority, NZa) and extending the share of freely negotiable services. Furthermore, in order to prevent preferred risk selection, the government sets the rules for risk adjustment among health insurers (see Section 3.4.2 *Mechanisms for allocating funds among health insurers*). In the care sector, the central government has a number of explicit responsibilities. These include creating the preconditions for quality, accessibility, safety and affordability of the care for people with chronic conditions; strengthening the position of citizens, in particular patients and their representatives; and stimulating innovation. To meet these responsibilities, the government has supervisory and advisory bodies in place such as the Dutch Health Care Authority (NZa), the Health Care Inspectorate (IGZ) and the Health Care Insurance Board (CVZ). For more information on these bodies see Section 2.3 *Organizational overview*, and later in this section.

The municipal public health departments (GGDs) have a major role in public health at local level. For prevention in enterprises and companies the agencies for occupational medicine (*ARBO Diensten*) play an important role. Some specific preventive services are provided outside the preventive sector and are integrated, for instance, in primary care and general practice (Minister of Health, Welfare and Sport 2007). Examples are influenza vaccination for high-risk persons and cervical cancer screening. For the preventive care sector, the tasks of the authorities are defined in the Public Health Act (*Wet Publieke gezondheid,* Wpg). Although municipalities are responsible for the implementation of this Act, the central government is obliged to produce a policy paper with the main targets for prevention every four years.

Box 4.1
The Dunning Funnel

The central government takes decisions on the basic health insurance package relying upon advice from the Health Care Insurance Board (CVZ). Ministerial proposals for changing the benefit package have to be passed by parliament. Decisions about the composition of the benefit package are guided by an algorithm, which has become known as the "Dunning Funnel". The Dunning Funnel resulted from a committee which was chaired by Dunning (*Kiezen of Delen*) in 1991. The committee was asked to develop criteria for including health care services in basic health insurance. The committee defined four cumulative criteria: (1) services should be essential, (2) effective, (3) cost-effective and (4) unaffordable for individuals. "Essential" refers to its capacity to prevent loss of quality of life or to treat life-threatening conditions. The affordability criteria state that no services need to be included that are affordable for individual citizens and for which they can take responsibility (Brouwer and Rutten 2004).



The Dunning Funnel formalizes the subsequent steps to make before taking a decision on inclusion or exclusion of services in basic health insurance. Although the Funnel was a step forward, in practice the criteria are not always easy to apply. For instance, what constitutes "essential care" is arguable, or decisions can be hampered by lack of information on the efficiency of the service. Other problems may arise with regard to treatments of diseases resulting from unhealthy behaviour, or when pharmaceuticals covered by basic health insurance are used by other than the intended patient groups (Brouwer and Rutten 2004).

4.1.1 Regulation and governance of third-party payers

Private health insurers are responsible for purchasing and remunerating all curative health services that are covered by basic health insurance. Most health insurers operate nationally, but some have their clients primarily in a particular region. This results from their previous role as a regional sickness fund. Insurers are either public limited companies (*naamloze vennootschappen*) or mutuals (*onderlinge waarborgmaatschappijen*). The public limited companies are private for-profit organizations with the shareholder meeting being the highest decision-making structure and daily management delegated to a board of administrators. Mutuals are not-for-profit cooperatives, in which the insured persons are members and a board of members control its management.

The Dutch Health Care Authority (NZa) has an important role. The NZa supervises the compliance of actors with the Health Insurance Act (Zvw) and the Health Care Market Regulation Act (Wmg). NZa interferes with restrictions or obligations when an actor, that is a health insurer, health care provider or consumers, together or alone, hinder fair competition in (part of) the health care market. Furthermore, the NZa establishes tariffs and performance directions for those health services that are not subject to free negotiations. Lastly, the NZa monitors health care markets and promotes its transparent operation, both in terms of price and quality.

The Health Care Insurance Board (CVZ) advises the Ministry of Health, Welfare and Sport on the content of the basic health insurance package. Furthermore, it supplies information to insurers (but also consumers and providers) on the nature, content and scope of the basic health insurance. The CVZ also administers the Health Insurance Fund and operates the risk-adjustment scheme (see Section 3.4 *Pooling of funds*). Furthermore, the CVZ is the advisory body to the Minister of Health regarding the budget for the General Fund for Exceptional Medical Expenses (AFBZ) and the level of the AWBZ contribution to be paid by residents.

Health insurers operate under private law and are thus subject to the same regulations as all Dutch commercial enterprises. If insurers wish to provide basic health insurance under the Health Insurance Act (Zvw), they need to apply for permission to provide indemnity insurance with the Dutch Central Bank (DNB). Furthermore, health insurers have to adhere to the regulations of the Act on the Supervision of Insurance companies (*Wet Toezicht Verzekeringsbedrijf*) and the regulations of the Dutch Competition Authority (NMa).

According to the Social Support Act (Wmo), certain forms of home care are the responsibility of the municipalities. In general, there are no third-party payers in home care, since the municipalities directly purchase the care. However, some municipalities outsource the settlement of income-dependent cost-sharing requirements to the Central Administration Office (CAK). Municipalities can develop their own regulations on eligibility and needs assessment. Some municipalities have outsourced the needs assessment to the Centre for Needs Assessment (CIZ).

4.1.2 Regulation and governance of providers

4.1.2.1 Regulation of individual health care professionals

According to the Individual Health Care Professions Act (BIG) health care professionals in the Netherlands need to register and hold a licence. After registration and receiving a licence professionals are allowed to practise in the field of individual health care, on condition that specific titles are protected and certain listed actions, such as surgical treatments, are reserved to designated professionals (see Section 5.2.4 *Registration/licensing*). To protect patients, the Act specifies that bringing harm to someone's health is illegal. Physicians, pharmacists, midwives and physiotherapists can be summoned to disciplinary tribunals (*tuchtrecht*) (see Section 2.5.5 *Complaints procedures (mediations, claims)*). The Health Care Inspectorate (IGZ), based on assessment by the Board of Medical Supervision (*College van Medisch Toezicht*), can initiate a procedure to expel professionals in case of incapacity due to physical or mental conditions or substance abuse (Ministry of Health, Welfare and Sport 1996).

Licensing of physicians is mainly self-regulated by the profession. The umbrella organization of associations of physicians, the Royal Dutch Medical Association (KNMG, see Section 2.3 *Organizational overview*), regulates the vocational training and the licensing of physicians. KNMG determines the content of the training for medical specialists, the accreditation of training institutes and trainers, and the requirements for re-registration of medical specialists. Additionally, KNMG aims to promote the quality of the profession and public health in general. It publishes the medical journal *Medisch Contact* for its 46 000 members (in 2008).

4.1.2.2 Regulation of health care providers

Any organization providing care under the Health Insurance Act (Zvw) or the Exceptional Medical Expenses Act (AWBZ) needs to be licensed according to the Health Care Institutions Admission Act (*Wet Toelating Zorginstellingen,* WTZi). The Act defines which types of institutions are allowed to make a profit.

Generally, institutions that provide inpatient care are not allowed to make a profit while those providing only ambulatory care (including day care) may do so. To obtain a licence, an institution needs to comply with the budgetary rules provided by the Minister of Health, Welfare and Sport and fulfil the following transparency requirements from the Health Care Institutions Admission Act (WTZi):

- a supervisory board should be installed with members who are not involved in daily management;
- the organizational structure should be laid down in the articles of association;
- decisions of the supervisory board should be open to independent investigation, for instance by client boards;
- responsibilities within the care institute or organization should be laid down in a written document; and
- in reports, revenues from care activities should be easily distinguishable from those from other activities (such as parking, shops, etc.) (Linders 2009).

4.1.2.3 Regulation of public health services

Regulation related to vaccinations and screenings is primarily a governmental task. Which vaccinations are covered by the National Vaccination Programme (*Rijksvaccinatieprogramma*) is decided by the Minister of Health, Welfare and Sport based on advice from the Health Council of the Netherlands. At operational level, 10 regional Vaccination Administration Bodies (*Entadministraties*) are responsible for medical supervision and implementation of the National Childhood Vaccination Programme. Side-effects of vaccinations must be reported to the National Institute for Public Health and the Environment (RIVM). For influenza vaccinations, the Minister of Health, Welfare and Sport, again advised by the Health Council, decides which risk groups are eligible for free influenza vaccination.

In pursuance of the Screening Act (*Wet op het Bevolkingsonderzoek,* WBO), institutions involved in screening activities need permission from the Minister of Health, Welfare and Sport. A permit is necessary for screening on cancer, screenings using ionizing radiation techniques (such as CT scan or radiography) and screening for incurable diseases. The Minister is advised by the Health Council of the Netherlands.

4.1.3 Regulation and governance of the purchasing process

Since 2006, managed competition is being introduced step by step into the Dutch health care purchasing market. Since free negotiations are relatively new, the share of freely negotiable health care is still limited. This incremental approach should enable actors to build up the necessary expertise and experience to assume their enhanced purchaser roles. The purchasing of curative care is covered by the Health Insurance Act (Zvw). Negotiating on the volume, quality and prices of health care services, as well as the option to selectively contract, should result in an efficient health care system. At least theoretically, these mechanisms would lead to the disappearance of low-quality care providers (for more detailed information on the purchasing process see Section 3.5 *Purchasing and purchaser–provider relations*).

4.1.4 Regulating quality of care

The Dutch government is free to decide how to meet its constitutional responsibility for the quality of health care (Buijsen 2006). The government presumes that market mechanisms will bring about good-quality health care at affordable costs. The legal framework as laid out in the Quality of Health Facilities Act (KZi), the Individual Health Care Professions Act (BIG) and the Medical Treatment Agreement Act (WGBO) provides instruments for quality assurance. Furthermore, patients are expected to act as informed consumers and critically assess which providers to vist. By doing so, they play a critical role in optimizing the quality of health care (Boot and Knapen 2005). The role of patients is supported by several pieces of legislation and regulation. For more information see Section 2.5.3 *Patients' rights.*

As a main advisory body to the Minister of Health, Welfare and Sport, the Health Care Inspectorate (IGZ) plays an important role in regulating the quality of care. The Inspectorate enforces statutory regulations on public health; investigates complaints and irregularities in health care; and takes measures if deemed necessary and appropriate. Quality indicators, provided by providers and institutions, are powerful tools for the Health Care Inspectorate (IGZ). Values on the indicators may give rise to a practice visit or an investigation to check whether guidelines and procedures are observed (Groenewegen, Hansen and Ter Bekke 2007). More information on the Health Care Inspectorate (IGZ) can be found in Section 2.3 *Organizational overview,* while more details on the disciplinary system and complaint procedures can be found in Section 2.5.5 *Complaints procedures (mediation, claims*).

4.1.4.1 Health care facilities

The 1996 Quality of Health Facilities Act (KZi) replaced many detailed quality norms with broadly defined requirements applicable to all health care institutions (Buijsen 2006). For example, institutions are required to systematically collect data on the effectiveness, patient centredness and efficiency of the provided care, to set up a quality assurance system and to produce publicly available quality reports annually. The Act transfers the responsibility for quality to health care institutions and gives them the freedom to fulfil the general requirements in a way that results in "responsible care" (for a definition see Section 2.5.3 *Patients' rights*) (Oosterlee 2006). The requirements are monitored by the Health Care Inspectorate (IGZ) (Buijsen 2006).

An evaluation of the Quality of Health Facilities Act (KZi) in 2001 showed that stakeholders, with the exception of the health insurers, were generally satisfied with the framework provided by the Act. However, policies on quality in institutions turned out to be focused mainly on procedures. There was no transparent system of standardization and the perspective of the patient was not included systematically (Casparie et al. 2001).

4.1.4.2 Individual professionals

Quality of care provided by individual health care workers is regulated through the Individual Health Care Professions Act (BIG) (see Section 4.1.2 *Regulation and governance of providers*). The BIG aims to safeguard the quality of the practice of professions and to protect patients from incompetent health care practitioners. Similar to the Quality of Health Facilities Act (KZi), this Act provides a framework for health care providers while details have to be worked out in lower-level regulation (Buijsen 2006). The BIG contains requirements with regard to (1) competence (requirements for registration and title protection), (2) expertise (the practitioner has to be an expert in the professional domain) and (3) proficiency (stipulated restrictions and functional autonomy) (see also Section 5.2.4 *Registration/licensing*).

Furthermore, the Individual Health Care Professions Act (BIG) regulates professional secrecy and, analogous to institutions, individual practitioners are bound to provide "responsible care" (Hendriks 2006). By way of sanctions, the Act contains disciplinary rules. The BIG is enforced by the Health Care Inspectorate (IGZ). A 2002 evaluation of the BIG showed that professional organizations were making an effort to comply with the Act regarding quality measures. Although the BIG was seen as an important instrument for the

protection of patients and governing quality, its effectiveness was felt to be limited because of the limited use made of the instruments related to the Act (Cuperus-Bosma et al. 2002).

4.1.4.3 Quality regulation by medical professions

As a result of Dutch policy on quality assurance, which has promoted professional self-regulation since the early 1990s, professional guidelines have been developed and are in use by the medical professions (Boot and Knapen 2005). Guidelines provide rules of best practice for certain complaints or treatments and thus their application should improve quality of care. Examples are guidelines for GPs, developed by the Dutch College of GPs (NHG). Research in 2007 found that guidelines tend to be developed more often by multidisciplinary teams, which may include nurses and representatives of patient organizations (Groenewegen, Hansen and Ter Bekke 2007). Although the use of guidelines is generally perceived positively, there is criticism as well. The lengthy process of developing guidelines is sometimes felt as a limitation to their use, particularly in areas where there is a great deal of medical innovation (Hukkelhoven et al. 2006). Furthermore, guidelines are not always seen as consistent with daily practice and some perceive guidelines as a threat to their professional autonomy (Van Everdingen 2003). The Health Care Inspectorate (IGZ) may use professional guidelines. Providers may be invited, for instance, to explain why, in particular cases, they have not complied with the guidelines (Baan, Smits and Limburg 2001).

For quality improvement through integrated care and cooperation between primary health care professionals, Regional Support Structures (*Regionale Ondersteuningsstructuren,* ROS) have been established. These structures support primary care workers, such as GPs, physiotherapists, midwives, speech therapists and mental care workers in developing mono- and multidisciplinary teamwork, implementing quality-of-care policies and improving the continuity of care. The ROS are partly financed by health insurers and municipalities and provinces. Municipalities are interested in the integration of primary care with services for which they are responsible, such as prevention, social support and youth care.

4.2 Planning and health information management

In the curative sector the emphasis lies on safeguarding quality, accessibility and affordability; empowering the patient; supporting innovations; and the promotion of affordable basic health insurance (Tweede Kamer der Staten-Generaal 2008). In the explanatory note to the 2009 budget of the Ministry of Health, Welfare and Sport, the increase of life expectancy in the Netherlands was mentioned as a major aim. In order to bring the Netherlands back in the life expectancy top five of the EU, Dutch citizens should be encouraged to live healthier lives. In 2006, female life expectancy in the Netherlands is on the EU25 average, whereas male life expectancy is ranked seventh in the EU (European Commission 2009a; Tweede Kamer der Staten-Generaal 2008). Other priorities include transparency of care processes, communication and cooperation between health care providers and cost-effectiveness.

In preventive care, reducing smoking and alcohol abuse, with special attention to children, is at the top of the agenda (Klink, Rouvoet and Ter Horst 2007). Another aim is the prevention of lifestyle-related health problems, such as obesity, diabetes and depression. The 2006 policy paper "Opting for a healthy life" (*Kiezen voor gezond leven*) formulated three main targets for preventive care: increasing life expectancy, increasing the number of years living in good health and decreasing the differences in health between people of different socioeconomic status. Municipalities should produce a policy paper on prevention on the local level every four years (Ministry of Health, Welfare and Sport 2006a). At present (late 2009) almost all municipalities subscribe to the national targets.

In the process towards setting a health policy agenda, the government may request or receive unsolicited independent advice from one or more of the advisory bodies (described in more detail in Section 2.3 *Organizational overview*). In order to underpin their advice, these bodies may commission independent research. Using advisory bodies should not only improve the quality of the policy decision but is also seen as a way of gaining support in the complicated decision-making processes of Dutch governing coalitions. In the period 2006–2008, the Council for Public Health and Health Care (RVZ) supplied 16 pieces of advice.

Before the 2006 health care reforms, planning of health care services used to be supply-induced and heavily influenced by the government. The reforms aimed to create a demand-induced and patient-centred system, driven by market incentives and reduced government interference (Ministry of Health, Welfare

and Sport 2006b). Health care institutions are supposed to respond to patients' needs and to plan investments carefully. The Health Care Institutions Admission Act (WTZi) aims to gradually give institutions more freedom and responsibility for investments and planning while reducing government interference in these matters. Entrepreneurial behaviour of health care institutions is encouraged. Since January 2009, for instance, health institutions are responsible for investment in their premises and equipment (also see Section 5.1 *Physical resources*).

Planning targets for nursing homes focus on quality improvement. The Ministry of Health, Welfare and Sport wants nursing homes to substitute larger-capacity rooms (mainly four-person rooms) with single and double rooms by the end of 2010. If nursing homes fail to achieve this goal they risk losing their licence. In practice, however, nursing homes are struggling to meet these goals. Another target is to diversify the living arrangements that are offered in the long-term inpatient care sector. Furthermore, between 2008 and 2011 the capacity of nursing homes should increase by 6000 places; in particular small-scale arrangements will be encouraged (Bussemaker 2007).

In questions related to the intake of medical students and the training capacity in all recognized medical specialties (including general practice), the government is advised by the Capacity Body (*Capaciteitsorgaan*). For other health care personnel (e.g. nurses), no such organization exists. However, there is a system through which national, regional and local organizations can monitor relevant labour market developments and in which forecasts are made of the balance between supply and demand for several types of nurses. For more detailed information see Section 5.2.2 *Planning of health care personnel*.

4.2.1 Health technology assessment

Since the early 1980s, health technology assessment (HTA) has become increasingly important in the Dutch health care system. It is used to provide evidence for policy decisions on the benefit package and on appropriate use of medical devices (Berg, Van der Grinten and Klazinga 2004). Two of the criteria of the Dunning Funnel (see Box 4.1), namely those related to effectiveness and cost–effectiveness, have fed the need for economic assessments of new and current technologies (Berg, Van der Grinten and Klazinga 2004). Since the 1990s, systematic evaluations of new medical technologies have been used as an important tool to support rational policy-making. In the early 1990s, a special fund, the National Fund for Investigative Medicine (*Fonds Ontwikkelingsgeneeskunde*) was created to finance such evaluations. A specially

established committee of experts in medicine, health economics, medical ethics, health law and health administration selected research proposals (Den Exter et al. 2004). In 1999, the fund was replaced by the programme Efficiency Research (*DoelmatigheidsOnderzoek*), coordinated by the Netherlands Organization for Health Research and Development (ZonMW). The programme, with an annual budget of €12.2 million, aims at generating knowledge on cost-effective interventions (Oortwijn et al. 2008) and providing a scientific foundation for health care practice and policy (Netherlands Organization for Health Research and Development 2007). Five years after its start (2004), the programme was evaluated. Although there was room for improvement, the programme was highly valued, since there were otherwise relatively few financial resources for efficiency studies of this size (Netherlands Organization for Health Research and Development 2007).

Safety, efficacy and quality of pharmaceuticals on the Dutch pharmaceutical market is assessed and monitored by the Medicines Evaluation Board (CBG). The Board is an independent organization, whose members are appointed by the Minister of Health. Authorization of a drug by the Board does not automatically lead to reimbursement by the health insurers. The reimbursement decision is taken by CVZ on the basis of advice from the Committee on Pharmaceutical Care (*Commissie Pharmaceutische Hulp,* CFH). The CFH assesses pharmaceuticals on efficacy, efficiency, side-effects, applicability and ease of use. The CFH then assesses the pharmaceutical's impact on the Medicine Reimbursement System (GVS); the impact on the total expenditures on basic health insurance; and assesses whether the new pharmaceutical justifies the additional costs (Health Care Insurance Board 2006). It is important to note that the Medicine Reimbursement System only includes prescription pharmaceuticals, which are then covered by basic health insurance and reimbursed by health insurers (Health Care Insurance Board 2009b).

4.2.2 Information systems

Practically all GPs in the Netherlands use an electronic medical record system. Data from these records are extracted and used to monitor GP care in the Netherlands. The database Netherlands Information Network of General Practice (LINH) holds longitudinal data on morbidity, prescriptions and referrals on about 340 000 individuals. Data are collected from a representative network of about 180 GPs throughout the Netherlands. The database enables health services research and quality-of-care research, the results of which are used for health policy and epidemiological purposes.

At present (late 2009), the implementation of a national level Electronic Patient Record (*Elektronisch Patiënten Dossier,* EPD) is debated. In March 2009, about 100 health care providers were connected and 330 000 individual EPDs were available. In total, 6500 health care providers will have to be connected (Klink 2009c). The aim of the EPD is to prevent medical errors resulting from lack of information about the patient's medical condition or pharmaceutical use, especially in out-of-hours care. The EPD is not a central database including all patient medical data, but an infrastructure that draws from the local databases of individual health care providers. The providers remain responsible for their own database. Access to the EPD by health care providers is regulated through an electronic authentication card. Access is only allowed if necessary for the treatment of the patient. In anticipation of the introduction of the EPD, each citizen has the possibility to object to including their medical data into the EPD. In 2009, about 3% of the Dutch population had done so. Resistance among physicians is much higher. One-third of physicians declined. In addition to reservations about the safety of the system, physicians also believe the system is superfluous since in their opinion well-functioning EPDs already exist at the regional level (Katzenbauer 2009). Currently, it is unclear when the EPD will be implemented (see also Section 7.2 *Future developments*).

Aggregate data on hospital admissions is collected in the National Medical Registration (LMR) database. Almost all hospitals deliver data to the system. The database contains data on admission, diagnosis, treatment and discharge, as well as characteristics of the patient and the hospital. The LMR has developed into an integral registration system that provides data to Statistics Netherlands (CBS) and provides input for research. Some perceive the introduction (in 2005) of the DBC system for hospitals as a duplication of information. Procedures are registered both in LMR using the International Classification of Diseases (ICD) coding as well as in the DBC system according to a different system. The DBC registration (as yet) does not use ICD codes (see also Section 7.2 *Future developments*).

Quality information on health care provision receives a great deal of attention in the Netherlands. It is needed by patients to make informed choices and therefore important for the proper functioning of managed competition. For a more elaborate description of patient information systems see Section 2.5.2 *Patient information*.

Mortality data are collected from the population register (*bevolkingsregister*). In case of death, a death certificate (*doodsoorzaakverklaring*), produced by a physician or pathologist, has to be included in the population register. The provision of these data is a legal requirement. Mortality statistics are published by Statistics Netherlands (CBS).

Adverse drug reactions (ADR) are collected by the Dutch Pharmacovigilance Centre (LAREB). LAREB registers ADRs reported by physicians, pharmacists and patients. The aim is to prevent harm from pharmaceuticals by tracing side-effects that were previously unknown. LAREB registers approximately 4500 reports per year, which are judged individually and stored in the ADR database. The legal obligation for this database is formulated in the Medicines Act (*Geneesmiddelenwet*). The data must be presented in a way that guarantees the privacy of reporters and patients.

Health care providers are obliged to report infections of HIV and other sexually transmitted diseases (STDs). Voluntary reports are registered for infections with MRSA and bacterial meningitis. The Infectious Diseases Surveillance Information System (*Infectieziekten Surveillance Informatie Systeem,* ISIS) aims to provide an up-to-date picture of the (changes in) incidence of all infectious diseases in the Netherlands that could threaten public health. ISIS is organized by municipal public health services (GGDs) and does not have nationwide coverage.

Food infections and poisonings are registered by the Food and Consumer Product Safety Authority (VWA). The VWA monitors food and consumer products to safeguard public health and animal health and welfare. The VWA controls the whole production chain, from raw materials and processing aids to end products and consumption. Data on injuries are registered in the Injury Surveillance System (*Letsel Informatie Systeem*). This database collects personal data, details of the accident and of the injuries of all accident victims (therefore also for victims of accidents other than road accidents) who were treated in the A&E departments of 17 hospitals in the Netherlands.

Reports on accidents in health care provision can be sent by patients or their family to the Health Care Inspectorate (IGZ) on a voluntary basis. These reports have a signalling function. The Health Inspectorate does not investigate these reports unless the events led to unexpected death or severe damage for the patient, or when the Inspectorate suspects a structural shortcoming in health care provision. Health care providers are obliged to report accidents and send their findings to the Inspectorate.

The Ministry of Health, Welfare and Sport keeps an online account of all medical information and registration systems in the Netherlands. A web site (www.zorggegevens.nl) provides information on the content of the registration system or database; the availability of the collected data; the collectors of the data; the contractors of the data collection; and the users of the data.

4.2.3 Research and development

Research results are used by the government in several ways. Forecasts of demographic developments and results of health services research are used to set priorities in health policy and the health care budget. The government often asks for advice from the advisory bodies, which base their advice on research by institutes for health services research and academic research.

The Netherlands Organization for Health Research and Development (ZonMw) is an organization that promotes quality and innovation in the field of health research and health care, initiating and fostering new developments. The majority of ZonMw's commissions come from the Ministry of Health, Welfare and Sport and the Netherlands Organization for Scientific Research (NWO). The NWO, in turn, receives most of its funding from the Ministry of Education, Culture and Science. ZonMw is commissioned to find solutions to certain problems or to stimulate work in particular areas. ZonMw holds regular grant application rounds for researchers and care providers for its programmes. In 2008, ZonMw invested €186 million in research and innovation (ZonMW 2008).

In addition, a great deal of medical research is carried out by university medical centres which carry out biomedical, clinical and translational research. The latter concerns the translation of fundamental knowledge into clinical treatments of diseases. Universities in the Netherlands receive funding from the Ministry of Education, Culture and Science. Part of this is dedicated to the medical faculties for medicine and medical research. The universities decide how the governmental contribution is distributed among the different faculties.

One of the fields of research in the health care sector is health service research (HSR). HSR is the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies and personal behaviours affect access to health care, the quality and cost of health care, and ultimately the population's health and well-being (Lohr and Steinwachs 2002). This can be descriptive research (e.g. monitoring health care utilization, counting numbers of health professionals), normative research (ethical and legal issues), explanatory research (do different

care processes lead to different outcomes?), and intervention research (focus on how health care processes are influenced by other determinants). From the total budget for health research, about 7% is spent on health services research, which is comparable to the expenditure on HSR in the United States, Canada and the United Kingdom. Eight large institutes are active in HSR research (NIVEL, iBMG, TNO, Trimbos-instituut, EMGO, NCEBP (Nijmegen Centre for Evidence Based Practice), Department for Social Health Care of Erasmus MC and the School for Public Health and Primary Care (Caphri) (see also Section 2.3 *Organizational overview*). Together these institutes spend 75% of the available budget for HSR. In 2008, the Advisory Council for Health Research concluded that the quality of research is satisfying, but the focus on financing predominantly temporary projects may threaten the continuity of HSR (Council for Public Health and Health Care 2008a).

The promotion of knowledge in the field of prevention is coordinated by ZonMW. The Centre for Healthy Life (*Centrum Gezond Leven*), part of the National Institute for Public Health and the Environment (RIVM), was created to coordinate between the different local and national health promotion organizations. It also provides knowledge to health promotion organizations about preventive measures (Minister of Health, Welfare and Sport 2007).

Table 4.1

The regulation system: actors and their role in the regulatory process, 2009

Sort of actor	Actors (non-exhaustive)	Specific tasks
Government	Central government	• Setting the national health care budget • Deciding the content of the basic health insurance package • Setting tariffs for the services not yet subject to free negotiations • Setting public health targets • Deciding capacity in long-term care institutions • Safeguarding affordability, efficiency, accessibility and quality of health care in the Netherlands
	Municipality	• Setting local public health targets • Decides on budget for social support and home care
Advisory bodies	Dutch Health Care Authority (NZa)	• Monitoring the transparency and functioning of health care markets • Establishing tariffs for non-negotiable care
	Health Care Insurance Board (CVZ)	• Explanation of contents of benefit package • Promotion of harmonized provision of health care in both curative and long-term care • Advises Ministry of Health, Welfare and Sport on contents of basic health insurance benefit package • Advises on including new medicines in medicine reimbursement system (GVS) • Advises Ministry of Health, Welfare and Sport on budget for long-term care (AWBZ) • Administers Health Insurance Fund and General Fund for Exceptional Medical Expenses (AFBZ) • Carries out risk adjustment
	Health Council	• Advises Ministry of Health, Welfare and Sport on preventive care and other health issues
	Regional Support Structures (ROS)	• Stimulates cooperation in primary care
	Capacity body (*Capaciteitsorgaan*)	• Advises Ministry of Health, Welfare and Sport on workforce planning for all specialized postgraduate training programmes
	Medicines Evaluation Board (CBG)	• Evaluates safety, efficacy and quality of pharmaceuticals • Authorizes pharmaceuticals
	Council for Public Health and Health Care (RVZ)	• Advises Ministry of Health, Welfare and Sport on health policy agenda
Supervisory bodies	Dutch Health Care Authority (NZa)	• Enforcement of the Health Care Market Regulation Act (Wmg)
	Health Care Inspectorate (IGZ)	• Inspects safety and quality of providers • Investigates complaints and accidents • Supervises implementation of Health Insurance Act (Zvw) and Exceptional Medical Expenses Act (AWBZ)
	Committee on Pharmaceutical Care (CFH) – part of CVZ	• Assesses pharmaceuticals on efficacy, efficiency, side-effects, applicability and ease of use before inclusion in the benefit package
Professional bodies (self-regulation)	Royal Dutch Medical Association (KNMG)	• Postgraduate medical education • Accreditation of medical specialists (including GPs) • Promoting professional quality
	Dutch College of GPs (NHG) (part of KNMG)	• Development of guidelines for GPs
	Association of Medical Specialists (OMS, part of KNMG)	• Development of guidelines for medical specialists

5. Physical and human resources

5.1 Physical resources

The structure of health care in the Netherlands comprises a dense network of premises, equipment and other physical resources. As compensation for investments is included in the tariffs, health institutions are fully responsible for carrying out their (re)constructions and for the purchase of equipment. No external approval of building plans applies, although the quality of premises is externally assessed every five years. Due to mergers many hospitals nowadays operate from more than one location. In addition to general and university hospitals, independent treatment centres (ZBCs) have become part of the acute hospital sector. These centres provide selective non-urgent treatments for admissions up to 24 hours. The number of acute beds per population in the Netherlands is below the EU15 and EU12 averages. The average length of stay is slightly above EU15 average, but this is also caused by high degree of substitution to day care. Both indicators show a decreasing trend. Among long-term care institutions a steady reduction of bed supply and an increasing overlap of functions between nursing homes and residential homes can be observed. The quality of long-term care facilities is a point of concern. Information technology plays an important role in the Dutch health system. Most Dutch people would welcome the opportunity to contact providers through the Internet, but this option is scarcely offered. The following sections will discuss these topics in more detail.

5.1.1 Infrastructure

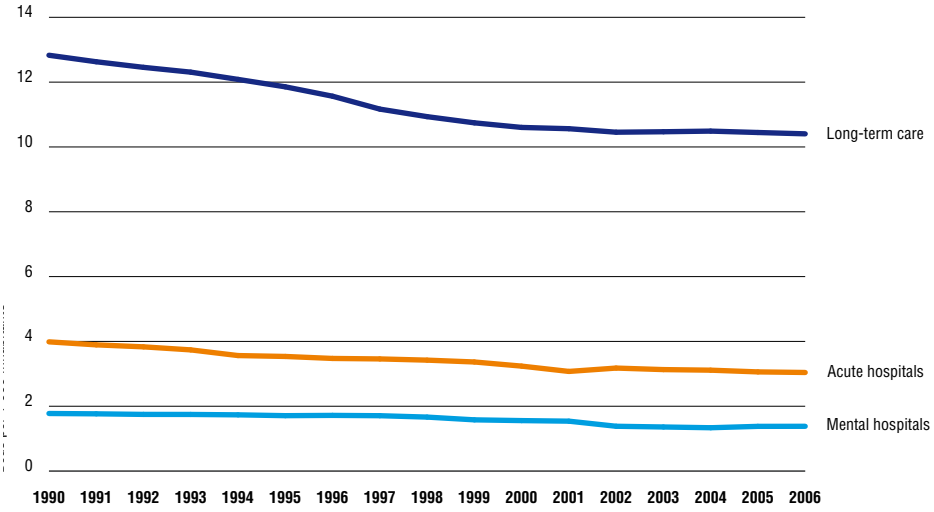
All acute and long-term health care institutions in the Netherlands are subject to licensing, which is the responsibility of the Minister of Health, Welfare and Sport and regulated in the Health Care Institutions Admission Act (WTZi, see also Section 4.1.2 *Regulation and governance of providers*. The Act aims to ensure that these institutions have a transparent governance structure and a

well-organized management. Since 2006 there has been no central planning of health care facilities; each institution is supposed to develop its own capacity planning strategy.

In 2006, bed supply, distinguished by type of bed expressed as availability per 1000 population, was 3.0 acute care hospital bed (see Fig. 5.1), 1.4 mental hospital beds and 10.4 long-term care beds. In the same year there were 10.5 admissions in acute care hospitals per 1000 populations. The average length of stay of these admissions was 6.6 days and the bed occupancy rate was 68% (WHO Regional Office for Europe 2009). In 2006, the licensed number of beds in general acute care hospitals amounted to 44 784 and in academic hospitals to 6624. In the same year, the size of general acute care hospital organizations varied between 138 and 1368 beds per hospital. The variation in the size of academic hospitals was much smaller: between 713 and 1307 beds. On average hospital organizations had 553 beds available (Deuning 2009a).

Fig. 5.1

Hospital beds per 1 000 inhabitants in the Netherlands from 1990 to 2006



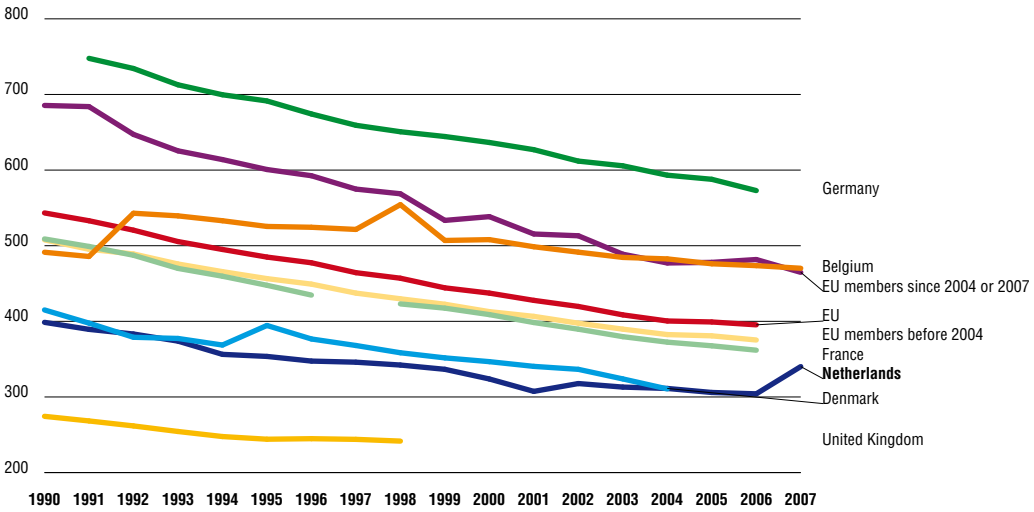
Source: WHO Regional Office for Europe 2009.

As in most EU15 countries the number of beds in acute care has been steadily dropping. From 1990 to 2006 the number of beds in acute care hospitals has decreased by approximately 25%, from almost 4 to 3 per 1000 population in the Netherlands (WHO Regional Office for Europe 2009). This trend is driven

by a combination of causes. First, the need for cost-containment results in a generally more efficient use of hospital bed capacity. This is promoted by new technologies in the acute health care sector, such as laparoscopic surgery, which shorten the length of stay and increasingly enable day surgery. Furthermore, more and more treatments for chronically ill patients can be delivered in the patients' home situation. The decline in acute care beds is in line with the aim of the Ministry of Health, Welfare and Sport to reduce the number of beds per 1000 inhabitants to approximately 2 in 2015 (Board for Health Care Institutions 2003b). However, since central planning for hospitals was abolished in 2008, this instrument can no longer be used to achieve this aim, but is also deemed no longer necessary. The number of licensed hospital beds is an administrative figure that plays a role only in setting the hospital budget. In practice the number of beds is considerably lower compared to the licensed number of beds. Hospitals continuously adapt their bed capacity to the actual need for beds, which in practice means that the number of beds is diminishing. The factual number of beds present in hospitals is not known.

Fig. 5.2

Beds in acute care hospitals per 100 000 population in the Netherlands and selected countries

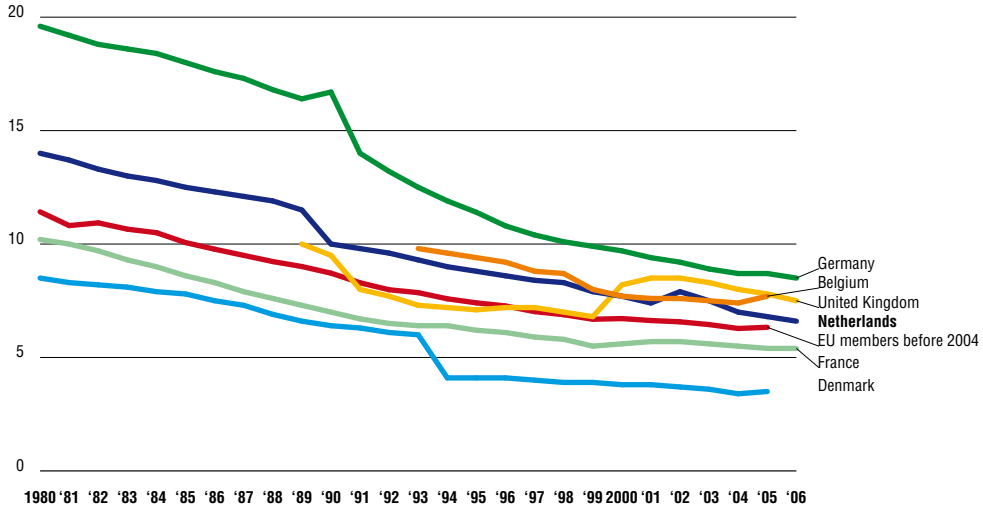


Source: WHO Regional Office for Europe 2009.

Compared to other European countries, the number of acute care hospital beds in the Netherlands is below the EU15 average and well below the EU12 average (see Fig. 5.2). The average length of stay in the Netherlands has consistently been above the EU15 average (see Fig. 5.3). This can be attributed to the following factors. Patients who needed continued care in a long-term care institution were forced to stay longer in acute hospitals because of waiting lists. However, at present (late 2009) this problem is nearly solved. Furthermore, in the past 20 years, many treatments have shifted from inpatient care to day care. These day-care cases are not included in the length-of-stay figures. Nearly half of all admissions (46% in 2006) are day-care admissions. Including these figures would lead to an average length of stay of four days (based on data from Statistics Netherlands). Apart from this, best practices have shown that shorter stays in acute hospitals are possible. This suggestion is supported by the fact that, for the same treatments, variation in the length of stay does exist between hospitals. Finally, the possibilities to transfer hospital care to the home situation have not been used exhaustively (Board for Health Care Institutions 2003b). In the mental care sector and the long-term care sector bed capacity also decreased by approximately 20% and 45% respectively between 1990 and 2006. This is also due to cost-containment and the trend towards keeping patients at home as long as possible.

Fig. 5.3

Average length of stay in acute care in the Netherlands and selected countries from 1980 to 2006



Source: OECD 2008a.

5.1.2 Capital stock and investments

5.1.2.1 Current capital stock

In the Dutch context, it is meaningful to distinguish between hospital locations and hospital organizations when discussing the number of hospitals (general acute care hospitals and academic hospitals). After a hospital merger, for example, the hospitals may continue as separate locations of one hospital organization. In 2009 there were 93 hospital organizations, with altogether 141 hospital locations and 52 outpatient clinics (Deuning 2009b). Outpatient clinics are local facilities where physicians from the hospital see patients in an outpatient setting. Generally, these facilities do not have laboratory or other diagnostic or treatment facilities.

In addition to *general* hospitals, offering the full spectrum of hospital care, there are independent treatment centres (ZBCs) that provide selective non-acute treatments, covered by basic health insurance, for admissions shorter than 24 hours. Examples include cataract surgery or varicose veins surgery. In 2009, in the Netherlands there were 198 of these independent treatment centres (Deuning 2009d). The growth can be attributed partly to the effect that the independent treatment centres are paid according to the DBC system and the hospital is still mainly financed via the old functional budget system. The payment via the DBC system is more profitable than the old system, which stimulated hospitals to start an independent treatment centre. In addition, independent treatment centres may concentrate on the less complicated cases (cherry-picking), whereas hospitals are obliged to treat the whole spectrum of patients. The Health Care Institutions Admission Act (WTZi) does not legally distinguish between independent treatment centres and general hospitals. All these institutes are called "Medical Specialist Health Care Institutions" (Deuning 2009d).

In 2006, the technical conditions and the functional quality of the buildings of general acute care hospitals were assessed by the Board for Health Care Institutions (CBZ). The Board concluded that both the technical and functional quality was good according to the Dutch building standards for acute care hospitals. Hospitals were found to be capable of technical adaptations if necessary. The Board also stated that general acute care hospitals have successfully anticipated both medical-technical and societal developments (Board for Health Care Institutions 2007).

The mental health care sector consisted of 103 institutions (in 2005), many of which (40 out of 103) were integrated mental health institutions providing both inpatient and ambulatory mental health care. Integrated mental health

institutions have been an increasing phenomenon since 2000. Mainly as a result of mergers, the total number of institutes has shown a decreasing trend (Trimbos-instituut 2007).

In 2004, the Board for Health Care Institutions (CBZ) was critical of the quality of buildings in the mental care sector. Especially in the larger institutions, rooms were too small, groups of patients too large and sanitary facilities inadequate (Board for Health Care Institutions 2004).

The long-term care sector consists of nursing homes and residential homes. In 2007 there were 324 nursing homes, 960 residential homes and 210 institutions combining both types (Deuning 2009c). In 2007, in total, 169 000 clients resided in one of these institutions (Actiz 2009). A residential home provides housing, care and support for persons who cannot live independently or with support in the home care situation (e.g. frail elderly). A nursing home provides nursing and rehabilitation care to admitted patients (e.g. after stroke). In order to avoid people in residential homes having to move when they need nursing care, the services of nursing homes and residential homes increasingly overlap (Boot and Knapen 2005).

The quality of the housing conditions in nursing homes and residential homes leaves much to be desired. In 2005, the long-term care sector monitor revealed that two-thirds of the individuals in residential homes and half of individuals in nursing homes lived in below-standard housing conditions. The main problems were related to sanitary facilities and the size of rooms. By the end of 2010, Dutch nursing homes are no longer allowed to accommodate more than two patients per room. In June 2008, however, the number of larger-capacity rooms (mainly four-person rooms) was 13 000. At the time of writing (June 2009), in most cases nursing homes had not yet started to improve their buildings (Board for Health Care Institutions 2009).

5.1.2.2 Investment funding

At present, all institutions are responsible for their own construction costs. The costs of investments have been included in the tariffs of the institutions. Before 2008 (for the curative sector) or 2009 (for the long-term care sector) institutions could submit their construction plans to the Minister of Health, Welfare and Sport for approval. If approved, full reimbursement of costs was guaranteed. For long-term health care institutions a transitional scheme applies until the introduction of a new integral system of tariffs (foreseen for 2010 at the latest) (Minister of Health, Welfare and Sport 2008a). For the hospital sector, the guarantee for capital investment costs will be abolished one step at a time (Dutch Health Care Authority 2008c).

The shift in responsibility for construction costs is a consequence of the introduction of market mechanisms into the health care sector. This implies that (1) there is no longer a central body approving building projects; (2) health care institutions can no longer claim guaranteed reimbursement of their investment costs; and (3) prices for service delivery should therefore include investment costs. However, it is not yet clear how investment costs are included in the DBCs and there is a great deal of uncertainty about the transitional measures for the period during which the guaranteed investment financing is changed to financing from DBCs. Including intended investments in the business plan is a new task for the management of health care institutions, which requires new expertise. Uncertainty concerning the financing of investment costs has resulted in delayed initiatives for new buildings (*Financieele Dagblad* 2008; Tweede Kamer der Staten- Generaal 2009c) and even in the temporary suspension of ongoing projects. Some measures to stimulate investment projects have been introduced. This includes a temporary state guarantee of 50% of the investment costs for a maximum period of eight years. However, it is unclear whether these measures are sufficient to facilitate hospital investments.

5.1.2.3 Capital investment controls

The quality of the premises of health care institutions is assessed at five-year intervals by the Board for Health Care Institutions (CBZ), which also produces yearly overviews of investment costs. These overviews serve as references for institutions in their planning and preparation of construction projects. The responsibility for controlling building quality of health care institutions has been transferred from the CBZ to the Health Inspectorate (IGZ). The central planning of hospital capital investments was abolished in 2006. Since 2008, the government has a limited ability to steer investments. Hospitals are supposed to make their own investment decisions.

5.1.3 Medical equipment, devices and aids

The planning, funding and purchasing of medical devices and aids are the responsibility of each individual health care institution. In 2005, compared to the other EU15 countries, the Netherlands had relatively few CT scanners per million population (8.2; see Table 5.1). Only in the United Kingdom was the availability of CT scanners lower (7.5 per million population). The average in the EU15 (2005) was 19.4 scanners per million population (OECD 2008a). In the same year, the Netherlands also had relatively few MRI units (6.6 per million population), whereas the EU15 average was 9.6 per million population; only France (4.7) and the United Kingdom (5.4) had fewer units compared to the Netherlands (OECD 2008a). However, there is over-capacity in PET (positron

emission tomography) scanners in the Netherlands. As shown in Table 5.1, there are 24 PET scanners in the Netherlands, which theoretically could produce 49 920 PET scans per year. In practice, the number of scans is 17 000 per year (Klaver 2009). For CT and MRI scanners, no information is available on possible over- or under-capacity. Concerns about waiting times, expressed by parliament, revealed that in 2006 waiting times for MRI scans were not recorded. The Minister of Health, Welfare and Sport stated that MRI supply is the responsibility of health care providers and health insurers (Hoogervorst -2006).

Table 5.1

Items of operational diagnostic imaging technologies (MRI units, CT scanners, PET) per million population

Item	Number of devices	Per million population	% utilization
MRI units (2005)	107	6.6	n/a
CT scanners (2005)	134	8.2	n/a
PET (2007)*	24	1.5	34%

Sources: OECD 2008a; *Klaver 2009.
Note: n/a = not available.

5.1.4 Information technology

Compared to other branches, the health care sector is lagging behind in implementing ICT innovations and solutions. Whereas in other industrial sectors almost 10% of the budget was spent on ICT in 2000, this percentage was only 1.5% for health care institutions (Reinders 2004). By 2006, this percentage had increased to 2%, which was still low compared to other sectors (Van Leeuwen and Wansink 2006). In the hospital sector, the expenditure on ICT increased from 1.5% of the hospital budget in the mid 1990s to 3.4% in 2006. This was, however, still low compared with other sectors, such as transportation and distribution (4%) and the government (6%). Most frequently, investments were made in the in-house system of electronic patient records (Zuurbier, Van Susante and Van den Berg 2008).

Online information plays an important role in the Dutch health care system. In 2008, the Dutch had good access to the Internet: 88% of Dutch households owned a personal computer and 86% had access to the Internet. In the same year, 11% of the population had never e-mailed or used the Internet (Statistics Netherlands 2009f). See Section 2.5.2 *Patient information* for a detailed description of information available to patients.

A study found that a majority of the Dutch population of Internet users would like to contact their health care provider through the Internet. In 2004, 68% stated that they would like to make or had already made contact with health care providers using the Internet (Council for Public Health and Health Care 2009). However, even though some initiatives exist to enable communication through the Internet between patient and providers about medical issues, in practice this option is rarely used at the time of writing (2009). Making appointments with GPs or obtaining prescription refills from GPs through the Internet is available in only a few GP practices. In 2006 about one-third of the GPs billed at least one e-mail consultation. In most of these practices, fewer than 25 e-mail consultations were billed for (Verheij, Ton and Tates 2009). In general, GPs make little use of the Internet to communicate with patients. GPs working in primary care centres, communicate slightly more with patients through the Internet than GPs in practices (Dijkstra, Terpstra and Mokkink 2006). Hospitals increasingly offer patients the possibility to make outpatient appointments with medical specialists via the Internet. In 2005, this option was offered by 1 out of 20 hospitals.

Virtually all GPs in the Netherlands use the GP information system, which records the medical data of their patients electronically. The GP information system is used for both the primary care process and for administration purposes. GP information systems are linked to the professional guidelines, which GPs can consult during a patient contact. To optimize the prescription of pharmaceuticals, the Electronic Prescription System (*Elektronisch Voorschrijf Systeem,* EVS) is integrated into the GP information system. The EVS provides the GP with advice on pharmacotherapy and the related patient counselling that is tailored to the individual patient. The advice is derived from GP guidelines, which are based on the latest scientific evidence. The aim is to improve the quality and efficiency of pharmaceutical prescribing by GPs. The introduction of the EVS has had a positive impact on the therapeutic behaviour of GPs. It has improved the quality of prescriptions and the use of the electronic medical records and has resulted in a reduction of expenditure on medicines of €32 million in four years (E-overheid 2006). According to a covenant between the Ministry of Health, Welfare and Sport and the GPs, all GPs should use the Electronic Prescription System (EVS) in 2002 (Busch 2004). However, although, the EVS is available to all GPs, "only" 87% of the GPs are actually using the system (E-overheid 2006).

5.2 Human resources

The Dutch health care workforce is large and growing. About 7% of the population is working in the health care sector and since the early 2000s the total number has grown by about one-fifth. Compared to other countries the relative number of nurses is particularly high. Most numerous are nurses working in home care and in care for the elderly and disabled. At present (2009), substitution and transfer of tasks from medical to nursing professionals is an important trend. Furthermore, the recent introduction of managed competition and new governance structures has seriously affected the role of professionals, especially in relation to health insurers. Medical education is provided at each of the eight Dutch universities, while nurses can be educated at an intermediate, higher or academic level, depending on the professional profile. The quality of health care professionals is safeguarded by obligatory registration and by various licensing schemes maintained by professional associations. Workforce forecasting and careful planning of educational capacity seeks to prevent shortages or oversupply of health professionals. In a small and densely populated country like the Netherlands unequal distribution of providers is not a major issue, although in some parts of large cities additional efforts need to be made to match demand and supply of GP care. In this section these and related topics will be examined in more detail.

5.2.1 Trends in health care personnel

Table 5.2 presents numbers that are based on the total number of individuals in terms of employees and full-time equivalents (FTEs) working in the health care sector, as defined and published by Statistics Netherlands (CBS). These statistics exclude professionals who are self-employed in a partnership or a general practice. However, in Table 5.3 self-employed professionals (mostly medical specialists and GPs) are included.

Table 5.2 shows that the health workforce has increased by over 20% during the period 2001–2007. The proportion of health care personnel working on a part-time basis has remained stable, as the trend in labour volume per employee shows. As a result, the total labour volume has also increased by more than 20% between 2001 and 2007. The growth of 12% between 2001 and 2003 can be explained by governmental policy measures to shorten waiting lists. The total increase between 2001 and 2007 seems sufficient to cope with the population increase of 2.2% in the Netherlands. It should be taken into account, however, that the demand for health services in the Netherlands has sharply increased because of a number of factors, ageing being the most important.

Table 5.2
Changes in health care personnel, 2001–2007

	2001	2002	2003	2004	2005	2006	2007	Change 2001–2007
Total number of employees in health care (in 1 000 FTE)	942	1 000	1 056	1 073	1 094	1 115	1 145	21.5%
Total labour volume in health care (in 1 000 FTE)	713	758	794	805	818	843	864	21.2%
Labour volume per employee	0.76	0.76	0.75	0.75	0.75	0.76	0.75	-0.3%
Population (1 000s)	15 987	16 105	16 193	16 258	16 306	16 334	16 334	2.2%
Number of health care personnel per 1 000 population	58.9	62.1	65.2	66.0	67.1	68.3	70.1	18.9%

Sources: Statistics Netherlands StatLine; Prismant 2009.

The health care workforce as a whole is characterized by a wide variety of professions. Table 5.3 presents the composition of the Dutch health workforce by job categories for the period 2001–2007.

Table 5.3 clearly illustrates that the trends in health care employment differ between categories. The strongest growth is among midwives and the three occupational groups that have the elderly as their primary patient group (nurses working in elderly homes, nursing home physicians, mental health physicians and occupational therapists). Other groups show lower growth rates. For dental hygienists, remedial therapists (Cesar, Mensendieck) and orthoptists, the number of personnel per 100 000 inhabitants has decreased between 2001 and 2007. This is also the case for nurses employed in the disabled health care sector (-17.9%), but this can be largely explained by the fact that nursing staff in this sector have been substituted by professional social workers. Nurses employed in the elderly, disabled and home care sector are the largest health personnel groups in the Netherlands. Regarding the home care sector, for the most part nursing staff consists of certified nursing assistants. In 2001, these three occupations alone cover over 60% of the total health care workforce.

Fig. 5.4 and Fig. 5.5 show that the number of physicians and nurses per 1000 population has grown rapidly since 1996 in the Netherlands. This resulted in a physician ratio well above all the EU averages in 2007 (see Fig. 5.6), after being well below the EU15 and EU27 averages in the early 1990s. The nurse ratio has been above the EU averages since the early 1990s and reached roughly twice the average ratio of the EU15 in 2006. In contrast, the number of dentists and pharmacists in the Netherlands per 100 000 population is considerably below the EU average in 2006 (see Figs 5.7 and 5.8). The number of dentists per 100 000 has remained fairly stable over time, after a slight dip in the late

1990s and early 2000s. The recovery from this "dip" is also visible in the relatively modest growth in numbers of dentists (9.8%) since the early 2000s, as evidenced in Table 5.3.

Table 5.3

Health care personnel by category, 2001–2007

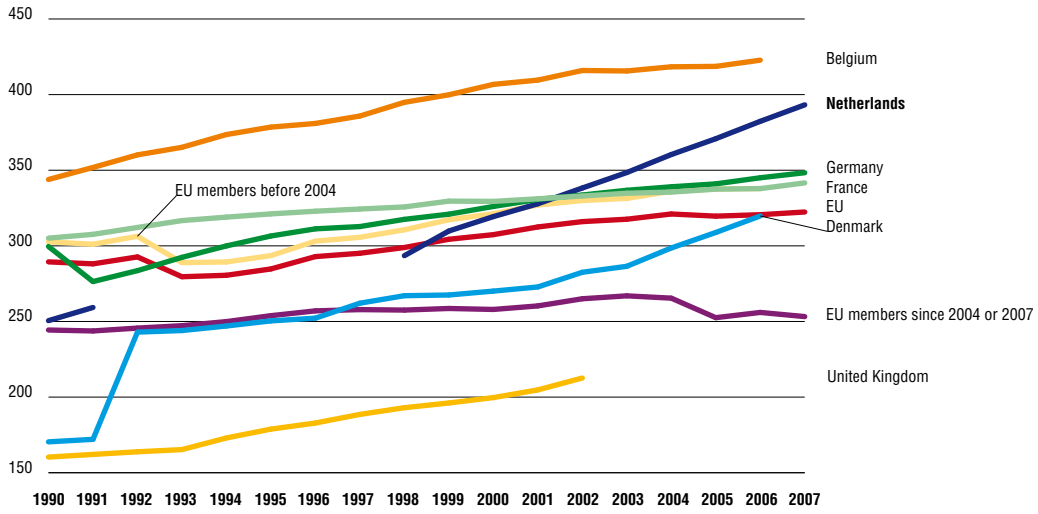
	2001	2002	2003	2004	2005	2006	2007	Change 2001–latest available year
Physicians								
General practitioners	7 763	7 932	8 107	8 209	8 408	8 495	8 673	11.7%
Medical specialists	13 400	13 450	13 800	14 050	14 283	–	15 360	14.6%
Social physicians	3 932	3 980	–	3 920	4 141	4 170	4 216	7.2%
Nursing home physicians	1 120	1 161	1 227	1 256	1 276	1 326	1 394	24.5%
Mental health home physicians	125	146	163	170	181	155	162	29.6%
Dental specialists	484	486	498	503	497	505	475	-1.9%
Other health care professionals								
Dentists	7 509	7 623	7 759	7 950	7 994	8 113	8 241	9.8%
Pharmacists	2 777	3 096	3 134	2 734	2 842	2 825	–	1.7%
Midwives	1 627	1 725	1 825	1 955	2 080	2 197	2 265	39.2%
Orthoptists	344	312	293	329	–	–	–	-4.4%
Therapists								
Physiotherapists	17 594	18 015	18 425	18 500	18 355	–	–	4.3%
Occupational therapists	2 350	2 536	2 730	2 840	–	3 108	–	32.3%
Speech therapists	3 935	4 385	4 625	4 410	4 322	4 576	4 641	17.9%
Dietitians	2 270	2 315	2 335	2 415	2 387	2 600	–	14.5%
Dental hygienists	–	2 315	2 225	2 300	2 072	2 267	2 342	1.2%
Remedial therapists Cesar	920	935	925	880	831	840	851	-7.5%
Remedial therapists Mensendieck	945	950	975	860	743	761	758	-19.8%
Podiatrists	408	430	415	455	468	471	501	22.8%
Nurses, employed in:								
Hospitals	77 037	79 240	81 363	81 779	82 115	84 350	–	9.5%
Mental health care	24 964	25 005	26 461	25 675	24 100	28 300	–	13.4%
Disabled health care	140 141	142 139	121 155	107 284	110 405	114 950	–	-18.0%
Elderly care (total)	**250 157**	**266 920**	**280 795**	**281 333**	**287 539**	**267 050**	–	**6.8%**
Elderly care: Nursing homes	65 479	65 369	60 462	60 620	64 151	–	–	-2.0%
Elderly care: Homes for the elderly	52 819	57 651	66 253	68 876	69 177	–	–	31.0%
Elderly care: Home care	131 860	143 900	154 080	151 837	154 211	–	–	17.0%

Sources: NIVEL 2009; Prismant 2009.

Community pharmacists (the core occupational group within the community of pharmacists) are evenly spread all over the country in nearly all municipalities. Their establishment behaviour actually resembles that of most independent retail firms. In the absence of pharmacies in rural areas, dispensing GPs take over their role. The increase of pharmacists in the Netherlands has kept pace with the increase of the population. As evidenced in Fig. 5.7 the number of pharmacists per 1000 inhabitants has been stable over time. This is also reflected by the low growth rate for the number of pharmacists (1.7%) since the early 2000s (see also Table 5.3). Over half of pharmacists are male (54% in 2005). This is likely to change in the future, as the majority of the younger pharmacists are female and a growing majority of the pharmacy students are female.

Fig. 5.4

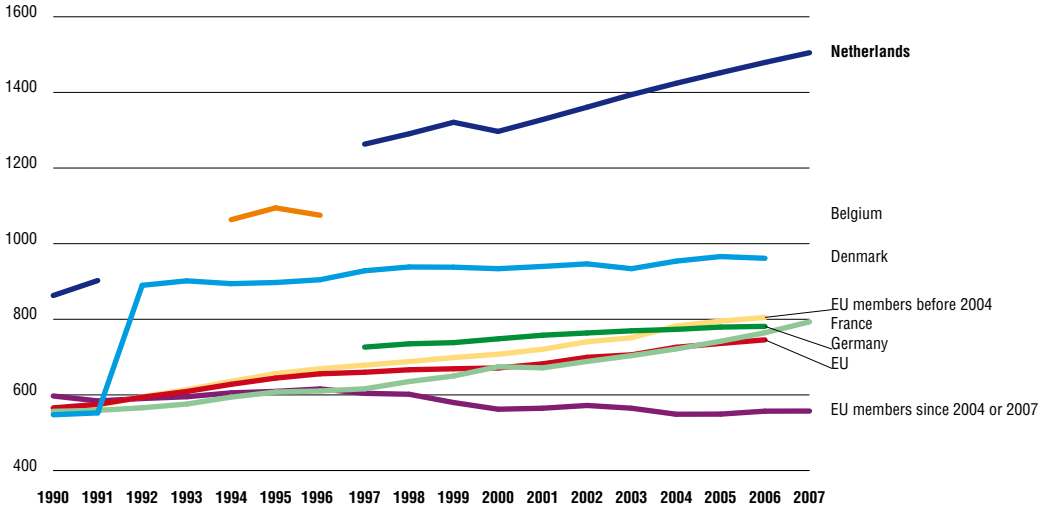
Number of physicians per 100 000 population in the Netherlands and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 5.5

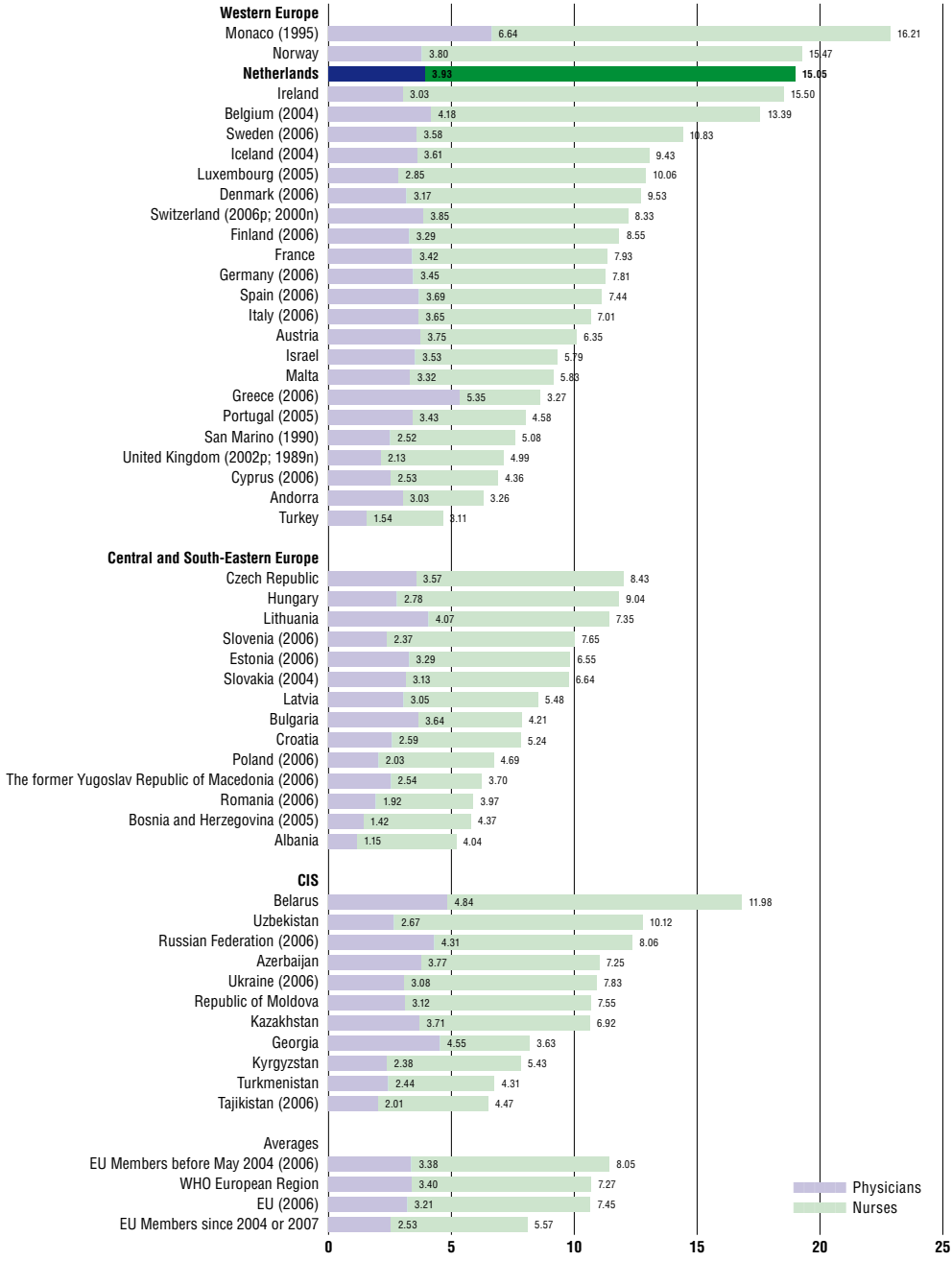
Number of nurses per 100 000 population in the Netherlands and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 5.6

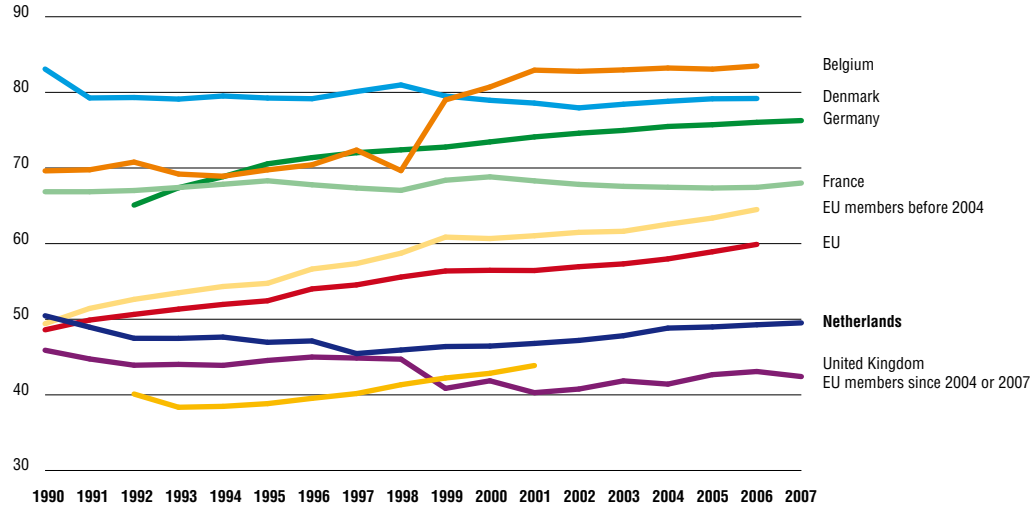
Number of physicians and nurses per 1 000 population in the WHO European Region, 2007 or latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 5.7

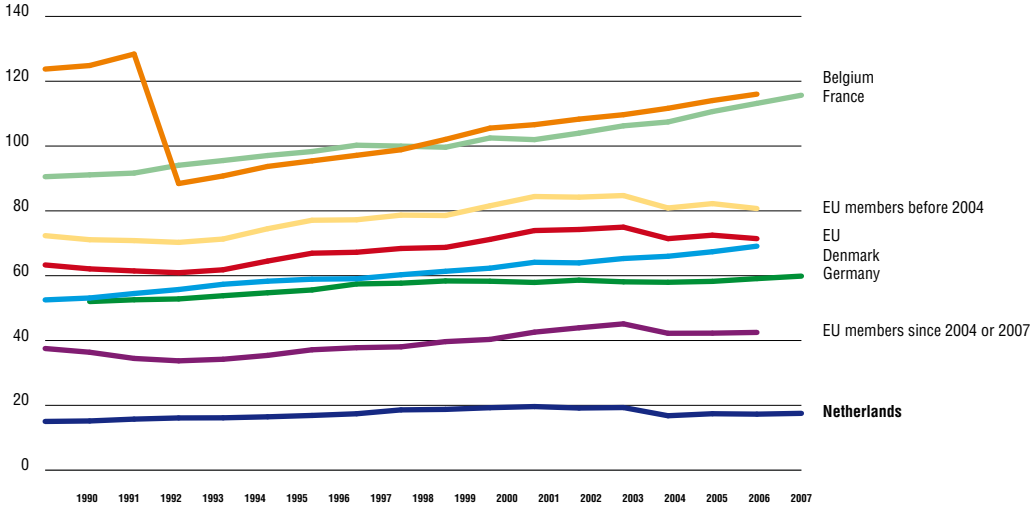
Number of dentists per 100 000 population in the Netherlands and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2009.

Fig. 5.8

Number of pharmacists per 100 000 population in the Netherlands and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2009.

Many examples can be given to illustrate how the traditional division of labour between medical professions and occupations has been changing (cf. Van der Geest and Nijhof 1989). Professionals in primary care increasingly work in larger organizational settings (such as primary care centres), where they receive support from GP assistants and managers, and collaborate in multidisciplinary teams. Community pharmacists, in contrast to hospital pharmacists, increasingly work in structured collaboration with GPs serving a specific working area. These new modes of care provision require new skills and change the work arrangements in primary and secondary care.

Another closely related trend that affects health care professions is commonly called "substitution". This can be defined as the (partial) "vertical" transfer of tasks from doctors to nurses, and "horizontal" task re-allocation between groups of health care workers. Substitution is mainly driven by efficiency, but can also be seen as inevitable in order to cope with the increasing physician workload. New occupations such as practice nurses, nurse practitioners, nurse-specialists and physician assistants are trained to fill the "gap" between physicians (specialists and GPs) and nurses. These professionals have received more tasks related to clinical treatment as well as supporting and informing patients. Substitution can also be found in the home care sector in the Netherlands. Home care nurses tend to expand their professional role by establishing independent practices. As a result, the level and variety of professional collaborations is growing, both within primary care as between primary care and hospital (specialist) care.

The increasingly blurred boundaries and substitution between health professions is driven by various developments in society, politics and technology. One of the most important drivers is ageing, which leads to a fast-growing demand for (new) health services. In addition, Dutch patients have become more critical and demanding towards providers, and increasingly seek medical information and alternative treatments. Furthermore, the governance structure in the health care system is changing radically. The Dutch government is introducing more market mechanisms in the health care sector to contain health care costs and make the sector more demand driven. As a result, medical professions have to negotiate with health insurers on health budgets, tariffs, contracts and services definitions. Medical professions have a role as players in the health care market and are supervised by new bodies such as the Dutch Care Authority (NZa).

At first sight, geographical inequalities of health care labour supply tend to be of minor importance in a small country as the Netherlands. However, regional differences in demographic development have an increasing impact on the demand for health services. Some regions, such as the southern province of Limburg, are ageing rapidly and face a relatively fast decline in the population. The composition of the largest Dutch cities has also been changing in recent years and is expected to continue to change; most notably in terms of rising shares of foreign-born citizens and single households. These developments lead to a growing geographical variation in the demand for health services, to which the workforce must adapt.

Although the health workforce largely follows national demographic trends, it is expected that shortages will arise, particularly in the most densely populated parts of the country, that is, the western part where Amsterdam, Rotterdam, The Hague and Utrecht are situated (Van der Windt, Smeets and Arnold 2008). This has various causes. GPs prefer to practise in suburban rather than in urban areas (Kenens, van der Velden and Hingstman 2003; De Bakker et al. 2005). The per capita number of nurses in the large urban areas is lower than in the more rural areas. Medical specialists form an exception. They prefer to work in the vicinity of their university hospital of training, and these are based in the larger cities. As a result, smaller hospitals in the periphery experience difficulties in recruiting medical specialists (De Bakker et al. 2005).

Another development is that foreign-educated physicians and nurses can enter the health labour market. Citizens of the countries belonging to the European Economic Area (EEA) can benefit from the mutual recognition of professional qualifications (Directive 93/16/EEC and Directive 2005/36/EC). The exact number of foreign-educated professionals is lacking. Most requests to work in the Netherlands are made by foreign medical specialists and, to a lesser extent, by foreign pharmacists, midwives, dentists and GPs.

It is estimated that of the 5800 new medical specialists who were registered in the Netherlands in the period 2000–2006, 960 (17%) hold a foreign medical diploma. The foreign inflow was by far the highest among anaesthesiology; 44% of 565 new anaesthesiologists were trained abroad (Capacity Body 2008). These numbers illustrate that professional mobility of physicians, despite linguistic obstacles, is taking place in the Dutch health care sector.

Among GPs, it has been estimated that about 10% were trained outside the Netherlands. It should be noted however, that half of these are Dutch medical students who did their GP training in Belgium (in the Dutch language) with the intention of practising in the Netherlands. In recent years, the inflow of

foreign-trained GPs has decreased from 44 GPs in 2002 to 14 in 2006. This was the result of an expansion of the educational capacity for GP training in the Netherlands.

With regard to the nurse workforce, the inflow of foreign-trained nurses has been quite low and even showed a fall in the period 1996–2000. This may be caused by the fact that most EU countries suffer from shortages, which makes recruiting nurses from abroad difficult (De Veer, den Ouden and Francke 2004; OECD 2008b).

The health care workforce is a large and growing segment of the Dutch labour market and, for that reason, frequently labelled as one of the major "growth engines" of the Dutch economy. Furthermore, the Dutch health care workforce is diverse, segmented and changing rapidly. This means that studying its structure and dynamics is important in order to correctly forecast future demand. Although much effort is put into avoiding labour market shortages, in some sectors mismatches between supply and demand appear to have become structural. For instance, shortages of physicians are expected to persist in mental health care sector, among dental surgeons, gastroenterologists, nuclear physicians and physicians for the incapacitated. Also, shortages among nurses in homes for the elderly and in nursing homes (the largest and fastest-growing sector as shown above) pose major workforce problems.

5.2.2 Planning of health care personnel

Shortages in the Dutch health care workforce alarm policy-makers, the media and patient organizations alike. Such shortages are reflected, for example, in the difficulties people experience in finding a GP who registers new patients, or in the growing waiting lists or the postponement of operations at short notice. From the perspective of the providers, the problem may manifest itself in high workloads for physicians and nurses. The determinants of high workloads, waiting lists, postponements and shortages are complex and highly interrelated. It is also difficult therefore to assess to what extent they influence each other. Various initiatives have been implemented to combat workforce shortages, in particular by changing governance structures, health workforce planning, financial regulation and logistics.

Health workforce planning is an important instrument for forecasting and controlling shortages and oversupply. The Capacity Body (*Capaciteitsorgaan*), established in 1999, is the exclusive advisory body on the inflow into all specialized postgraduate training programmes in the Netherlands. The Capacity Body is supported by a workforce forecasting model for physicians (developed

by NIVEL). This model is based on realizing an equilibrium in projection (i.e. for 2020, 2025) based on assumptions, heuristics and statistics about the demand and supply side of the health care labour market. The final forecasts are discussed with specialized "chambers" of the Capacity Body, consisting of representatives of the profession, health insurers and the medical education sector. The resulting advice, which includes a proposal for the number of new medical specialists to be trained in a certain time period, is subsequently discussed with the Ministry of Health, Welfare and Sport and the Ministry of Education, Culture and Science. The numbers are then used to advise medical faculties, schools and universities on annual student enrolment numbers. In addition to this, the Capacity Body advises on internships and specialization positions within medical schools.

For the nursing sector a programme exists, called *regiomarge,* through which national, regional and local organizations can monitor relevant labour market developments and in which forecasts are made (by Prismant) on the balance between supply and demand for several types of nursing professionals. This system is an initiative of different organizations in the sector. Basic training for nurses, midwives and allied health professions (such as physiotherapists, speech therapists) usually takes place within vocational training institutes and is financed by the Ministry of Education, Culture and Science. Entrance can be restricted, but usually no external limitations are set. Training institutes can then set their own entrance volume. Specialized training, and some of the basic training for nurses, takes place in apprenticeships via on-the-job-training in the health care institutes. The number of these training places for nurses is set by the health care institutes themselves.

The enrolment of medical students at all Dutch medical faculties and academic hospitals is controlled by a *numerus clausus* that is advised by the Ministry of Health, Welfare and Sport and is set by the Ministry of Education, Culture and Science. This "gatekeeping" (and partly selection) instrument was introduced to limit the oversupply of students and also in order to curb the high costs involved in training physicians. In addition, the *numerus clausus* is maintained with the specific aim of doctors defending their autonomy by controlling entrance to the profession. The greater part of available places is assigned by a combination of chance and average grade in secondary education. Those with a higher average have a higher chance of obtaining a place. Above a certain average all applicants are directly admitted. To anticipate shortages in the Dutch health care workforce, the *numerus clausus* is occasionally adapted. The Ministry of Health, Welfare and Sport has been stimulating a small oversupply of medical professionals to avoid shortages and related additional costs. Most medical faculties prefer to enrol slightly more students than advised.

The health workforce is also affected by professional mobility. Although in some cases numbers are relatively large, it remains difficult to estimate their current or future contribution to health workforce shortages. It is unclear whether mutual recognition of professional qualifications has resulted in more migration of health care personnel to and from the Netherlands.

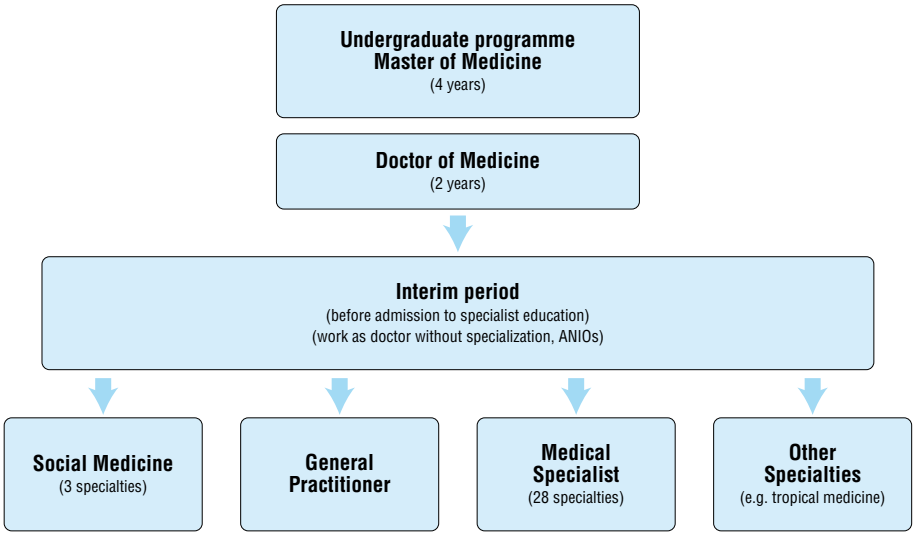
5.2.3 Training of health care personnel

5.2.3.1 Physician education and training

Since 1818, a graduated physician in the Netherlands has a protected title ("doctor") and is authorized to perform medical acts that are pre-defined by law. The establishment of the Royal Dutch Medical Association (KNMG) was the starting point for the reorganization of medical education. The Medical Practice Act (*Wet op de Uitoefening van de Geneeskunst,* WUG) of 1865 provided uniform university education and improved legal protection of the profession and title. The Act exclusively recognized university-educated physicians. The Individual Health Care Professions Act (BIG) of 1993 revised health care legislation and regulation with regard to health professions. The Dutch medical educational system is depicted in Fig. 5.9.

Fig. 5.9

Schematic representation of the Dutch medical educational system



Undergraduate medical education in the Netherlands is structured into two phases. The *first phase* provides education for a Master's degree and includes two stages. The first year constitutes the first stage; the senior years (second to fourth year) the second stage. Both stages conclude with exams. The Academic Statute specifies the subjects of the first year examination and the examination completing the senior years. The *second phase* of the study of medicine takes two years (the fifth and sixth) and concludes with the Doctor of Medicine examination. During the second phase, students are introduced to a clinical setting.

In the Netherlands, medical education is provided at eight universities. Those who pass their Doctor of Medicine examination are qualified to practise medicine. They are bound, however, to act "within the limits of their knowledge and competence". Doctors of Medicine are legally qualified to prescribe medicines and provide medical certificates, such as death certificates. However, they are not allowed to work as a GP or in any other medical specialty. Over 60% of graduates in medicine enrol in a specialized postgraduate training programme. As training positions for most specialties are scarce due to the professional regulations, graduates often need to fill in time before they can start. Most graduates use this interim period by working as a doctor without a specialization (*arts niet in opleiding tot specialist,* ANIO).

There are 28 different medical specialties, all having their own rules and requirements. Specific committees (*consilia*) within each specialty are responsible for the content and requirements of the training programme. Education is provided in the eight university hospitals and some general teaching hospitals. Most postgraduate programmes take at least four years of training, with the exception of the postgraduate programmes for general practice and in social medicine. Postgraduate training in general practice takes three years and consists of a theoretical and a practical part. About 20% of medical graduates decide to take this programme. Social medicine has three specialties that take a minimum of two years to complete. This specialty is chosen by about 6% of the medical graduates.

Innovations are being discussed and gradually introduced in the re-registration schemes for physicians. A major requirement for re-registration has traditionally been participation in Continuous Medical Education (CME). In CME, physicians individually choose which courses they follow and the topics for their training. These topics reflect their professional interests, but not necessarily the possible individual gaps in knowledge and skills. With more rapid developments in medicine, the focus is now increasingly put on continuous structured acquisition of new knowledge, skills and attitudes in order

to maintain and even improve competence. This should also make physicians more accountable in terms of professional competence. This continuing process is called "Continuous Professional Development" (CPD).

Competence-based training, which takes a CPD approach, is a relatively new aspect of Dutch medical education. It includes a revision of the traditional master-fellow relationship between student and professional and aims to improve the non-technical skills of physicians. The Central College of Medical Specialists (*Centraal College Medische Specialismen,* CCMS) is responsible for the national roll-out of competence-based training for all specialties in the Netherlands. The range of required competences is defined by the National Federation of Academic Medical Centres and is based on standards set by the Royal College of Physicians and Surgeons of Canada. In the new competence profile of a medical specialist, the key competence of "medical acting" is accompanied by six other competences that are of equal importance: (1) cooperation, (2) professionalism, (3) communication, (4) organization, (5) societal acting, and (6) knowledge and scientific research. With the introduction of competence-based training, mutual understanding, feedback and trust have gained importance.

Finally, the re-registration of physicians used to be based on minimum obligations for having practised in one's own specialty. As mentioned above, this implies having followed a minimum number of hours on accredited CME activities in the period before re-registration (usually five years). Recently, requirements for re-registration were expanded and made more diverse. As of 1 January 2009, re-registration criteria for GPs have been extended to include 40 hours of training per year and additionally at least 10 hours of participation in peer review activities. In addition, participation in a visitation programme will be added as a requirement for re-registration in 2011. For other medical specialists participation in visitation programmes was introduced as a re-registration requirement in the early 2000s.

5.2.3.2 Nurse education and training

As there are different professional levels, several educational paths can be identified. Nurse attendants are trained in a programme that usually takes three years; shorter practice-based re-training programmes are also offered. Nurses can be educated at an intermediate, higher or academic level.

The intermediate level of nurse education (*Middelbaar Beroeps Opleiding,* MBO-V) takes four years. In the later stage of this education, students specialize in different health care settings, such as general hospital, chronic care, psychiatry, geriatrics and maternity care. The higher nursing education (*Hoger*

Beroeps Opleiding, HBO-V) also takes four years and results in the Bachelor of Nursing (BN) degree. Nurses who complete the intermediate education become general nurses, while those with a higher education are prepared for specialized and coordination functions. An academic education in nursing is available at university level. Educational programmes in nursing science at Bachelor's and Master's level are offered at the universities in Utrecht, Maastricht, Nijmegen and Groningen. These academic programmes prepare students for functions in policy and research.

Nurses from the higher level with relevant work experience can further specialize to become a nurse specialist. This is a newly recognized profession laid down in the Individual Health Care Professions Act (BIG). Nurse specialists are qualified to independently treat specific groups of patients, such as chronically ill. Nurse specialists play an important role in substituting tasks from physicians to nurses. A limited number of nurse specializations have recently been recognized for preventive care; acute care and chronic care with somatic disorders; intensive care; and mental health care. The most important requirement to become a nurse specialist is a diploma from a recognized Master's-level course. At present, only the Master's in Advanced Nursing Practice (MANP) education programme has been recognized. In future, other programmes for nurse specialists, if operating according to the criteria set out by the College for Specialities in Nursing (*College Specialismen Verpleegkunde,* CSV), can be recognized as well. A number of specialist nurse programmes are in a process of recognition. Nurses without recognized educational qualifications who want to register as a nurse specialists need to pass an assessment to prove that they have attained an equivalent professional level.

In contrast to the educational framework for physicians, continuing education for nurses takes place only on the initiative of the health care institutions where nurses are employed. In order to keep registration as a nurse, only a minimum requirement related to the number of hours worked as a nurse needs to be met. However, Nurses and Carers Netherlands (V&VN) has taken the initiative to develop a "Quality Register for Nurses" (*Kwaliteitsregister*). On a voluntary basis, nurses can record their training and professional development activities online in a personal portfolio. The register offers individuals the possibility to compare their skills with professionally agreed standards of competence. As a standard for "sufficient continuing education", the V&VN defines 184 hours in a period of five years. Nurses are encouraged to use the register for job applications, provide their employers with access to their portfolios and establish a personal professional development plan with their employer.

To guide nurses among the large supply of postgraduate education programmes, a foundation was set up aiming to qualitatively assess courses and training programmes. This foundation (*Stichting Post-HBO Opleidingen,* SPHBO) designates courses and other educational activities that meet their criteria. The database of SPHBO provides a structured overview of trainings and courses.

5.2.4 Registration/licensing

5.2.4.1 The Individual Health Care Professions Act (BIG)

The 1993 Individual Health Care Professions Act (BIG) regulates registration and licensing of health professionals in the Netherlands. This Act replaced the Medical Practice Act which had become obsolete because it unnecessarily restricted the citizen's right to choose treatment and did not recognize new medical specialties and newly acquired qualifications of nurses and other non-medical professions. According to the Individual Health Care Professions Act (BIG) anyone holding a licence (from the respective professional association) and BIG registration, whether or not they are a Dutch national, is allowed to practise in the field of individual health care, taking into account (1) stipulated restrictions and (2) protected professional or academic titles.

Stipulated restrictions are reserved acts that may only be performed by physicians or other groups of designated professionals. This list describes hazardous actions that require a high level of competence. These include surgical treatment, obstetric assistance, endoscopy, catheterization, injections, punctures, anaesthesia, the use of ionizing radiation, the employment of elective cardioversion, defibrillation, electroconvulsive therapy, use of lithotripter, and actions with human reproductive cells and embryos. Physicians are the only professionals qualified to perform all reserved actions mentioned, if they assume themselves to be competent. In addition, specific other professionals, such as dentists, midwives and nurses, are qualified to perform certain reserved actions independently or under supervision.

Protected professional or academic titles as in Articles 3–33 of the Act specify the professions to which a system of registration and professional title protection applies. These professions comply with the legal educational standards and are included in the so-called BIG register (discussed below), which is an instrument of the Act. A sanction specified in the Act is disqualification from practising.

5.2.4.2 The BIG Register

The Individual Health Care Professions Act (BIG) requires health professionals to be registered in the BIG register, which contains well over 390 000 health care providers. Any citizen has access to this register by telephone or via the Internet to convince himself or herself about formal aspects of the competence of a care provider. In addition to proof of registration, the register provides information regarding whether physicians are specialized and if restrictions have been imposed by a judge or disciplinary body. On January 2009, re-registration every five years has been introduced in the register for nurses, midwives and physiotherapists. The register includes physicians, dentists, nurses, physiotherapists, midwives, psychotherapists, health care psychologists, and pharmacists.

5.2.4.3 Foreign diplomas

In the EU, agreements exist on the automatic recognition of professional qualifications such as for physicians, dentists, pharmacists, midwives and (general) nurses from other Member States. The recognized diplomas for each of these professions have been described for each country. European citizens in possession of a recognized diploma can apply for registration. No additional requirements concerning mastering the Dutch language apply. For all other professional qualifications, it is decided by Ministerial Order whether foreign diplomas can be considered equivalent to Dutch ones. If the decision is positive, holders of such qualifications are entitled to register or to use an academic title. In addition, the Minister of Health, Welfare and Sport may issue individual certificates, stating that there are no objections for a certain professional (in terms of competences) to register or use of a title. Such a certificate may be conditional either in terms of the duration of the registration or the restrictions in professional practice.

5.2.4.4 Licensing

Parallel to the Individual Health Care Professions Act (BIG), the associations of medical specialists in the Netherlands have formulated their own procedures for licensing their members. These are private law arrangements related to the protected title of medical specialists. Medical specialists have two bodies that are in charge of licensing them.

The first body is the Central College of Medical Specialists (CCMS), which decides which specialties are recognized and establishes requirements for medical courses, teachers and institutes. Decisions of the CCMS have legal force after approval from the Minister of Education and Science. The second

body is the Medical Specialist Registration Committee (MSRC). This body is responsible for licensing specialists and carries out decisions made by the CCMS. The MSRC includes or removes individual specialists from the MSRC register and organizes peer visitations of institutions.

Lastly, GPs, nursing home physicians and social physicians also have their own Central College and Registration Committee. Registration is compulsory to receive payments from health insurers. As with specialists, a GP, nursing home physician or social physician can be removed from the register if he or she has not practised the profession on a regular basis for five years.

5.2.5 Medical career pathways

5.2.5.1 Physicians

After a medical student has become Doctor of Medicine, the majority continue their medical education. For most medical specialties, several years of hospital experience after graduation are required. For some specialties a (planned) PhD is favourable for selection. In most cases, a successful training results in a PhD in the hospital of training. In case of a specialist working in a partnership, internal clinical staff promotions are jointly decided by all colleagues of a partnership. In the case of a specialist employed by the hospital, promotions are decided by the management board or board of directors.

In contrast to the situation of medical specialists, admission to a postgraduate training programme in Family Medicine is a guarantee of a permanent position as a GP. After successfully completing the three-year training programme, GPs normally engage in an application procedure for a position. In many cases, after having established themselves, GPs tend to stay in one place. Mobility among GPs working on a contract basis (mostly women) is larger than among self-employed GPs. In general, Dutch GPs (like specialists) rarely leave medicine, although early retirement seems to be related to experienced high workload.

5.2.5.2 Nurses

With regard to career paths, a basic distinction can be made between nurses active in care activities and nurses active in curative activities. The lowest three levels are employed in the care domain, while the two highest levels are positioned in the curative domain. The levels are related to the years of required training. As described earlier, several follow-up courses of study exist for nurses leading to higher positions in health care organizations. Specialist

nurse training is aimed at obtaining additional competences and qualifications that cannot be obtained from clinical experience. Registered nurses, regardless of their educational background, are entitled to take specialist training courses. The recognized specialist nurse training is aimed at a specific patient category, for example intensive care, children, neonates and cardiac care patients.

6. Provision of services

In the Dutch health care system, private health care providers and health insurers are primarily responsible for the provision of services. Health care can be mainly divided into preventive care, primary care, secondary care and long-term care. Preventive care is mainly provided by public health services. The GP is the central figure in primary care. The gatekeeping principle is one of the main characteristics of the Dutch system and means that hospital care and specialist care (except emergency care) is only accessible upon referral from the GP. Only 4% of contacts with a GP result in a referral to secondary care. After receiving a referral, patients can choose in which hospital they want to be treated. Long-term care is mainly provided by nursing homes, residential homes and home care organizations. The following sections will not only describe the health services that are provided within the Dutch health care system in more detail but also discuss forms of care outside the regular health care system, such as alternative treatments and informal care.

6.1 Public health services

Disease prevention, health promotion and health protection fall under the responsibility of municipalities. There are 29 municipal health services (GGDs) that carry out these tasks for all (443) municipalities. The range of duties differs between GGDs, because every municipality gives its own assignments to the local GGD, specified in the municipal memoranda about local policy on community health. Nevertheless, all GGDs also have a number of uniform tasks. These tasks are specified in the Public Health Act (Wpg) (GGD Nederland 2003) and include:

- youth health care
- environmental health

- socio-medical advice
- periodic sanitary inspections
- public health for asylum seekers
- medical screening
- epidemiology
- health education
- community mental health.

Two areas of public health services that cover important aspects of the health care system will be described: youth health care and preventive screenings and vaccinations.

6.1.1 Youth health care

Youth health care (*Jeugdgezondheidszorg,* JGZ) provides preventive care for all children aged between 0 and 19 years. Until the age of 4, children visit child health centres (*consultatiebureaus*) for check-ups. The child health centres also provide medical and parenting advice. The most important tasks of preventive health care are the monitoring of growth and development; early detection of health problems (or risks) or social problems; screening and vaccination; and providing advice and information concerning health. This care is provided by specialized physicians and nurses. When treatment is necessary, the child health centre will refer to other primary health care providers, mostly GPs.

The child health centres are frequently used; almost all children have more than one contact in their first year of life. Table 6.1 shows the percentage of children per age-category that attend a child health centre (coverage) and the average number of visits in the first five years of life. Before their fifth birthday, children have visited a child health centre on average about 15 times. After the fifth birthday, the preventive check-ups are taken over by school doctors. School doctors check all children at the age of 5, 10 and 13 years.

Table 6.1
Visits to preventive child health care (child health centre) during the first four years of life, 2006

Age (years)	Coverage	Number of visits (average)
0	100%	5.4
1	98.6%	4.8
2	92.2%	1.8
3	88.2%	1.5
4	78.8%	1.5

Source: Statistics Netherlands 2008a.

6.1.2 Screenings and vaccinations

The coverage of most health protection programmes is high compared to many other countries. In 2005, the national average vaccination percentages for each vaccine in the National Vaccination Programme (*Rijksvaccinatieprogramma,* RVP) were over 95% (DTP-Hib-HepB, since 1 June 2006; and MMR, MenC, pneumococci, since 1 April 2006). In 2009, the human papilloma virus (HPV) vaccine was added to the RVP. The target group of the HPV-campaign consists of girls of the age of 12.

The screening for cervical cancer had a turnout of 66% in 2006 (NPK 2009). The percentage has been stable since 2003. The Ministry of Health, Welfare and Sport strives for a participation of at least 65.5%. Dutch women between the ages of 20 and 60 years are called up for a smear test once every five years. The attendance rate for cervical screening is high compared to most other European countries (NPK 2009). In 2006, 99.9% of neonates underwent a heel-prick test (detection of diseases PKU, AGS, and CHT) (TNO 2008). On 1 January 2007, the coverage of the heel prick was extended and now screens for 17 diseases. Participation in breast cancer screening is also high at 81.7%. Besides GGDs, GPs are involved in preventive cervical cancer screening and vaccination against influenza.

6.2 Patient pathways

In most cases, the first contact with the health care system takes place after a medical problem occurs. Which health care provider the patient consults, and which path the patient follows through the health care system depend on the type and severity of the complaint.

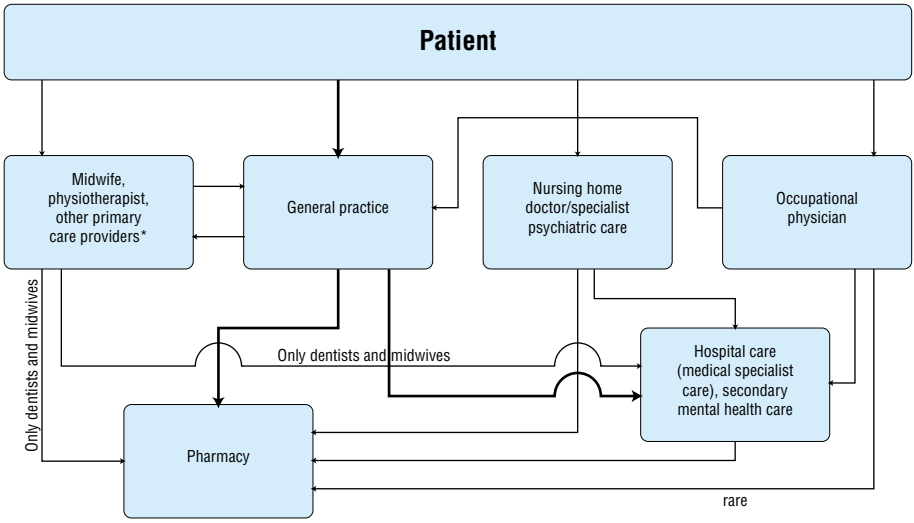
The possible pathways of a patient through the system can be displayed schematically using a flow chart. In the majority of cases, the first point of contact for people with a medical complaint will be their GP. The GP has a central role in the health care system and acts as gatekeeper of the system. This means that for "prescription-only medicines" or medical specialist care a prescription or referral from a GP is required. Other physicians who are directly accessible are nursing home doctors and occupational physicians. These physicians are also allowed to refer to medical specialists and to prescribe medication. However, occupational physicians very rarely prescribe medication and not all health insurers will accept their prescriptions. For specific problems, patients can also directly access allied health professionals, such as physiotherapists and remedial therapists. However, these professionals are not qualified to prescribe medication or to refer to secondary care. Two other directly accessible primary care professionals are midwives and dentists. These disciplines are also qualified to refer to some forms of secondary care, such as gynaecologists in case of midwives and dental surgeons in case of dentists. They are also allowed to prescribe some types of medication. Since 2007, specialized nurses are also qualified to prescribe medication within their own field of expertise (e.g. diabetes or COPD) but only after diagnosis by a physician.

Fig. 6.1 shows the pathways of patients in curative, non-emergency care. The bold arrows represent the pathways that the majority of the patients follow; first they contact their GP who treats the patient, describes medication or refers to a secondary care provider, or a combination of these possible actions. Box 6.1 describes an example of a specific case in more detail; a patient who needs a hip replacement.

In case of emergency care, patients can contact their GP or go directly to the emergency ward. The pathways of patients for emergency care are shown in Section 6.5 *Emergency care*.

Fig. 6.1

Flow chart for patient pathways in regular, non-emergency curative care



Notes: *Only for dietitians a referral from the GP is required; Bold arrows = largest patient flows.

Box 6.1

Patient pathway example: woman in need of hip replacement

A woman in need of a hip replacement due to arthritis would take the following steps:

- During a visit to the GP with whom she is registered, the GP refers her to a hospital orthopaedic department.
- She has free access to any hospital. On a government-run web site (www.kiesbeter.nl) she can compare hospitals on the basis of waiting times and quality indicators. Waiting times vary considerably; between 2 and over 20 weeks. In practice, only few patients actually compare hospitals on a web site. Often the GP recommends a certain hospital or she goes to the nearest hospital.
- Her GP or specialist prescribes any necessary medication.
- After referral, the patient may have to wait for an outpatient hospital appointment for examination by a specialist.
- After this she will have to wait for inpatient admission and surgery.
- Following surgery and primary rehabilitation at the hospital, the patient goes home, where she might need home care (home nurse and/or home assistance). The Centre for Needs Assessment (CIZ) has been commissioned by the government to carry out assessment for the Exceptional Medical Expenses Act (AWBZ), which finances home care. To receive home care, it is necessary to make an application. This can be done by the patient or by a care provider.

- The GP receives a discharge summary from the hospital and is responsible for further follow-up. The GP can refer her to a physiotherapist or the patient can go to a physiotherapist without referral.
- After approximately six weeks, a follow-up hospital visit takes place.

6.3 Primary health care

Primary care in the Netherlands has a wide variety of providers, such as GPs, physiotherapists, pharmacists, psychologists and midwives. To reduce the traditional fragmentation in the primary health care field, government policy aims to further strengthen and develop primary care. The field has to cope with the growing demand for services, increased complexity of demand and changing preferences of patients. The goal is to create a more integrated provision of primary care services (Algemene Vereniging Verpleegkundigen en Verzorgenden et al. 2004).

A pivotal role in primary care and in the health care system in general is played by the GPs, because they function as gatekeepers. This is almost unique when compared to other countries with SHI systems. The gatekeeping principle is one of the main characteristics of the system and denotes that hospital care and specialist care (except emergency care) is mostly only accessible upon referral from the GP. All citizens are listed with a GP, mainly in their own neighbourhood. In 2008, there were 8783 practising GPs. Many GPs (51%) work in group practices of three to seven GPs, 29% work in two-person practices and 20% work in a single-handed practice. Most GPs are independent entrepreneurs or work in a partnership. A small share of GPs are employed in a practice that is owned by another GP. A full-time working GP has a practice list of approximately 2300 patients (Hingstman and Kenens 2008). People contact their GP five times per year on average; however, this varies sharply between different age categories, as shown in Table 6.2. Fig. 6.2 shows that the total number of outpatient contacts per person per year in the Netherlands (5.7 in 2006) is below the EU15 average (6.5 in 2001) and well below the EU12 average (7.7 in 2007).

Table 6.2
Contacts of citizens with their GP (face-to-face contacts and telephone consultations), 2008

Age	Men	Women	Total
0–4 years	3.2	3.0	3.1
5–14 years	2.2	2.2	2.2
15–24 years	2.0	4.2	3.1
25–44 years	2.7	5.1	3.9
45–64 years	5.3	7.3	6.3
65–74 years	9.1	11.0	10.1
75+ years	13.9	16.0	15.2
Total	**4.3**	**6.4**	**5.4**

Source: NIVEL various years (2008).

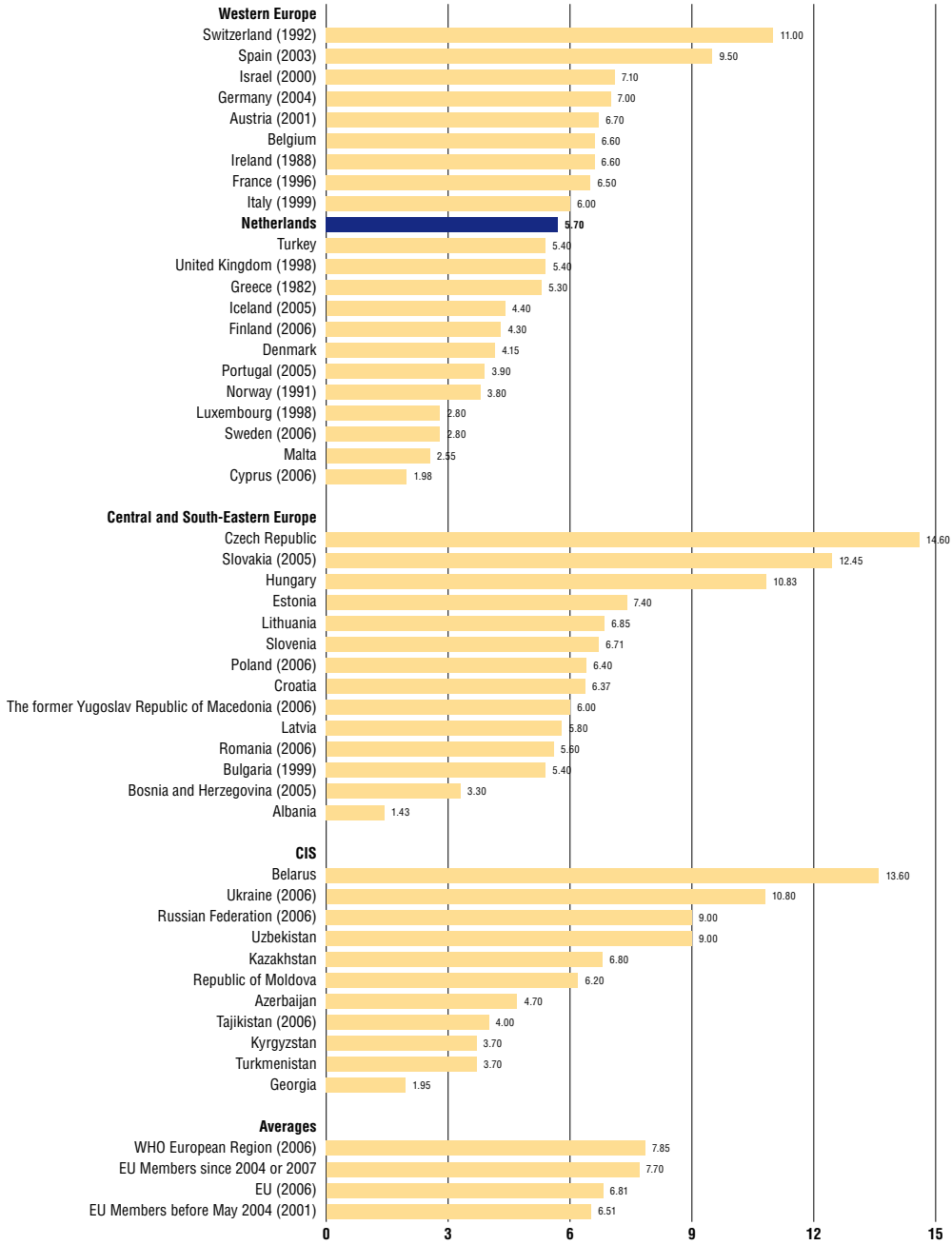
Patients register with a GP of their choice and can switch to a new one without restriction. However, GPs have the right to refuse a patient. Reasons to refuse patients can be that the patient lives too far from the practice or because the GPs has too many patients on their list. Almost 100% of the population can reach a GP within 15 minutes from their home (National Institute for Public Health and the Environment 2009b). Since GPs play such a key role in the health care system, quick and easy access to a GP is generally seen as very important. This importance is reflected by the fact that GP care is excluded from the compulsory deductible. GPs can usually be visited within two days.

Most GPs are members of the Dutch College of General Practitioners (NHG). The NHG has developed guidelines for 85 different complaints. These guidelines contain recommendations about anamnesis, examination, treatment, prescription and referring. These guidelines are regularly updated on the basis of new evidence.

Dutch GPs are generally non-interventionist, which is reflected in low prescription and referral rates (also see Section 6.6 *Pharmaceutical care*). Approximately 96% of all contacts are handled within the general practice; only 4% are referred to secondary care or to other primary health care providers (Cardol et al. 2004). In approximately two-thirds of the contacts, GPs prescribe medication (SFK 2008). During the night and at weekends, out-of-hours GP care is provided in larger cooperatives of GPs (GP posts). GP posts also have a gatekeeping function for emergency care. Some emergency care can be carried out by GPs and some is referred to the emergency ward.

Fig. 6.2

Outpatient contacts per person per year in the WHO European Region, 2006 or latest available year



Source: WHO Regional Office for Europe 2009.

Other examples of primary health care providers are physiotherapists, dentists, midwives, remedial therapists and primary care psychologists. Dentists and midwives have always been directly accessible. Physiotherapists have become directly accessible since 2006, although most patients are still referred to from a GP. Around one-third of patients visit the physiotherapist without referral (Swinkels, Kooiman and Leemrijse 2009). A special characteristic of obstetric care is the midwife-led home deliveries for low-risk pregnancies. About 30% of deliveries in the Netherlands take place at home. Since 2008 remedial therapists are directly accessible. For primary care psychologists and dietitians, a referral is still required.

Since the late 1990s some important changes have been taking place in primary care. Although the GP still is the most central figure, several tasks of GPs have been shifted towards other primary health care providers. The practice nurse has become an important new professional in general practice. Practice nurses take care of specific categories of chronically ill, especially patients with diabetes, COPD and cardiovascular diseases. Moreover, the GP is no longer the gatekeeper for all forms of care. In 2006 the physiotherapist became freely accessible and later remedial therapists followed. Occupational doctors have become qualified to refer patients to secondary care. Since 2007, specialized nurses are also allowed to prescribe medication but the diagnosis has to be made by a physician.

6.4 Secondary care, specialized ambulatory care/ inpatient care

Secondary care encompasses those forms of care that are only accessible upon referral from a primary care health provider, such as a GP, dentist or midwife. These forms of care are mainly provided by hospitals and mental health care providers. Hospitals have both inpatient and outpatient departments as well as 24-hour emergency wards. Outpatient departments are also used for pre- or post-hospitalization diagnosis.

There are six types of institutions that provide hospital or medical specialist care:

- general hospitals
- academic (university) hospitals
- categorical hospitals

- independent treatment centres
- top clinical centres (specialized in e.g. cancer, organ transplantation, IVF)
- trauma centres.

In 2009, there were 141 hospital locations and 52 outpatient clinics organized within 93 organizations (Deuning 2009b), with among them 8 university hospitals. These hospitals provide practically all forms of outpatient as well as inpatient secondary care. Except in cases of emergency, patients only consult a specialist upon referral from a GP. Most hospitals also have 24-hour emergency wards. There were 98 categorical hospital locations that concentrate on specific forms of care or on specific illnesses (e.g. revalidation, asthma, epilepsy or dialysis). In 2007 there were over 120 independent treatment centres. The care of independent treatment centres is limited to care in the so-called B-segment. This is non-acute, freely negotiable care that can be provided in one-day admissions. Most top clinical centres are part of a university hospital or are operated by a number of hospitals working cooperatively. Examples are 9 cancer clinics, 19 heart clinics or clinics for organ transplantation (e.g. 10 for kidney transplants, 3 for lung transplants, and 3 for heart transplants). In 2006, there were 10 trauma centres, most of them related to a university hospital (National Institute for Public Health and the Environment 2009b).

Most hospitals are corporations. Hospitals are non-profit institutions as a for-profit motive is not allowed. Since 2008, however, a few pilots have started that allowed paying out a part of the profit to shareholders. Attracting shareholders might give hospitals the opportunity to generate more investment for quality improvement and innovation. These experiments are, however, restricted by the government to guarantee public interests (Dutch Health Care Authority 2008a). Whether or not hospitals should be allowed to generate profit and to have shareholders is still a topic of political debate.

Within hospitals, approximately 75% of medical specialists are organized in partnerships (NIVEL 2009). These partnerships are largely independent. In a few hospitals, especially university hospitals, the specialists are employed by the hospital. In 2005, there were 16 156 registered medical specialists. The largest categories were psychiatrists (2499), internists (1782) and anaesthesiologists (1252).

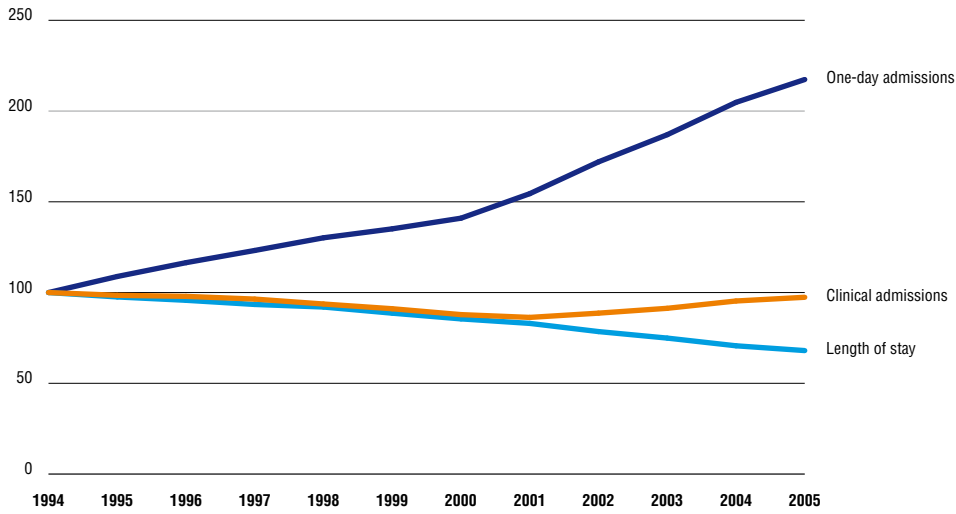
In 2007, 41% of the population had a contact with medical specialist care, and on average, these people had 1.8 contacts in a year; 11.5% (2005) were admitted to hospital. Of all hospital admissions, approximately 46% were one-day admissions (Statistics Netherlands 2009f).

6.4.1 Specialized ambulatory services

In the recent decades, the number of people that receive hospital care has been rising. In the same period, the proportion of one-day admissions has risen considerably. Fig. 6.3 shows that in a period of 10 years (1994–2004) the number of one-day admissions has doubled, while the number of clinical admissions remained more or less stable. In this same period, the average length of stay decreased by 30% (National Institute for Public Health and the Environment 2009b). This is further supported by data showing that surgery interventions in the Netherlands more often take place in day surgery compared to other European countries (Westert et al. 2008).

Fig. 6.3

Clinical admissions, one-day admissions and length of stay (1994–2005) (index = 1994)



Source: De Bruin, Verweij and van Wieren 2008.

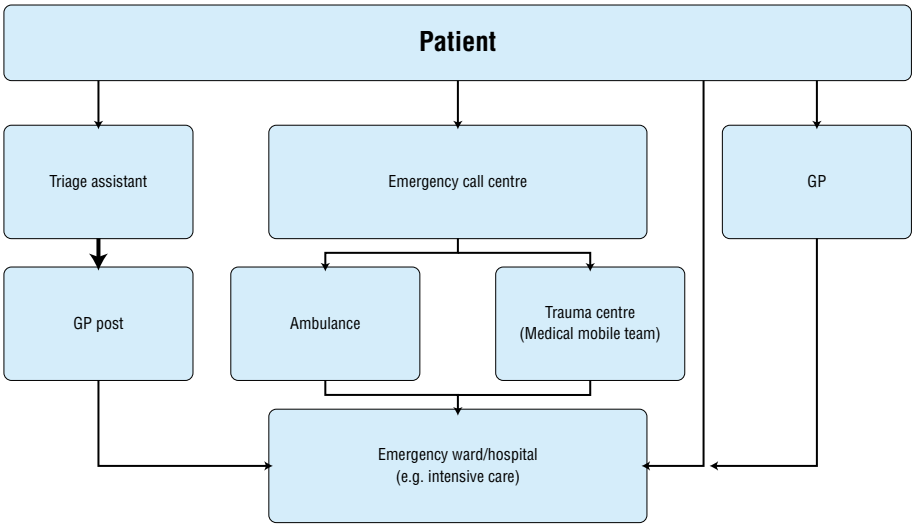
In 2005, about 7% of hospital care was subjected to free price negotiations, that is, the so called B-segment. In this segment, health insurers negotiate with health care providers about the prices, volume and quality of DBCs. For the remainder of hospital care (the A-segment), prices are determined by the Health Care Authority (NZa). In the A-segment health care suppliers and health insurers only negotiate about volume and quality. In 2008, the B-segment was extended to 20% of hospital care and in 2009 to 34%. The price levels in the B-segment are lower in the independent treatment centres (ZBCs) than in other

hospitals. This difference is on average about 20%. By extending the B-segment the government aims to create more competition between care providers, and to reduce costs. For more detailed information see Section 3.5 *Purchasing and purchaser–provider relations* and Section 7.1 *Analysis of recent reforms*.

6.5 Emergency care

Emergency care is care that must be provided immediately after an accident or for a very acute illness. Emergency care is provided by GPs, emergency wards and trauma centres. Depending on the urgency of the situation, patients or their representatives can contact the GP, the GP post (for out-of-hours care), call an ambulance or go directly to the emergency ward at the nearest hospital. See also Fig. 6.4 for an emergency care flow chart and Box 6.2. for an example (man with acute appendicitis).

Fig. 6.4
Flow chart for patient pathways in emergency care



Except for situations where an ambulance is required (such as traffic accidents), patients without an acute life-threatening illness or injury are expected to contact a GP. All GPs have a separate telephone line for emergency calls. The GP treats the patient and, when necessary, refers the patient to the emergency ward or calls an ambulance. Outside office hours (nights and

weekends) patients can contact a GP post. In 2005, there were 131 GP posts for out-of-hours care; 98.2% of the Dutch population could reach a GP post within 30 minutes by car (Zwakhals 2008). In GP posts specially trained assistants answer the phone and perform triage. Depending on the complaint, the assistant advises the patient to come to the GP post or the GP visits the patient at home. In many cases, emergency care is provided by the GP. When necessary, the GP refers the patient to the emergency ward or calls an ambulance. However, in actual practice, around 60% of emergency ward patients arrive without referral (Council for Public Health and Health Care 2003a).

In 2006, there were 107 emergency wards. All emergency wards are part of a hospital. At the emergency ward, there is a team of medical specialists and specialist nurses. Disciplines that are represented in most teams are a surgeon, a cardiologist, an internist, a neurologist and a paediatrician. Patients have their first contact with a trained assistant who perform the triage. Emergency wards are well spread over the country and can be reached within 30 minutes from almost all places, except for the islands (Deuning 2008). In recent years, a growing number of emergency wards and GP posts have integrated both organizationally and geographically. In these settings, a triage assistant decides whether a patient can be treated by a GP or should go to the emergency ward. This structure can avoid unnecessary visits to the emergency ward.

In urgent situations, patients or others can call the emergency call centre (*meldkamer*) and ask for an ambulance. At the call centre, the telephone is operated by a specialized and often medically trained assistant, who must quickly evaluate the urgency of the call. In 2006, there were 34 ambulance-posts with a total of 668 ambulances. An ambulance should not take longer than 15 minutes to reach an emergency site. The assumption made for calculations is a two-minute response and call-out time; and a net travel time of 13 minutes (Kostalova, Kommer and Zwakhals 2007). An ambulance is always staffed by a specialized nurse and a driver, who also assists the nurse.

For very severe accidents, there are 11 trauma centres, most of them at university hospitals. To facilitate a trauma centre, a hospital needs 24-hour availability of emergency care, an intensive care unit, a large range of medical specialists and a mobile medical team (MMT). This MMT consists of a specialized physician (often a surgeon), a pilot or driver and a trained nurse. Four trauma centres have a helicopter, the others only have ambulances. Two German and one Belgian helicopter are available in the border regions. Together, this network enables 98.2% of the population to be reached within 30 minutes (Zwakhals, Kommer and Kostalova 2008).

Box 6.2

Emergency care pathway for a man with acute appendicitis

A man with acute appendicitis on a Sunday morning would take the following steps:

- The man with appendicitis (or someone else) calls the GP post for out-of-hours services. His call will be answered by a triage assistant. The assistant decides, possibly after consulting the GP that the patient can come for further investigation (note that the diagnosis is not made yet).
- The patient arrives at the GP post. The GP diagnoses an acute appendicitis and refers the patient to the emergency ward.
- At the emergency ward, a specialized nurse performs the triage and estimates the urgency of the complaint. The waiting time depends on the urgency.
- A surgeon performs surgery on the patient.

Another possibility is that the man goes directly to the emergency ward, without consulting the GP. Around 60% of the patients of the emergency ward come without referral.

6.6 Pharmaceutical care

The supply of prescription-only pharmaceuticals is exclusively reserved to pharmacists and dispensing GPs (in some rural areas). Over-the-counter (OTC) pharmaceuticals for self-medication are available both at pharmacies and chemists. Since 2007, this is regulated by a new law on medical supplies and drug distribution, the Medicines Act (*Geneesmiddelenwet*). The Health Care Inspectorate (IGZ) enforces the proper distribution of pharmaceuticals according to this Act. Manufacturers, GPs and community pharmacists are jointly responsible to provide users with independent information on pharmaceuticals as published by the *Farmacotherapeutisch Kompas* (for pharmacotherapeutic guidelines) and *Geneesmiddelenbulletin* (for pharmaceuticals in general). Health insurers have adopted guidelines that pharmacies need a minimal client base of 8000 customers and provide 40 000 prescriptions per year, which is compliant with the Dutch Pharmacy Norms developed by the Royal Dutch Society for the Advancement of Pharmacy (KNMP).

There are three types of pharmacies: public pharmacies, hospital pharmacies and dispensing general practices. The nearly 1900 (2007) public pharmacies cover approximately 92% of the population. The remaining 8%, especially in rural areas, is covered by dispensing general practices. In 2008, there were 459 dispensing practices (Hingstman and Kenens 2008). Most pharmacies are owned by independent entrepreneurs. Around one-third is part of a chain of pharmacies. Many of these chains are owned by the pharmaceutical wholesalers.

The number of pharmacies has been rising strongly in the past years. In 2007, 68 new public pharmacies opened their doors, an increase of almost 4% compared to 2006 (SFK 2008; Statistics Netherlands 2009g).

Over recent years a consolidation in the sector has taken place. The traditional small local (family-owned) pharmacies have disappeared while larger (commercial) pharmacies emerged. The proportion of pharmacists that are part of a retail-based chain (i.e. franchise) has increased between 2002 and 2008 from 15% to 35%. This resulted from new liberal regulations introduced in 1998/1999, increasing the opportunities for non-pharmacists to own a pharmacy. As a consequence, retail and chemist chains and pharmaceutical wholesalers (e.g. OPG, Lloyds) have taken over many independent pharmacies and established new pharmacy chains. Another new development is pharmacies that are open exclusively during evenings and weekends. And, finally, a small but increasing number of pharmacies have been established within or near hospitals to directly supply patients with medication prescribed by medical specialists after ambulatory consultations or discharge from the hospital.

In line with government policy, the role of Dutch community pharmacists has expanded beyond the traditional dispensing role to include providing information to patients on pharmaceuticals and their proper use. Community pharmacists in the Netherlands have structured cooperation with the GPs in their area through the so-called, Pharmaco-Therapy Consultation Groups (*Farmaco-Therapeutisch Overleg,* FTOs). In about 800 FTO groups pharmacists and GPs discuss pharmaceutical treatment and products, and aim to reach consensus about their prescribing and information policy. Popular themes in FTOs include polypharmacy, patient compliance and prescription refills. As FTO groups are autonomous, their quality varies. Good FTOs are associated with more effective and more efficient prescribing by their members. A survey among 610 FTOs looked into the role of the pharmaceutical industry in FTOs. Well over half of the groups (58%) had a strict policy to deny industry representatives access to the pharmacy. Individually, however, 60% of pharmacists and 40% of GPs admitted to meeting with pharmaceutical industry representatives (DGV 2008). The Dutch Institute for Rational Use of Medicine (DGV) is an independent organization that aims to support FTOs by means of brochures and books, project management, training and education to pharmacists and physicians.

To curb the growth in pharmaceutical expenditure, several measures have been taken since the 1980s. A reference pricing system called the Medicine Reimbursement System (GVS) was introduced in 1993. In this system, pharmaceuticals are divided in groups of therapeutic equivalents.

Pharmaceuticals are equivalent if they have comparable clinical characteristics. A reimbursement limit is established for each group of equivalent pharmaceuticals. If patients opt for a more expensive pharmaceutical from the same group, they have to pay the excess themselves. If the physician decides that the more expensive pharmaceutical is clinically relevant for an individual patient, the patient does not have to pay the excess. The physician has to indicate this on the prescription. Patients can check whether they have to pay an excess on the web site www.medicijnkosten.nl, which is hosted by the Health Care Insurance Board (CVZ). Only pharmaceuticals included in GVS are covered by basic health insurance. Sometimes reimbursement may be provided through complementary VHI.

Other initiatives to control pharmaceutical spending include the Pricing Act, which since 1996 sets maximum prices based on the prices of medicines in four reference countries (Germany, Belgium, France and the United Kingdom), and yearly (since 2004) price negotiations between the Ministry of Health, Welfare and Sport, pharmacists and producers of generics. In another recent attempt to curb the costs, health insurers can identify "preferred pharmaceuticals" for the three very often used active substances omeprazol, simvastatine and pravastatine since 2005. From these categories of pharmaceuticals, only those are reimbursed that are at same price level as the cheapest pharmaceutical (mostly a generic) plus 5%, taking into account that working substances, concentration and mode of administration are similar. The list of preferred pharmaceuticals is revised every six months. The health insurers were obliged to identify the list of preferred pharmaceuticals collectively, but since July 2008 they are allowed to do so individually. The regulation concerns homogeneous products without quality differences and, as such, the regulation should not have negative effects on the quality of pharmaceutical care (Schut and Rutten 2009). If a physician decides for medical reasons that the patient should receive a non-preferred pharmaceutical, he can indicate this on the prescription. The non-preferred pharmaceutical will then be fully reimbursed to the patient (Ministry of Health, Welfare and Sport 2008b).

As a result of these policies, the average prices of prescription medication have dropped dramatically (by 8% between 2007 and 2008 and 50% for generic medication). However, the total expenditure on pharmaceuticals is still rising. This is especially due to the increasing consumption of expensive pharmaceuticals. In 2008, people spent €4795 million in public pharmacies on medication that is covered by basic health insurance. This is 8% more than

in 2006. Compared to neighbouring countries, spending on medication is low in the Netherlands. In Belgium the expenditure per capita is 11% higher, in Germany 33% and in France 58% (SFK 2008, 2009).

Over-the-counter pharmaceuticals are available at several places, depending on the category of medication. The first category consists of medication which is only available at pharmacies, the second category is also sold by chemists and the third, most easily available category is also available in supermarkets and petrol stations. Over-the-counter medication forms less than 15% of all medication (SFK 2008). Prescription-only medication can only be dispensed by pharmacies or dispensing practices after a prescription has been presented. Only physicians, dentists and midwives are allowed to prescribe medication. Around 80% of all medication is prescribed by GPs (Vanermeulen et al. 1999). In 2007, first experiments started with prescription of medication by nurses.

In 2007, GPs issued on average 7.0 prescriptions for women and 4.9 prescriptions for men. This number includes prescription refills. GPs can also prescribe more than one pharmaceutical during a consultation. The number of prescriptions is strongly related to age and varied between 1.3 (children aged 5–14 years) and 29.3 (women older than 85 years) per year. GPs prescribed medication in approximately two-thirds of their patient contacts (NIVEL 2009).

6.7 Long-term care

Long-term care is provided both in institutions (residential care) and in communities (home care). Long-term care forms an important share of the health care system and costs 38% of the total health care budget (Ministry of Health, Welfare and Sport 2009a). Long-term care is financed by the Exceptional Medical Expenses Act (AWBZ). The Centre for Needs Assessment (CIZ) has been commissioned by the government to carry out assessment for eligibility under the AWBZ. Patients, their relatives or their health care providers can file a request with the CIZ for long-term care. The CIZ assesses the patient's situation and decides what care is required. The CIZ sends this decision to a care office (*Zorgkantoor*). Patients can choose between receiving a personal care budget to purchase care themselves or receiving the care in kind. Between 1998 and July 2006, the number of personal budget recipients for AWBZ care rose considerably, from 10 000 to almost 95 000 (Ministry of Health, Welfare and Sport 2007d).

The CIZ is only responsible for the assessment of required nursing care in case of long-term illness or disabilities. Assessments of needs for household work, medical aids (e.g. wheelchairs) and home adjustments are the responsibily of municipalities. This responsibility is formalized in the Social Support Act. In some cases municipalities delegate this task to the CIZ.

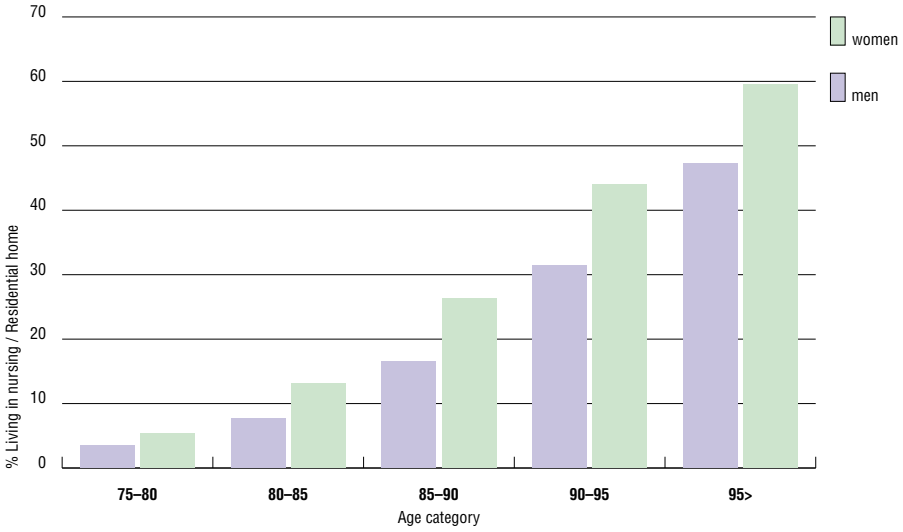
6.7.1 Nursing homes and residential homes (residential care)

In 2007, there were 324 nursing homes, 960 residential homes and 210 combined institutions. In 2006, there were 160 190 people living in residential homes or nursing homes (Statistics Netherlands 2009a). The majority (around 60%) are in residential homes. Nursing homes and residential homes differ in the level of medical care given. Nursing homes are especially for people with severe conditions who require constant nursing care while residential homes provide accommodation for people who need less care. However, the care provided in residential homes has become more complex over the years and the boundary between nursing homes and residential homes has become more and more diffuse. In general, substitution has been taking place from nursing homes to residential homes and from residential homes to day care. The majority of the residents in nursing homes and residential homes are older than 80 years. Fig. 6.5 shows the percentage of residents in the population in the different age categories. In 2006, 19.8% of all people older than 80 lived in either a nursing home or a residential home.

An important challenge in nursing home care is caring for people with dementia. The number of people with dementia is increasing and is expected to rise further in the near future. In 2002, there were about 177 000 people with dementia (Trimbos-instituut 2007). The absolute number of patients with dementia is expected to rise by almost 46% in the period 2005–2025 (De Lange and Poos 2007). The Ministry of Health, Welfare and Sport promotes substitution of large-scale care facilities by small-scale residential places for people with dementia. The number of places in small-scale residential homes was planned to rise from 4346 in 2005 to 12 087 in 2010.

In 2005, there were 51 820 persons with disabilities who lived in an institution providing residential care. In that same year, 15 770 persons lived in an institution for intramural mental health care (Statistics Netherlands 2009a).

Fig. 6.5
Percentage of the population living in a residential home or nursing home in different age categories



Source: Statistics Netherlands 2009a.

6.7.2 Home care

Home care is provided by home care organizations, residential homes and nursing homes. In 2007, there were 248 home care organizations and 255 nursing homes or residential homes that also provide home care extramurally (Deuning 2007b). Besides care for the elderly and people with disabilities, home care organizations provide maternity care. In 2007, there were 610 180 people who received some type of home care. This was 4.8% of the population. Among the elderly above the age of 80 years, 56% of women and 31% of men received home care. Around four out of ten people who received home care only received help with housework (Statistics Netherlands 2008a; Statistics Netherlands 2009f). While the number of people who receive residential care has been decreasing over the years, the number of people who receive home care is steadily rising among the elderly.

6.8 Services for informal carers

In 2007, approximately 1.7 million people provided informal care to ill or disabled people. Of these informal caregivers 61% are women. In most cases informal care is provided to parents (42%) or spouses (20%). Frequently occurring forms of informal care are emotional support, doing housework, accompanying during visits to family or care providers, help with administration and so on. Most informal carers provide care over a long period; 75% provided care more than three months in a year, and on average for more than five years. The average informal carer spends about 22 hours a week on caring (De Boer, Broese van Groenou and Timmermans 2009).

In recent years there has been an increased focus in Dutch health care policy on the support of informal carers. Financial compensation and facilities are available. Patients can choose to use (a part of) their personal care budget to pay informal carers. Furthermore, there is a small yearly allowance, with a maximum of €250, called the *"mantelzorgcompliment"* (Ministry of Health, Welfare and Sport 2009f). The patient can choose which informal carer should receive the allowance. However, to be eligible to receive this allowance, an indication by the CIZ of at least six months of extramural care is required (Ministry of Health, Welfare and Sport 2009d). Since 2007, the support and assistance of informal carers are responsibility of municipalities following the Social Support Act (Wmo).

6.9 Palliative care

Most palliative care is integrated into the regular health care system. Palliative care is provided by GPs, home care, nursing homes, specialists and voluntary workers. Furthermore, there are growing numbers of hospices and palliative units (e.g. in nursing homes). The Ministry of Health, Welfare and Sport strives for the further integration of palliative care into the mainstream health care system. Health care providers, palliative units and hospices participate in regional networks. The purpose of these networks is to promote integration and coordination of care.

GPs play an important role in palliative care. In the last year of their life people have on average 27 contacts with a GP. This is approximately 1.5 times the average contact frequency of patients above the age of 75. Although Dutch GPs have very low home visit ratios, in the last year of the patient's life this is relatively high; twice the number of office consultations (De Bakker 2004).

In recent years, the number of specialized palliative care institutions has been rising sharply. In the period 2003–2006, the number of palliative care institutions rose by 40%. In 2007, there were 234 hospices and palliative care units in the Netherlands (Deuning 2007a; Mistaen, Van Ruth and Francke 2006). Of these 234 facilities, 130 are palliative units in nursing homes and residential homes, 89 are hospices, 10 palliative units in hospitals and 5 specialized hospices for children. Palliative care institutions serve only a small percentage of all people who die (around 3%). Many of these patients die of fatal disease such as cancer.

Although the availability of palliative care facilities is sufficient according to health insurers, there are great regional disparities. Most facilities are concentrated in the big cities and in the western part of the country.

Since April 2002 the Dutch Penal Code has contained specific regulations regarding euthanasia. In that year, the Termination of Life on Request and Assisted Suicide (Review Procedures) Act (*Wet Toetsing Levensbeëindiging op Verzoek en Hulp bij Zelfdoding,* WTL), also known as the Euthanasia Act, was brought into force by the government. The Act allows two forms of euthanasia, under strict conditions (Hulst 2006): (1) termination of life by a doctor at the patient's request, with the aim of putting an end to unbearable suffering with no prospect of improvement; and (2) suicide with the assistance of a doctor. Euthanasia may only take place at the explicit request of the patient (Ministry of Health, Welfare and Sport and Ministry of Justice 2002). The Act makes an exemption from prosecution for doctors who comply with a request for euthanasia if they fulfil the statutory criteria of due care and report to the authorities (Ministry of Health, Welfare and Sport and Ministry of Justice 2002). According to these criteria, among other things, the physician has to ensure that the request is voluntary and well considered; that the suffering is unbearable; and there is no prospect of improvement. Also, the doctor has to consult another physician regarding the criteria of due care. The physician has to know the patient well to be able to assess the criteria. Therefore, patients from other countries cannot come to the Netherlands for euthanasia (Ministry of Health, Welfare and Sport and Ministry of Justice 2002). A regional review committee has to assess whether the doctor has complied with the criteria *ex ante* (Hulst 2006). Doctors are not obliged to comply with a request for euthanasia but have to refer the patient to another doctor (Ministry of Health, Welfare and Sport and Ministry of Justice 2002).

6.10 Mental health care

Mental health care is provided both in primary and in secondary health care. Primary health care professionals in mental health care include GPs, psychologists and psychotherapists. In 2007, GPs had 357 contacts per 1000 listed patients concerning a psychological symptom or diagnosis (NIVEL various years). In the top 10 of diagnoses for which medication is prescribed, there are two psychological diagnoses, insomnia (number 4) and depression (number 5) (NIVEL various years [2007]). When more specialist care is required, the GP refers the patient to a psychologist, an independent psychotherapist or a specialized mental health care institution. Table 6.3 shows the different types of mental health care institutions in the Netherlands.

Table 6.3
Mental health care institutions

Providers of mental health care	Number of organizations
Integrated institutes for mental health care	41
General psychiatric hospital	3
RIAGG (organizations for ambulatory care)	7
RIBW (organizations for sheltered housing)	20
Institute for child and youth psychiatry	10
Institute for addiction care	13
Forensic psychiatry	6

Source: GGZ Nederland 2009.

In 2006, 772 000 people were treated in specialized mental health care organizations. Around 75% of them received ambulatory treatment; 4% had some form of semi-mural care, which means that the patient stays in the institutions for one or more daily periods per week; 14% were hospitalized in a closed institution; and approximately 6% lived in a sheltered housing facility. Of all people treated by specialized mental health care institutions, three-quarters were adults between the ages of 18 and 64 years. Most prevalent diagnoses in this category were depressive disorders, anxiety disorders and other neurotic disorders. Of the patients, 14% were under the age of 18; here the most prevalent problems concerned behavioural or emotional disorders, disorders in psychological development and relational problems such as child abuse or maltreatment. In the elderly patients of 65 years and older (12%), dementia and depression were frequently occurring problems (GGZ Nederland 2009).

Until 2008, the major part of mental health care was financed by the Exceptional Medical Expenses Act (AWBZ). In 2008 the financing structure was fundamentally reformed. The first 365 days of mental health treatment became part of basic health insurance and are thus financed under the Health Insurance Act (Zvw). The funding of preventive mental health care was transferred to the Social Support Act (Wmo), which means that the responsibility for organizing this care was shifted to municipalities (GGZ Nederland 2009). The remainder is still financed by the AWBZ.

6.11 Dental care

Oral health care is provided in primary care by private dentists and dental hygienists. Most citizens register with a dentist. There are approximately 8000 dentists active in the Netherlands. Most dentists work in small independent practices (about 70%). Dental hygienists are specialized in preventive care and can be visited directly or upon referral from the dentist. Preventive tasks and relatively simple dental care are increasingly being substituted to dental hygienists. Nine out of ten dentists regularly refer to a dental hygienist either in their own practice, to the practice of a colleague or to an independent dental hygienist practice (NMT 2009).

In 2007, almost 78% of the population visited a dentist. More than 48% visited the dentist for a regular check-up. Among children under the age 12 this was slightly higher at 55%. These numbers have been stable since 1990 (Statistics Netherlands 2009i). For young people up to the age of 21, dental care is covered by basic health insurance. People aged 22 and above must pay themselves or can take out a complementary VHI for dental care.

In secondary care, there are two specialist medical professions: dental surgeons and orthodontists. Most dental surgeons work in hospitals, and most orthodontists work in ambulatory settings outside the hospital. In 2008, there were 214 dental surgeons and 261 orthodontists. These specialists can be consulted with a referral from a GP or a dentist.

6.12 Complementary and alternative treatments

There is a wide choice of alternative treatments available in the Netherlands. Examples of alternative treatments are homeopathy, acupuncture, natural medicine, magnetizing and osteopathy. In 2007, 10.5% of the population

consulted an alternative care provider, including GPs who also provide alternative treatments. More women than men attended an alternative care provider (12.9% and 8.0% respectively). These numbers have been stable over the last ten years (Statistics Netherlands 2009h). Overall, confidence in alternative care providers is low compared to confidence in regular care. In 2006, 7% of people said that they have confidence in alternative care providers who are not medically educated. People have more confidence in physicians who also provide alternative treatments (40%), but this is still low compared to regular care providers such as GPs and medical specialists (around 90%) (Van der Maat and De Jong 2008a).

Provision of alternative care is legal. However, the Health Care Professions Act (BIG) defines a range of activities that are restricted to physicians and other registered medical professions. Some health insurers also cover alternative treatments, but these are either additional "free" benefits or covered by complementary VHI. Alternative treatments are not covered by basic health insurance.

In recent years alternative treatment has increasingly become the subject of political debate. This was spurred by the death of a Dutch comedienne who was recommended alternative therapies by an alternative "healer" and two physicians while she suffered from breast cancer. In 2008 the Minister of Health, Welfare and Sport announced that he intended to investigate a further regulation and restriction of alternative treatments (Ministry of Health, Welfare and Sport 2008c).

7. Principal health care reforms

In 2006, a major health care reform was implemented in the Netherlands. The reform can be seen as the realization of a long-standing political wish to unite the old sickness fund scheme and the voluntary private health insurance scheme; a wish that can be traced back to 1974, when a white paper on the Structure of Health Care (*Structuurnota Gezondheidszorg*) (Hendriks 1974) first launched this idea without much effect. The 1987 white paper "Willingness to change" (often referred to as the "Dekker report", named after a former Philips CEO and known reformer who chaired the committee that drafted the report) not only revitalized this idea but also advised the introduction of managed competition. This prompted a government response that recommended the implementation of a compulsory unified insurance system for a basic health insurance package with a mix of income-related contributions and small flat-rate premiums. The changes were to be phased in from 1989, gradually dismantling the division between sickness funds, private insurance and civil servants' schemes. This early attempt to unite all health insurance schemes into a single mandatory scheme failed at the beginning of the 1990s, mainly because of strong opposition from health insurers, employers and physicians. During the 1990s, however, smaller reforms originating from these plans were gradually implemented. This helped pave the way for basic health insurance for the whole population before the final and successful attempt at reform in 2006. At the time of writing (late 2009), the implementation of these reforms has not yet been completed.

7.1 Analysis of recent reforms

For reasons of readability, the emphasis is put on the developments that preceded the 2006 health system reform, the present situation with the main related reforms as well as future reform plans. However, the most important

reforms in the Netherlands for the period 1989–2009 with regard to other health care fields, such as public health, quality of care, patients and pharmaceuticals, are briefly mentioned in Box 7.1. For more detailed information on some of these older reforms, see Section 2.2 *Historical background* and the 2004 Health Care Systems in Transition profile on the Netherlands (Den Exter et al. 2004).

Box 7.1

Most important reforms in the Netherlands (1989–2009), non-exhaustive

Reforms in public health
1989 Collective Prevention in Public Health Act (*Wet collectieve preventie volksgezondheid,* Wcpv): Defines tasks and responsibilities of municipalities concerning prevention and public health, infectious diseases and youth health care;
1990 Tobacco Act (*Tabakswet*): Reflects the policy of the government concerning smoking. Major issue: Ban on smoking in public buildings. Later this was extended to a ban on smoking in the workplace (2004), in public transportation (2002 in planes, 2004 in all public transportation), and in the hotel and recreation sector (2008) (www.rokenendewet.nl);
1992 Population Study Act (*Wet op het bevolkingsonderzoek*): Protects people against population studies that may harm their physical or mental health;
1998 Infectious Diseases Act (*Infectieziektenwet*): Regulates prevention against selected infectious diseases and prevention of spread of these diseases. Physicians are obliged to report certain infectious diseases to the municipal health service (GGD). In 2008 this Act was replaced by the Public Health Act (Wpg);
2008 Public Health Act (Wpg): Combines and replaces the Collective Prevention in Public Health Act (Wcpv), the Infectious Diseases Act and the Quarantine Act; integrates European regulations regarding interventions in the case of threats of infectious diseases crises.
Reforms in quality of care
1991 Quality of Health Services Act (*Kwaliteitswet Zorginstellingen,* (KZi): Regulates the quality policy of institutes providing health care;
1993 Individual Health Care Professions Act (BIG): Regulates the care provision by health care professionals and the quality of care. The second aim is the protection of patients. This Act also contains disciplinary rules;
1995 Medical Treatment Agreement Act (WGBO): Regulates the right to information, consent for medical treatment and access to medical files. The Act further regulates the requirement of confidentiality and the right to privacy during medical treatment. The goal is to strengthen the position of the patient.
Reforms related to the position of patients
1994 Health Care Complaints Act (WKCZ): Regulates the complaints procedures for patients through complaints committees;
1996 Client Representation Act (WMCZ): Safeguards the representation of clients in health care institutions through the creation of client councils.

Reforms related to (or preparing for) the new health system

2000 Act Establishing the Supervisory Board for Health Care Insurance (*Wet op de Instelling van een onafhankelijk College Toezicht Zorgverzekeringen,* CTZ): Creates an independent board for supervising health insurance and reforming the supervisory framework related to the implementation of the Sickness Fund Act (ZFW) and the Exceptional Medical Expenses Act (AWBZ);

2004 Amendment to Health Care Tariffs Act (*Wet van 9 December 2004 tot wijziging van de Wet tarieven gezondheidszorg in verband met experimenten, prestatiebekostiging en enige andere maatregelen,* WTG ExPres): Aims to enable experiments in the financing system and to facilitate performance payment. The Act as such has no budgetary consequences. The Act aims to create and stimulate liberalization in the pricing and process, while ensuring that the public interest in health care is safeguarded (Tweede Kamer der Staten-Generaal 2004);

2006 Health Insurance Act (Zvw), Health Care Allowance Act (*Wet op de zorgtoeslag*), Health Care Market Regulations Act (*Wet marktordening gezondheidszorg,* Wmg) and Health Care Institutions Admission Act (*Wet Toelating Zorginstellingen,* WTZi): Together they constitute the health care reform that is discussed in this chapter;

2009 Act for Allowances for the Chronically Ill and Handicapped Persons (*Wet tegemoetkoming chronisch zieken en gehandicapten,* Wtcg): Replaces the regulation that made health care expenses tax-deductible. Chronically ill and disabled persons now receive a fixed allowance to compensate for excessive health care expenses;

2009 Amendment to the Health Insurance Act and the Exceptional Medical Expenses Act (*Wet wijziging Zvw en AWBZ inzake zorg aan vreemdelingen*) concerning the financing of care for immigrants without a residential permit: Regulates the financial compensation for providers for the cost of essential health care in the case of illegal immigrants who cannot pay the bill themselves.

Reforms in social insurance

1996 Act on the Expansion of the Obligation to Continue Salary Payments in Case of Illness (*Wet uitbreiding loondoorbetalingsverplichting bij ziekte,* WULBZ): Established the compulsory payment of 70% of the wages of sick employees by the employer for one year;

2002 Gatekeeper Improvement Act (*Wet verbetering poortwachter,* Wvp): Lays down obligations for employers and employees with respect to their activities aimed at reintegration into the labour process. The goal is to reduce long absence due to sickness (Mackenbach and van der Maas 2008);

2004 Act on the Extension of the Obligation to Continue Salary Payments in Case of Illness (*Wet verlenging loondoorbetalingsverplichting tijdens ziekte 2003,* WVLBZ): The compulsory payment of 70% of the wages of employees was extended to two years;

2005 Act on Youth Care (*Wet op de Jeugdzorg*): Introduces the right on timely and personalized social and mental care for the youth;

2005 Act on Income and Labour (WIA): This Act replaces the Act on Disability and Labour. After two years of illness, sick employees are assessed for their ability to work and their income is compensated to the extent to which they are unable to work. New are the stricter rules for the disability assessment and the emphasis on ability to work instead of disability;

2007 Social Support Act (*Wet maatschappelijke ondersteuning,* Wmo): Introduces the right for each citizen to be able to fully participate in society; municipalities should help overcome any barriers;

2008 Labour Circumstances Act (*ARBO-wet*): Replaces the former ARBO-wet; reduces duplication of regulations with other laws. Main change: employers should adopt policies to reduce their employees' psychosocial risks, such as high workload, and exposure to aggression and violence.
Reforms related to pharmaceuticals
1991 Regulation Pharmaceutical Treatment (*Regeling Farmaceutische Hulp*): Concerns the reimbursement of pharmaceuticals for patients under the Sickness Fund Act (ZFW). Patients can have pharmaceuticals reimbursed only when these are included in the pharmaceuticals reimbursement system (*Geneesmiddelenvergoedingssysteem*);
1996 Pharmaceutical Pricing Act (*Wet geneesmiddelenprijzen*): Sets maximum prices based on the prices of medicines in four reference countries (Belgium, France, Germany and the United Kingdom) (Busch 2004);
2007 Medicines Act (*Geneesmiddelenwet*): Makes pharmacists subject to the WGBO (see the section 'Reforms in quality of care' above). Prescription via Internet is regulated. Physicians and pharmacists became obliged to report serious side-effects (Ministry of Health, Welfare and Sport 2009e);
2007 Transition Agreement on Pharmaceutical Care (*Transitieakkoord farmaceutische zorg*): Agreement between the pharmaceutical industry, pharmacists, health care insurers and the Minister of Health concerning the transition from regulated prices to a free market (Ministry of Health, Welfare and Sport 2007f).

7.1.1 A major reform of the Dutch health care system

The above-mentioned 1987 White Paper "Willingness to change" suggested that health care providers and insurers could compete as players in a health care market. Although the original plan was never realized, a process of incremental change was initiated; small reforms from the original plan, which were initially considered reversible, gradually paved the way towards the introduction of the Health Insurance Act (Zvw). For example, from 1992 sickness funds were no longer obliged to contract autonomous professional practitioners and in 1996 insured persons were given a free choice of sickness fund (Hamilton 2008) – although in practice people almost never used this option. Another development that facilitated the reform was the exclusion of several health services (e.g. psychotherapy, physiotherapy and dental care) from the (then ZFW) benefit package in 2004 and 2005. This led to strengthened competition between health insurers offering complementary VHI for health services that were removed from the benefit package. This could be seen as a first relatively successful "pilot" in market competition (Companje 2008b). Furthermore, the emergence of (specialized) independent treatment centres (ZBCs), for which the legal basis was established in 1998, showed that certain types of hospital care could be carried out more cheaply and maybe more efficiently (Companje 2008a). This

suggested that it was possible for health care providers to provide care more cheaply and therefore to compete with other providers. Although large-scale competition did not take place in the first half of the 2000s, the belief that this was a viable option for the future Dutch health care system was laid.

Against this background, it was stated by the Minister of Health in 2000 that "many shared the sense of urgency" about reopening the discussion on health care reform. The debate focussed on two main issues: the reform of the health insurance system and the reform of the organization of health care provision (Bassant 2007). This led to the White Paper "A question of demand" (*Vraag aan bod*), which was presented in 2001. This White Paper underlined the main shortcoming of the health care system at that point in time: the supply of health services did not fit patient demand. This problem manifested itself in limited choice for patients, insufficient care and long waiting times. The problem was particularly thought to have been caused by the ageing population, changes in health care supply, the increase of well-informed patients and the availability of predictive medical information[4] (Ministry of Health, Welfare and Sport 2001). In addition, there was little coordination between the hospital sector and other sectors within health care. Examples included the slow communication between GPs and specialists; and the limited coherence between the different medical specialties as they were organized as partnerships and thus managed independently. It became clear that the existing hospital financing and capacity planning system did not lead to efficiency, innovation and customer orientation in hospitals (Council for Public Health and Health Care 2003b). Finally, the health insurance system, which consisted of sickness funds for persons below a certain income threshold and voluntary private insurance for persons above this threshold, was already considered outdated in the 1970s.

In 2006, a major reform of the Dutch health care system came into effect, which incorporated many elements of the 1987 Dekker Report. The philosophy was to introduce more market mechanisms in order to create incentives for a more efficient organization of the health care system and to curb the increasing health care expenditures. The market was subjected to regulation to safeguard the public interest ("managed competition") and independent organizations monitor whether these rules are observed. The role of the government changed from direct control of volumes, prices and productive capacity to merely setting the "rules of the game" and overseeing whether markets are working properly. The health insurers, health care providers and citizens (patients) became the market players. These players interact with each other on three different

[4] Predictive medicine is the field of medicine that entails predicting disease and instituting preventive measures in order to either prevent the disease altogether or significantly decrease its impact upon the patient.

sub-markets, each with its own characteristics: the health insurance market, the health care provision market and the health care purchasing market (cf. Figs 2.1 and 2.2). The reforms that established these three health markets and aimed at their proper functioning are discussed below in more detail.

7.1.1.1 Health insurance market

The key characteristics of the health insurance reform introduced by the Health Insurance Act (Zvw) include the following. Health insurers offer the basic health insurance package (see Section 3.2 *Population coverage and basis for entitlement*) to citizens. The citizens, in turn, are obliged to take out health insurance. Insurers are obliged to accept all citizens and may not differentiate premiums based on the health risks of the insured (Bartholomée and Maarse 2006). Health insurers can compete on premium level, the quality of their services and the quality of purchased care. Health insurers may offer a maximum discount of 10% on the nominal premium for collective contracts. These contracts can be offered by a health insurer to a group of people (for instance employees of a company, members of an association or a patient group) (Ministry of Health, Welfare and Sport 2005). A risk-adjustment scheme is introduced to compensate insurers for insured persons with high risks for health care expenditure (Hamilton 2008) (see Section 3.4 *Pooling of funds*). An essential characteristic of the new Health Insurance Act (Zvw) is that it is operated under private law. The relationship between insured persons and health insurer is private and can be renewed or ended once a year. Ending the contract cannot be done by the insurer, only by the insured person. The single exception to this rule is a situation in which the insured does not meet his or her legal obligations (Bartholomée and Maarse 2006). Lastly, those on lower incomes are compensated for an excessive premium burden through the Health Care Allowance Act (Wzt).

There were several circumstances that facilitated the adoption of the Health Insurance Act (Zvw). First, the Act contains many elements that have been discussed extensively since the late 1980s. At the time of the reform, there was a general consensus within the political and public environment on the need to implement a system for basic health insurance for the whole population (Companje 2008b). Second, political and public resistance was limited compared to the opposition to earlier plans (Companje 2008b). On the contrary, support was mobilized by the Minister of Health, Welfare and Sport. Many key positions in the Dutch health care system were held by people of the same political party as the Minister of Health, Welfare and Sport (Van der Grinten 2006), for example in the Council for Public Health and Health Care (RVZ), the Dutch Health Care Authority (NZa), the National Hospital Association

(NVZ), the Association of Medical Specialists (OMS) and the Dutch Patient and Consumer Federation (NPCF). Acceptance was increased by the transparency of the political debate, public debate and the presentation of the proposals (Companje 2008b). Finally, mergers and increases in scale between sickness funds and private health insurers already resulted in insurers that offered both private insurance and sickness funds (Companje 2008b). This led to greater coherence and integration between both types of health insurance, which made the introduction of the Act a modest change for the private health insurers and sickness funds (Companje 2008b).

Although the implementation of the Health Insurance Act (Zvw) passed relatively smoothly, there have been some complications. First, the health insurers set very competitive prices for their premiums, which resulted in financial losses in the first years (Companje 2008b). This may lead to a considerable increase in the nominal premium in the coming years, especially as the financial reserves of the health insurers will increasingly be depleted.

Second, regulation to prevent moral hazard did not have the intended effect. When medical expenses are fully covered by health insurance, patients do not bear financial risk and may be susceptible to 'moral hazard', as incentives for efficient use of health services are absent (De Jong, Verheij and Groenewegen 2006; Schut and Rutten 2009). To make people more aware of their health care consumption, a "no claim" system was introduced with the reform in 2006. According to this system, insured persons above the age of 18 received a refund of €255 if they incurred no costs for health care (GP care, obstetric care and maternity assistance were not included). In cases where an insured person did incur health care costs that were below €255, he or she received the difference (Klazinga 2008). The system was criticized for discriminating against the chronically ill. Although the chronically ill had to contribute to the payments of the refunds by paying the full nominal premium like everybody else, they were never expected to receive a refund. Furthermore, the incentives to reduce health care consumption would be limited, because people would only face the consequences of care consumption after a considerable time lag, that is, at the end of the year in which the treatment took place (Tweede Kamer der Staten-Generaal 2007). Therefore, the "no claim" refund was replaced by a compulsory deductible. From 2008, persons over 18 are obliged to pay the first €150 (€155 in 2009) of health care costs per year (Klazinga 2008), except for GP care, obstetric care, maternity care assistance and dentist care for people under the age of 22. Chronically ill persons with high medicine use and those living in long-term care institutions receive compensation for their compulsory deductible (€47 in 2008), which is paid to them at the end of the year. From

2009, insurers may compensate the insured for the compulsory deductible if they go to preferred providers. This measure was introduced to provide insurers with an instrument to stimulate their patients to go to providers with whom agreements are made on price and quality. As yet (May 2009) there is no information available as to the effectiveness of this measure.

Third, the expected high levels of patient mobility between health insurers never came about. Only in 2006, the first year of the new system, a considerable amount of persons switched to another insurer (21%) (De Jong and Groenewegen 2006). In the period 2007–2009, the percentage of persons that switched health insurers stabilized below 5% (Vos and De Jong 2009), which is the same percentage as under the old (pre-2006) sickness fund scheme.

7.1.1.2 Health care purchasing market

To facilitate the introduction of managed competition into the health care provision market, two preconditions were necessary: a transparent and uniform pricing system and the freedom for purchasers to contract selectively with competing providers. The health care purchasing process (see Section 3.5 *Purchasing and purchaser–provider relations*) is regulated in the Health Insurance Act (Zvw), which also gives the role of purchaser to the health insurers. This active health care purchaser role is relatively new for health insurers. In a health system, the purchaser of care has a certain responsibility for the realization of public goals, which include quality, availability/accessibility and affordability of health services (Bouman, Karssen and Wilkinson 2008). Since this may be in conflict with the market mechanism, the choice was made to regulate the market in such way that these public interests were assured.

The most important reform in the purchasing market concerned the financing of the health care providers. Before 2006, GPs received a capitation fee for their sickness fund patients (about 75% of their patient population) and a fee-for-service from their private patients. In 2006, both systems were merged: the capitation fee was extended to all citizens registered in a certain practice and combined with an additional fee for consultations. In the first two years, more consultations were declared than expected, resulting in a rise in the expenditure for primary care (Karssen, Schipper and Jurling 2009; Van Dijk, Verheij and De Bakker 2008). Health care institutions (hospitals and mental care institutions) were formerly financed through functional budgets based on capacity (e.g. number of beds and physicians, and functions of the institute). To enable competition, a case-mix related financing system became necessary in

which money would follow the patient. In order to achieve this, a new system called Diagnosis Treatment Combinations (DBCs) was implemented (see also Section 3.5 *Purchasing and purchaser–provider relations*).

For the acute care hospital sector, the DBCs were developed in coordination between the umbrella organizations of the hospitals, the medical specialists and the insurers as well as the Ministry of Health, Welfare and Sport. Since 2005, hospitals are required to declare their expenses based on DBCs. In 2005, 7% of the DBCs were free for negotiation, between insurers and providers, on price, volume and quality (the so-called B-segment). For the remaining DBCs the Dutch Health Care Authority (NZa) establishes the prices; insurers and providers can only negotiate volume and quality (the A-segment). In 2008, the percentage of DBCs that are freely negotiable has been expanded to 20% and in 2009 to approximately 34%.

In 2008 the impact of the negotiable DBCs was evaluated. Moderately positive developments in the areas of quality, accessibility and price were found. Although negotiations between health insurers and providers rarely led to binding agreements on quality, there was an increasing focus on quality in the negotiation process. In 2007, about one-third of the health care providers made agreements on quality improvement but about half of the providers did not make such arrangements at all. Both providers and insurers point out that it is difficult to translate better quality into a price. The focus on waiting lists had decreased, which according to health insurers was the result of reduced waiting lists. Lastly, more attention was paid to selective contracting (Dutch Health Care Authority 2008d). For future developments in the DBC system see Section 7.2 *Future developments*.

The process of selective contracting in the acute care sector was considered sub-optimal by the Council for Public Health and Health Care (RVZ) (2008b). They found the following barriers.

- Health insurers have insufficiently developed expertise with regard to the purchasing process.
- There is insufficient transparency of quality due to a lack of objective quality standards.
- The hospital financing system is too complex for an adequate purchasing process: the number of DBCs is too large and not connected to quality standards.

- Patients may switch insurer annually. As a result, insurers are more focused on price than on quality. Moreover, information on price is available, but not on quality. This also makes it less attractive for insurers to invest in quality and prevention.
- The room for insurers to negotiate is too small, since only part of the DBCs are in the B-segment.
- The reimbursement process is slow: the time between medical treatment and administrative settlement of the DBC is too long.
- The *ex post* risk adjustment (see Section 3.4 *Pooling of funds*) hinders the incentives for insurers to negotiate and purchase efficiently.

Furthermore, health insurers exercise restraint in directing patients to preferred hospitals as they are worried about their image and quality is still not sufficiently transparent (Varkevisser, Polman and Van der Geest 2006). For GP care selective contracting does not (yet) exist.

Long-term care in the Netherlands is financed by the Exceptional Medical Expenses Act (AWBZ). In the last decades of the 20th century, the health care provision in long-term care suffered from increasing expenditures, an increasing need for care and long waiting lists (Ministry of Health, Welfare and Sport 1999). There were few possibilities for patients to take responsibility and influence decisions regarding the care they needed (Ministry of Health, Welfare and Sport 2009i). These developments led to an overhaul of the AWBZ through the following reforms.

- In 1999, newly established care offices (*Zorgkantoren*) were made responsible for contracting health care providers. It became their task to contract sufficient health care providers within their region in terms of quantity and quality (Ministry of Health, Welfare and Sport 2009i).
- In 2003, the financing system shifted from financing based on supply towards financing based on demand: money should follow the patient (Boot and Knapen 2005). Since then, entitlements under the AWBZ have been defined in "functional" terms. For example, people can choose to receive care within the function "domestic aid" or the function "nursing". Following these changes, in 2004, entitlements to long-term outpatient care also became based upon "functions" (Parliament 2003).

- In 2007, "care intensity packages" (*Zorgzwaartepakketten,* zzps) for long-term inpatient care were implemented. In this new system of financing, health care providers receive a higher compensation for patients with greater needs of care than for people with less needs (Ministry of Health, Welfare and Sport 2006c).

The developments in the past 15 years in the mental health care sector are strongly related to the modernization of the Exceptional Medical Expenses Act (AWBZ). Mental health care used to be a separate sector that was financed completely from the AWBZ. As early as 1998, the wish was formulated to integrate curative[5] mental care with medical specialist care and thus transfer its financing to the predecessor of the Health Insurance Act (Zvw), the Sickness Fund Act (ZFW). The Council for Public Health and Health Care (RVZ) argued that there was no difference between curative mental care and somatic care (Council for Public Health and Health Care 1998).

Innovations in mental care and new programmes for long-term and ambulatory care were hampered by restrictions in the financing and planning regulations. To remedy this lack of innovation, an innovation fund was created in 1994, from which innovation projects could be financed. Projects that applied for these funds had to pay attention to integration and continuity of care. The innovation policy led to significant consolidation among the Dutch mental health care institutions, resulting in large regional institutions (Van Hoof et al. 2008). In the early 2000s, several regulations were introduced in order to create more flexibility for providers, more room for innovations and more attention to demand. In 2003, the sickness funds and private health insurers were allowed to selectively contract mental care providers. It was hoped that this would increase their bargaining power, create room for innovative agreements and enable them to contract new providers.

The mental health care financing system was eventually reformed in 2008. The goal was to remove all mental health care other than long-term mental health care from the Exceptional Medical Expenses Act (AWBZ). The new regulations divided the financing system over three different sources: (1) mental care with the emphasis on treatment and cure was transferred to the Health Insurance Act (Zvw); (2) long-term care (longer than one year) was still financed by the Exceptional Medical Expenses Act (AWBZ); and (3) public mental health care and social support was financed by the Social Support Act (Wmo), administered by the municipalities. Most mental care could not

[5] Curative mental care is mental care with an emphasis on treatment and cure. It is distinguished from long-term mental care (in the Netherlands now defined as mental care that lasts more than one year).

be characterized as long-term care and the financing was thus transferred to the Health Insurance Act (Zvw). The Ministry of Health, Welfare and Sport estimated for 2008 that about 75% of the expenditure on mental health care would be covered by the Health Insurance Act (Zvw) and about 2% by the Social Support Act (Wmo) (Van Hoof et al. 2008). As a consequence of these new regulations, curative mental care is financed through DBCs based on type and length of treatment while long-term mental care is based on care intensity and complexity.

7.1.1.3 Health care provision market

No radical changes have taken place in the health care provision market in the period 1990–2009. Patients go to their GP when they have a health problem and when necessary they are referred to secondary care or other primary care facilities. To what extent patients really make active choices in selecting health care providers in the Netherlands is unclear (Delnoij 2009).

There have been several smaller changes in the provision of care in the period 1990–2009, including the following examples.

- The emergence of multidisciplinary outpatient clinics. Some hospitals put in place multidisciplinary outpatient clinics for patients with certain diseases. These clinics may provide a one-day diagnosis (e.g. breast cancer) or provide consultations with several specialists on one day (e.g. for disabled persons or for follow-ups for children born prematurely).
- The emergence of independent treatment centres (ZBCs). Independent treatment centres are institutions that are specialized in one type of care independent of hospitals. The centres provide day care by medical specialists. Their function is delivering non-acute care, for which the patient does not have to stay overnight (National Institute for Public Health and the Environment 2009c). In 2006, care delivered in independent treatment centres was on average 20% cheaper compared to hospitals, although it is unclear whether this is the result of more efficiency or a different patient population (Dutch Health Care Authority 2007a; Schut and Rutten 2009).

Waiting lists have been a long-standing problem in Dutch health care. From 2000 measures were taken to bring supply in line with demand. Examples of such measures include the mapping of waiting lists within the care sector and providing extra funding when waiting lists are shortened. The measures were supported by different players: government, health insurers, health care

providers and patient organizations. Despite successful shortening of waiting lists for certain types of care (e.g. care for disabled), waiting list reduction remained a challenge in the Dutch health system (Companje 2008b).

The assessment of eligibility for long-term care used to be fragmented; it was carried out by many different institutions, which in most cases also provided the care. A network of regional assessment organs (*Regionale Indicatie Organen,* RIOs) was set up in 1998 to harmonize the framework and to separate the needs assessment from the provision of care. However, the RIOs were characterized by a lack of quality and uniformity, and long delays in processing assessment requests. The wish to improve the needs assessment procedure resulted in the establishment of the Centre for Needs Assessment (CIZ) in 2005. The needs assessment became more professional through the development of protocols and guidelines (Peeters and Francke 2007). The CIZ carries out assessments for long-term care under the Exceptional Medical Expenses Act (AWBZ) and for the Social Support Act (Wmo). As part of a new development, GPs, practice nurses and community nurses carry out assessments for less complex cases on behalf of the CIZ. For more complex cases, an assessor is appointed. It was hoped that this would be less bureaucratic and more efficient (Centre for Needs Assessment 2005, 2008).

7.1.2 Decentralization of home and supportive care: the Social Support Act (Wmo)

In January 2007, the Social Support Act (Wmo) entered into force. This Act forms the legal basis for various forms of care which were removed from the Exceptional Medical Expenses Act (AWBZ), such as domestic aid and assistance to promote independent participation in society. This aimed to restore the initial goal of the AWBZ: the insurance of severe chronic and permanent care which encompasses great financial risks for individuals (Pruijssers 2004). In addition, it could be seen as a cost-containment measure as the Social Support Act budget was lower than the funds reserved for this care under the AWBZ. The government has always contested this assertion and argued that less funding was needed since municipalities could provide this care more efficiently. According to the government, people should take care of each other again. If voluntary aid, for instance from family and neighbours, was insufficient or impossible, professional care would be available.

With the introduction of the Social Support Act (Wmo) in 2006, municipalities became responsible for the Social Support Act care. The aim of this Act was that every citizen should be able to fully participate in all facets of society and that

the municipality should support this by helping to overcome hindrances that people may experience in achieving that aim. However, since municipalities are free to implement the act as they see fit, differences in interpretation between municipalities emerge, which results in differences in the type and level of support offered to people. This in turn leads to regional differences in terms of financial impact on individuals in need of Social Support Act care.

7.2 Future developments

The future policy agenda for the Dutch health system commits itself to the promotion of quality of care as a steering instrument and the promotion of cohesion in the care chain (home care, primary care, secondary care). Furthermore, the Dutch government aims to introduce small reforms that further enable managed competition in the system. Other government aims are to strengthen the position of the patients, to introduce electronic patient records, implement further changes to mental and long-term care and strengthen primary care.

7.2.1 Further implementation of managed competition

Although the major reform of the Dutch health care system took place in 2006, some smaller reforms and adjustments are planned to complete the implementation of managed competition. These reforms mainly seek to improve the tools for health insurers to influence the cost of health care through selective contracting. They include the following:

- For 2010 there are plans to introduce functional payments in general practice for specific conditions such as diabetes; COPD and heart failure; and cardiovascular risk management. These are payments per patient for the total episode of care, which would then replace the payment per consultation system for these disease types. The total episode of care, which is called a chain-DBC, would include primary and secondary care. As a result GPs and specialists would be stimulated to work together on the care for patients (Klink 2009a). Apart from giving the health insurer a more active purchaser role in GP care, it is hoped that the new payment system will safeguard the affordability of care and improve the position of the patient and quality of care (NieuwsReflex 2009).
- The introduction of an improved DBC system for hospital care is planned for 2011. In the new system, diagnoses and the related treatments will be translated into “care products”. The new care products will be based

on the international classification system ICD-10. This should enable comparisons of Dutch hospitals' performance with that of hospitals abroad. The result is a uniform system instead of specialty-specific system, which led to overlap and duplication of diagnoses and treatments. When more than one specialty is involved in the treatment, only one care product will be defined. The contribution of the individual specialties should remain visible but how this can be achieved is still being discussed. In the end a more manageable amount of 3000 care products should be developed, replacing the existing 30 000 DBCs. This should make it easier for providers and insurers to identify the care products and to negotiate on their price and the quality of delivered care. A possible differentiation towards care intensity may be developed after the introduction of the system. In the meantime, until 2011, no further expansion of the negotiable part of the existing DBC system is planned (DBC-Onderhoud 2009).

- In June 2009, the Minister of Health, Welfare and Sport announced that increasing commercialization in the health sector may lead to care in which the interest of the patient is not the most important aim of the institution. This in turn could possibly threaten the quality of care. A new bill, which is currently being prepared by the Minister of Health, Welfare and Sport and the Minister of Justice, would introduce a new type of enterprise, the so-called social enterprise. In this type of enterprise, shareholders have limited power. Decisions on strategic issues such as quality and continuity of care are reserved to the management and the supervisory board (*Financieele Dagblad,* 2009). This development can be seen as a turning point in the free market consensus.
- Starting from 2010, for all types of long-term Exceptional Medical Expenses Act (AWBZ) care an out-of-pocket payment is planned for persons above the age of 18. At present (late 2009) out-of-pocket payment already exists for personal care and nursing care. What is new is the out-of-pocket payment for supportive care (Minister of Health, Welfare and Sport 2008b).
- The government plans to further reduce the *ex post* compensation mechanisms (see Section 3.4.2 *Mechanisms for allocating funds among health insurers*) and promote the development of quality indicators, guidelines, safety norms and governance codes for the governing boards of health care institutions.

The introduction of more market mechanisms in the Dutch health care system created opportunities for vertical integration between different players in the health care system. The first initiatives in this area are visible. One health insurer, for example, owns two health care centres and some health insurers own one or more pharmacies (Piersma 2009). Another example is the plan of a health insurer and six regional partners to take over a regional hospital. Critics of this plan say that this would give the health insurer too much market power, leading to a conflict of interests. However, advocates say that integration between these players could lead to more efficient care (Schut, Varkevisser and Van de Ven 2009). The plan is, as of 2009, subject to an investigation by the Dutch Health Care Authority (NZa) and the Dutch Competition Authority (NMa).

7.2.2 Strengthening the position of the patient

The Dutch government aims to strengthen the position of the patient through the development of the policy paper "Seven rights for the client in health care", which was presented to parliament in 2008. This was considered necessary, because the role of patients within health care changed with the implementation of the new health care system in 2006. The seven rights are: (1) the right to available and accessible care; (2) the right to have choice and to information that supports making informed choices; (3) the right to quality and safety; (4) the right to information, consent, medical file-keeping and privacy; (5) the right to coordination between health care providers; (6) the right to effective, accessible treatment of complaints and disputes; and finally (7) the right to participation and good governance (Parliament 2008) (See also Section 2.5 *Patient empowerment*).

The policy paper should result in the adoption of the Consumer Rights Health Care Act (*Wet cliëntenrechten zorg,* Wcz). The act should address several "bottlenecks" regarding the position of the patient (Minister of Health, Welfare and Sport 2009a). For example, patient legislation is considered to be highly fragmented and patient rights are often not direct rights, but rights derived from the obligations of the health care provider (NPCF 2007). In addition, regulations for complaints appeared to be ineffective and client councils have limited influence on health care provision (Minister of Health, Welfare and Sport 2009a). The aim of the new Act is to tackle existing problems by merging all current acts into one patient-centred regulation and replacing some other acts, such as the Health Care Complaints Act (WKCZ) and the Client Representation Act (WMCZ). Also, the bill proposes to provide patients with the right to information that supports making informed choices and to "good"

care (a break with the concept of "responsible" care, as defined in Section 2.5.3 *Patients' rights*). Other examples of improvements are creating an effective and accessible complaints and disputes procedure and introducing a more influential and effective involvement of client councils (Minister of Health, Welfare and Sport 2009a). The draft bill was sent for discussion to the stakeholders in the field in May 2009. The implementation of the bill is planned for 2011.

7.2.3 Planned changes in ICT

The Dutch government intends to implement a national Electronic Patient Record (EPD) in 2010. The EPD regulates access to data on medical conditions and medicine use of patients. These data can subsequently be transferred (electronically) between health care providers. As a result, GPs, pharmacies and medical specialists have access to information on medication dispensed by pharmacists. Furthermore, GPs working in GP posts have access to the files of patients registered by other GPs. Health insurers or other health care providers, such as physiotherapists, psychologists and company doctors do not have access to the EPD (Ministry of Health, Welfare and Sport 2009b). A major aim of the EPD is preventing medical errors. The EPD was originally meant to be implemented earlier, but this was delayed by the Ministry of Health, Welfare and Sport since the safety of system could not yet be guaranteed and further testing was needed (Ministry of Health, Welfare and Sport 2009g). Patients can oppose the inclusion of their medical data into the system. So far (mid 2009), half a million citizens have filed an objection. The resistance among physicians is very strong: one-third opposed including their own medical data in the system (Katzenbauer 2009). For more information on the EPD see Section 4.2.2 *Information systems*.

7.2.4 Mental care and long-term care

There are plans to replace the Psychiatric Hospitals Compulsory Admissions Act (BOPZ). In this Act, the only possibility for compulsory mental care was admission into a mental care hospital. The proposed Compulsory Mental Care Act (*Wet Verplichte Geestelijke Gezondheidszorg*) allows a judge to give a single authorization for treatment that may comprise different forms of care. Moreover, the procedure will be simplified, reducing the risk of procedural errors (Ministry of Justice 2008).

The care that is delivered under the Exceptional Medical Expenses Act (AWBZ) is still considered to be too expensive. In the future, measures will be taken to further restrict the entitlement to AWBZ care. Therefore, the assessment

procedure for AWBZ care regarding supportive activities will become stricter. Only people with moderate or severe restrictions will receive support for daily activities. For inpatient care, patients should have the right to be admitted at the institution of their choice. Based on this choice, the provider will be reimbursed. This is a further example of money following the patient. In 2010 care following hospitalization (for instance in the case of hip-replacement) will be transferred from the AWBZ to the Health Insurance Act (Zvw). This should improve the tie-up between hospital care and essential home care (Ministry of Health, Welfare and Sport 2009h).

7.2.5 Strengthening primary care

In 2008, the Minister of Health Welfare and Sport stated that cohesion in primary care has to be increased. Because of the increase of patients with complex morbidity, an integrated approach to care in the form of multidisciplinary cooperation becomes necessary. The Minister aims to stimulate municipalities to improve cooperation between local health care providers in the field of prevention and primary care (which is in fact an obligation for municipalities under the Public Health Act (Wpg). For chronically ill persons, disease management programmes should be developed. Primary care should be organized around the patient. The Minister noted that it has to be clear who is to coordinate the care processes. The Ministry of Health, Welfare and Sport is planning to introduce a regulation that facilitates these coordination tasks. Furthermore, the Minister aims to introduce functional payments in primary care. Functional payment implies that the content of care is paid, regardless of which provider provides the care. Also, innovation and substitution of care is an important aim. With regard to transparency, safety and quality are important issues; quality-of-care indicators should be further developed and made available to the public in an understandable way. Finally, free access to paramedic care should improve freedom of choice for patients and better accessibility of acute care and emergency care should be developed (Klink 2008b).

8. Assessment of the health care system

8.1 The stated objectives of the health system

The continuous growth of health care expenditures during the decade before the 2006 health care reform has spurred repeated discussions on the sustainability of the health system and the need for radical reform. Demographic developments and medical technological innovation were expected to further increase both demand and health expenditures. It was thought that it would become increasingly difficult to guarantee the constitutionally based right of access to necessary medical care of good quality for all citizens. Against this background the system reform in 2006 was implemented, aiming for greater efficiency combined with accessible health services of good quality. An essential feature of the reform was the shift from central regulation towards managed competition in which health care providers, health insurers and patients act as market players. In this system, the role of the government has become one of overseeing the system and interfering is seen only if the incentives for managed competition fail.

Throughout the last decades the mission of the Dutch Ministry of Health, Welfare and Sport has consistently focused on performing well on the health care system goals. These include (1) access, (2) quality and (3) costs. With the introduction of market elements in the health care system these goals have remained unchanged. Recently the Minister stated that his aim was to achieve "high-quality and solidarity-based health care for a healthy Dutch population" (Westert et al. 2008).

8.2 The distribution of the health system's costs and benefits across the population

The Dutch health care system obliges everyone living in the Netherlands to take out basic health insurance. Health insurers in turn are obliged to offer basic health insurance at a community rated premium (called the "nominal premium") and cannot refuse any clients. In addition to the nominal premium, Dutch citizens pay an income-dependent contribution (which is compensated by the employer). In 2009, the nominal premium on average amounted to €1059 per year (Dutch Health Care Authority 2009d). Lower-income groups receive compensation for the nominal premium through a care allowance. This allowance was part of the health care reform in 2006 as people formerly insured through the sickness fund scheme (ZFW) would pay substantially higher premiums under the new situation. The health care allowance should mitigate the undesired income effects resulting from the regressive nominal premiums. Currently (mid 2009), the government is looking at ways to reduce expenditure on the health care allowance.

Among those who receive the care allowance, chronically ill and disabled persons are major beneficiaries. There are several other instruments available to compensate these individuals for the extra costs. For example, they are entitled to a tax reduction when they exceed a certain threshold for medical expenditures and costs for extra home help, disability devices, medically recommended diet and travel expenses for medical treatment. Other examples of financial compensation for chronically ill and disabled persons are compensation for out-of-pocket payments and compensation for health care costs to those who are incapacitated for work (Ministry of Health, Welfare and Sport 2009c).

As cost-sharing burdens are not evenly distributed they may have undesirable income effects on those with poor health (who are also likelier to have a lower income). Since 2008, Dutch citizens are obliged to pay a deductible (€155 in 2009) for services covered by basic health insurance. As chronically ill and disabled people are high users of care and services and likely to have high health expenses, they are also likely to have to pay the full deductible every year. Therefore, they are eligible for financial compensation. The level of the compensation is the difference between the average deductible paid by the chronically ill and the average deductible paid by non-chronically ill insured persons. This measure is meant to maintain equity in finance for different groups of society (Reitsma-van Rooijen and De Jong 2009).

From an international perspective, Dutch citizens have relatively low out-of-pocket expenses for health care services (OECD 2007a). In 2004, out-of-pocket expenditure constituted 7.8% of the total health care expenditure. These expenses are not equally distributed across households. In 2004, the amount of out-of-pocket expenses in 90% of households was limited to a maximum of 5% of their disposable income, and just 3% of households spent more than 10% of their disposable income. The effect of out-of-pocket payments on relative poverty is limited in the Netherlands. The percentage of families that fall below 60% of the median family income because of out-of-pocket payments is a little less than 1% (Statistics Netherlands 2004). In 2004, the households in the lowest income quartile spent 3.4% of their disposable income on these payments; in the highest income quartile, this was 2%. Compared with 2003, out-of-pocket expenses absorbed a higher share of household income; the increase was the highest for the lowest income quartile. Those in the lowest income groups with out-of-pocket expenses include many old people in residential and nursing homes and people with disabilities living in institutions. These individuals may spend a substantial part of their income on out-of-pocket payments but they do not have any housing expenses, which makes up a substantial share of expenses in other groups (Statistics Netherlands 2004). These data must be interpreted carefully as they apply to the situation before 2006.

In 2007, the percentage of people who said they did not visit a doctor because of costs was low in the Netherlands (1%) and the United Kingdom (2%). In Germany (12%) and the United States (25%) this percentage was much higher (Grol and Faber 2007; Schoen et al. 2007).

8.3 Efficiency of resource allocation in health care (across services, across inputs)

Allocative efficiency indicates whether current allocations of resources to health care meet the needs of the population. When looking at the Netherlands, total health care expenditure in the country has remained on, or slightly below, the EU15 average, amounting to 8.9% of GDP in 2007. In terms of per capita expenditure (in US$ PPP), health expenditure in the Netherlands was above the EU15 average in 2006 (WHO Regional Office for Europe 2009).

At the same time, the Dutch system has, from a European perspective, a very high number of physicians and nurses. The number of physicians and nurses per 1000 population has grown rapidly since 1996. This resulted in a physician ratio well above all the EU averages and a nurse ratio roughly twice the average ratio

of the EU15 in 2006 (WHO Regional Office for Europe 2009). In contrast, the number of dentists and pharmacists in the Netherlands per 1000 population is well below the EU average in 2006 (WHO Regional Office for Europe 2009).

The number of acute beds per population has been falling since 1996 in the Netherlands and was below the EU15 and EU averages. The strongest decrease in beds can be observed in the long-term care hospitals. The average length of stay of these admissions was 6.6 days and the bed occupancy rate was 68% in 2006 (WHO Regional Office for Europe 2009). The average length of stay was above the EU15 average but this can also be explained by the high degree of substitution to day care (see Section 5.1 *Physical resources*).

Health services are delivered through a dense network of premises, equipment and other physical resources (see also Section 5.1 *Physical resources*). In 2006, the nearest hospital with an emergency department was available for 99.6% of the population within 30 minutes of travel time. For half the population, travel time was less than 10 minutes (Deuning 2008). Eurobarometer data for 1999 and 2001 also suggest geographical accessibility that is among the best in the EU for GPs (Albert and Kohler 2004).

In summary, at least from a European perspective, data suggest that the financial and human resources allocated to health care are sufficient to meet the needs of the population. In terms of physical resources, the picture is more mixed. Although the number of acute beds is below the European averages, this is in line with government policy. Also, a bed occupancy rate of 68% (WHO Regional Office for Europe 2009) and an above EU15 average length of stay, which can be further improved, may together indicate a sufficient quantity of beds available. It should be noted however, that although the focus on waiting lists has abated, occasional waiting times may still indicate accessibility problems for certain specialties or regions.

8.4 Technical efficiency in the production of health care

This section focuses on the technical efficiency of the Dutch health care system, that is, whether the system delivers good value for money. The recent economic crisis will have a strong impact on the percentage of GDP spent in the years ahead. The Ministry of Health, Welfare and Sport aims to cut the health care

budget by €2.4 billion by 2011. This is roughly 0.4% of Dutch GDP. A large part of this reduction should be realized through efficiency gains in the hospital sector and by substitution of care.

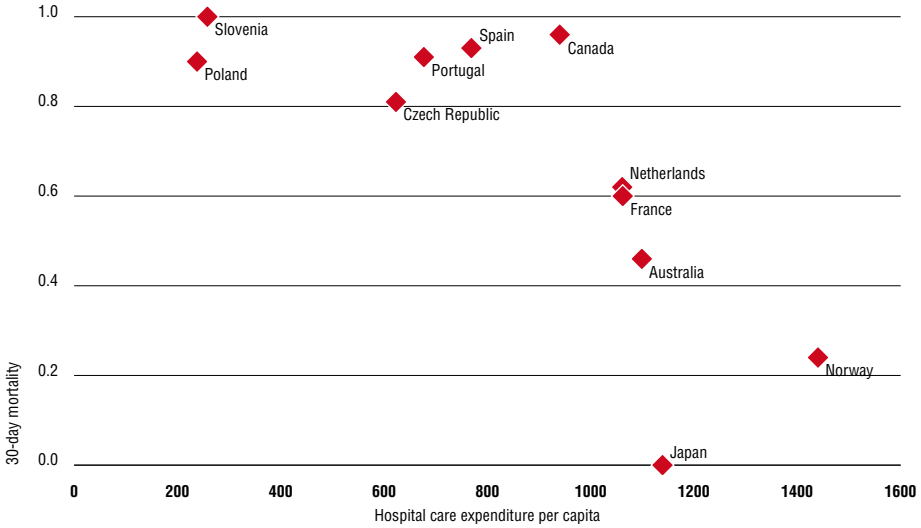
For example, an important feature of the 2006 reform of the GP remuneration system is the incentive to substitute secondary care with primary care (see also Section 3.6 *Payment mechanisms*). GPs can have individual contracts with health insurer for Modernization and Innovation (*Module Modernisatie en Innovatie,* M&I) activities. Through these contracts, GPs can bill for care expenses that substitute secondary care. There is some evidence from recent studies that in 2006 and 2007 such substitution effects indeed have taken place (Van Dijk et al. 2009).

A critical performance indicator is avoidable mortality, which provides insight into the disease-related mortality that could have been prevented by treatment in line with the current level of care and scientific knowledge (Nolte and McKee 2003, 2004). Trends in avoidable mortality have been studied in 14 countries, including the Netherlands, over the last 10 years (WHO 2007b). The research has shown that there has been a decrease in avoidable mortality in these countries, with the Netherlands performing on the average. Furthermore, higher health expenditures do not always appear to be associated with lower avoidable mortality. Given this outcome one may conclude that the return on health care investments in the Netherlands is not yet optimal and that there is room for improvement. For example, France realized a lower avoidable mortality with roughly the same level of health expenditure. Moreover, Japan and Spain realize a lower avoidable mortality with even smaller health expenditure rates (OECD 2007a; Westert et al. 2008; WHO 2007b).

In Fig. 8.1 the hospital mortality within 30 days is plotted against the health expenditure in hospitals. The score for each country lies between zero (lowest possible mortality) and one (highest possible mortality), and includes the mortality for a number of frequently occurring life-threatening conditions (myocardial infarction, cerebral haemorrhage and cerebrovascular accident). The figure only includes expenditure for hospital care. The figure reveals that Australia, Japan and Norway have better outcomes than the Netherlands, but only in Norway is expenditure significantly higher.

Fig. 8.1

30-day mortality and hospital health expenditure per capita ($ adjusted for cross-country price differences), in 2004



Source: OECD 2007a (data analysis National Institute for Public Health and the Environment, RIVM).

Other indicators for the efficiency of health care are avoidable hospitalization and unnecessary length of stay in hospitals. A hospital admission is labelled "unnecessary" if it can be prevented by effective and accessible primary care services. For a number of diseases, admissions are defined as "unnecessary" in the literature (Weissman, Gatsonis and Epstein 1992), for example, admissions for asthma or pneumonia. In the Netherlands, the number of avoidable hospital admissions is low; however, the length of stay in hospitals can be shortened.

In 2000 and 2006, the average length of stay in the hospital with the highest length of stay was respectively 2.5 and 1.7 times higher than in the hospital with the shortest length of stay (OECD 2007a). This figure has been corrected for differences in the composition of the patient population admitted. Nationwide the length of stay could be reduced by 15% (Prismant 2007) if all hospitals could realize the length of stay of hospitals that scored well in this respect (i.e. the 15th percentile hospital). An effective measure to reduce length of stay would be ensuring that all clinical admissions that can be done in an ambulatory setting are indeed done in an ambulatory setting, for instance as day surgery (Borghans et al. 2008).

Between 1995 and 2005, the proportion of avoidable admissions decreased from 3% to 2.5% of the total number of hospital admissions. This percentage is lower than most recent available figures for Canada (4.7%) and the United States (11.5%) (Cloutier-Fisher et al. 2006; Kozak, Hall and Owings 2001).

The picture described above suggests that there is still room for efficiency gains in the Dutch health care system. The government also presumes that these will appear as a result of increased competition in the health system among insurers and providers, following the introduction of the Health Insurance Act (Zvw) in 2006. Whether the Dutch health care system will realize such cost savings through efficiency gains in the future is a relevant question that still needs to be answered. It may be too early to say as some of the reforms (e.g. increasing selective contracting and extent of negotiable care) are still in progress.

8.5 Quality of care

The Netherlands is among the five wealthiest countries in the Eurozone (Eurostat 2008). Therefore, the Dutch population has high expectations in terms of the quality of health care services. This section compares the Dutch performance to other (high-ranking) OECD countries with respect to the quality of curative and long-term care, safety, continuity of care and the level of innovation.

8.5.1 Curative care

Only a small fraction of patients who visit primary care are referred by their GP to the secondary care level (NIVEL various years [2008]). Despite a slight rise of the referral rate since 2001, Dutch GPs continue to be low referrers (NIVEL various years [2001–2006]). Furthermore, Dutch GPs show restrained prescribing behaviour. In about two-thirds of contacts, Dutch GPs prescribe medicines according to their own professional guidelines (Van Dijk et al. 2008). This percentage has been stable since 2003. However, there are considerable differences between general practices.

From an international perspective the Netherlands performs on the average on indicators for curative secondary care (OECD 2007b). The Scandinavian countries in particular (Norway, Sweden, Finland and Iceland) score better than the Netherlands in terms of hospital mortality within 30 days of admission (acute myocardial infarction, cerebral haemorrhage and cerebrovascular accident). The same picture is found for five-year survival in the case of breast,

cervical and colon cancer (OECD 2007a). With respect to perinatal mortality the Netherlands scores worse than the OECD average (OECD 2007b). Finland, Luxembourg and Sweden have the lowest perinatal mortality within the OECD.

For other aspects of care, the performance of the Netherlands is above average. For instance, about 80% of Dutch patients with a hip fracture are operated on within 48 hours (OECD 2007a). This is well above the OECD average, although Norway and Sweden have figures above 90%. About half of Dutch adults with a serious mental or addictive disorder receive care and two-thirds of them receive satisfactory care (Wang et al. 2007). In this respect, the Netherlands and Germany score better than France, Spain and Belgium.

8.5.2 Long-term care

Since 2003 the incidence of decubitus ulcers in nursing homes, residential homes and home care has decreased (Halfens et al. 2007). In nursing homes the figure was 10.3% in 2003 and 6.9% in 2006. In the same year, the percentage of malnourished patients has also decreased (Halfens et al. 2007). The number of places in small-scale residential facilities more than doubled between 2005 and 2007 (KCWZ 2007). Expressed from 0 (worst) to 10 (best), the satisfaction of patients and clients in residential homes and care for the disabled was rated 7.8, while in nursing homes this was 7.4 (PWC 2007; Wiegers, Stubbe and Triemstra 2007). Compared to other types of care, these figures are relatively low, in particular for nursing homes (Wiegers, Stubbe and Triemstra 2007).

Aspects for which satisfaction appeared to be particularly low were "provision of information" (5.0) and "participation" (6.0). The availability of sufficient personnel turned out to be a major point for improvement. Fewer than 4 out of 10 clients in residential and nursing homes indicated that a member of staff "sometimes struck up a conversation in passing" (Poortvliet et al. 2007). This proportion is particularly low and large differences between organizations were observed. The personnel in residential and nursing homes also assign a moderate score to the quality of care they provide and indicate a slight deterioration compared to 2003 (De Veer et al. 2007).

8.5.3 Safety

According to a recent estimate, 5.7% of patients admitted to hospital experienced adverse events, 40% of which were considered to be avoidable (De Bruijne et al. 2007). In a recent survey among the Dutch population about safety in curative care, 5% of the respondents indicated that they had been subject to a medical error during the past year and 6% indicated that they had received an

incorrect pharmaceutical or dosage (Grol and Faber 2007; Schoen et al. 2007). Although these numbers are high, the Netherlands does better in this respect than, for example, Australia and the United States. Between 2007 and 2011 the Ministry of Health, Welfare and Sport aims to reduce avoidable adverse events in hospitals by 50% (Ministry of Health, Welfare and Sport 2007e). The hospital standardized mortality rate (HSMR) has gradually decreased in the period 1998–2005, but the risk of mortality in the hospital with the highest mortality was still 45% above the average in 2005 (Prismant 2007). The prevalence of malnutrition in long-term care has decreased, but is still high (25%); also the number of fall incidents (9%) in long-term care remains unchanged (Halfens et al. 2007).

8.5.4 Continuity of care

A "medical home" is important for good coordination of care. For the Dutch this service is provided by the GP. An international study (Schoen et al. 2007) revealed that the vast majority of Dutch people are registered with a GP. In other countries this proportion is significantly lower. According to 93% of the Dutch respondents, the GP knows the patient's medical background, which can be a good basis for the GP's coordinating role. However, the same study also showed that Dutch GPs were less active in coordinating care provided by other care providers. Also, Dutch GPs appeared to lag behind colleagues in other countries with regard to providing medical specialists with relevant medical information. On the other hand, Dutch GPs were better informed about follow-up care planned after hospital discharge compared to the six other countries in the study. Another result is that in the Netherlands, only 44% of people who use pharmaceuticals regularly discuss their use with a health care provider (their GP, a nurse or a pharmacist).

Care coordination has also been studied from the patients' perspective. According to recent studies, about one in five patients with specific conditions (breast cancer, rheumatism, cataract) experienced either insufficient or a lack of coordination or cooperation between the health care providers (Brouwer et al. 2007; Damman et al. 2007; Zuidgeest et al. 2007). A study among patients with diabetes found that more than 25% experienced insufficient coordination by the GP (Rupp 2006). Many patients appear to have doubts about cooperation between health care workers. In a study from 2006, only 44% of respondents stated they were confident that health care providers were working well together (Van der Maat and De Jong 2008b).

8.5.5 Innovation

As regards day surgery, the Netherlands is innovative and can serve as a model for many other countries in Europe. Surgical interventions are carried out as day surgery much more often than other European countries (OECD 2007a). Another good practice is that practically all Dutch GPs (98%) use advanced electronic patient records; which is far more than among colleagues in Canada (23%), Germany (42%), the United Kingdom (89%) and the United States (28%) (Schoen et al. 2006). In the availability of minimally invasive techniques (such as laparoscopy and MRI) the Netherlands has ranked around the EU15 average since the late 1990s (OECD 2007a). Since the mid 2000s, many initiatives have been started in the area of organizational innovations (process innovations) in almost all sub-sectors of the health care system. However, at present (2009) little information is available and conclusions about effectiveness of programmes and interventions cannot be drawn.

8.6 The contribution of the health system to health improvement

In 2006, it has been estimated that the total effect of health care in the Netherlands has increased the overall life expectancy by three to four years since the 1950s (De Hollander et al. 2006; Meerding et al. 2006). Whereas in the second half of the 19th and in the early 20th century the health situation of the population mainly improved because of increased wealth and public hygiene, better diagnosis and treatment have played an increasingly important role in more recent times. Since 1970, the advance of medical science has gathered pace, particularly in the field of cardiovascular diseases. Medical care and population-based prevention have contributed to lower mortality associated with infectious and cardiovascular diseases. In the case of cancer, that contribution has been much smaller.

According to an estimation made in the early 1990s, the contribution of collective prevention to the decline in mortality between 1970 and 1989 has been roughly 20% in the Netherlands, while the influence of medical care was about 25% (Mackenbach 1992). In the area of prevention, the Netherlands performs well on screening and vaccination. For example, the level of participation for breast and cervical cancer screening is high, 82% and 66% respectively (LETB 2006; TNO 2008). The vaccination level through the National Vaccination Programme is over 95% (WHO 2007a). The percentage of children until the age of 4 years visiting child health clinics is very high (Statistics Netherlands 2007a).

However, indicators for the promotion of a healthy lifestyle are less favourable. Doctors do not follow a systematic approach in providing their patients with specific lifestyle recommendations (Grol and Faber 2007; Schoen et al. 2007). Australia, Canada and the United States, for example, do significantly better on this aspect. Furthermore, it seems that an intersectoral approach in prevention is lacking. For example, the number of secondary schools that implement an active and wide-spectrum health policy is low (Middelbeek et al. 2007).

The conclusion is justified that health care has made major contributions to the health of the Dutch population, particularly in more recent times. Since the 1980s, the healthy life expectancy has increased by six or seven years, despite the rise in prevalence of chronic illness. This is probably due to the positive influence of medical devices and technologies, such as hearing aids, prosthetic hips and cataract surgery. Chronically ill people suffer less from their disability or are better able to cope. Fewer restrictions imply increased self-sufficiency, extended social participation and ultimately reduced dependency on long-term care services.

In 2006, the Dutch health care system went through a fundamental change. In 2006 the Ministry of Health, Welfare and Sport commissioned the National Institute for Public Health and the Environment (RIVM) to evaluate the health care system every second year (2006, 2008, 2010) in an independent health care performance report (DHCPR). Using more than 100 indicators, DHCPR assesses the performance outcomes of Dutch health care in terms of accessibility, quality of care and (cost) sustainability. At present (mid 2009) it is too early to tell whether the new system will realize its goals with regard to efficiency and quality of care (see Section 8.1 *The stated objectives of the health system*). In future more information will become available from ongoing evaluations (Westert, Burgers and Verkleij 2009).

9. Conclusions

The health care system in the Netherlands is in transition. A structural health care reform in 2006, after almost two decades of attempts to merge the dual system of sickness funds and private insurers, introduced completely new regulatory mechanisms and structures to the Dutch health care system. The reform introduced a single compulsory SHI scheme, in which multiple private health insurers compete for insured persons. Health insurers act as purchasers of care and negotiate with providers on price, volume and quality of care; they are allowed to make a profit and pay dividends to shareholders. They are obliged to accept all new applicants and are not allowed to differentiate their premiums towards the risk profile of the applicants. The government changed its role from directly steering the system to safeguarding the process from a distance. Responsibilities have been transferred to insurers, providers and patients. New "watchdog" agencies in the health sector are put in place to avoid undesired market effects in the new system. The reforms are still ongoing; many of the measures introduced since 2006 have sought to make the transition from the old to the new system as smooth as possible and aimed at the proper functioning of the health markets. In addition, new measures are adjusted if in practice problems arise in their implementation, as seen with for instance the DBC financing system.

This reform has implied fundamental changes in the roles of patients, insurers, providers and the government. Health insurers are expected to take a firm negotiating stance with providers and purchase efficient care of good quality, and patients are expected to critically assess and select the health insurer and provider of their choice. In this transition process it seems pivotal that all players receive the appropriate tools to assume these roles. Important challenges remain: patient information on price and quality should be continuously improved; quality has to be made visible and measurable; transparent pricing systems for GPs and hospitals should be established; negotiating room for

health insurers and providers should be widened; and the negotiation process should be optimized and shortened. The latter is important as negotiations often take until summer of a given year whereas the nominal premiums are set on 1 January. Furthermore, constant refining of the risk-adjustment system is needed to eliminate perverse incentives for insurers and to ensure fair competition.

Through these reforms, managed competition for providers and insurers became a major driver in the Dutch health care system. The government presumes that this will increase efficiency and quality in the health care system as well as make care more demand-driven. Achieving these goals seems important for the Dutch health system and the insured population; at the time of writing (late 2009), the Dutch health system is an average performer in terms of quality and efficiency when comparing some important indicators to other wealthy countries. The future will have to tell whether the introduction of managed competition in health care is the right means to achieve the overall goals of the Dutch health care system with regard to quality, affordability and accessibility of care.

10. Appendices

10.1 References

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Databases

CBS StatLine (Statistics Netherlands StatLine)

European Health for All database

OECD Health data

Nationale drug monitor Trimbos

World Development Indicators Online

10.2 Further reading

For detailed information on the history of the Dutch health care system see: Companje KP et al. (2009). *Two centuries of solidarity. German, Belgian and Dutch social health insurance 1770–2008*. Amsterdam, Aksant.

10.3 Useful web sites

In this section, web sites are listed that provide information on the Dutch health care system in English.

Web site of Statistics Netherlands (CBS):
http://www.cbs.nl/en-GB/menu/home/default.htm?Languageswitch=on

For the StatLine database of Statistics Netherlands (CBS) go to:
http://www.cbs.nl/en-GB/menu/cijfers/statline/zelf-tabellen-maken/default.htm

Web site of Ministry of Health, Welfare and Sport (VWS), about policy and regulation concerning the health care system:
http://www.minvws.nl/en/

Web site of National Institute of Public Health and the Environment (RIVM) provides figures about health, and diseases and epidemiological data in the Netherlands:
http://www.rivm.nl/en/

They also provide more specific web site of the Dutch Health Care Performance report: http://www.healthcareperformance.nl

Web site of Netherlands Institute for Health Services Research (NIVEL) provides data related to health services research in the Netherlands:
http://www.nivel.eu

Web site of Ministry of Foreign Affairs provides data on the Netherlands in general:
http://www.minbuza.nl/en/You_and_the_Netherlands

10.4 HiT methodology and production process

The Health Systems in Transition (HiT) profiles are produced by country experts in collaboration with the Observatory's research directors and staff. The profiles are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources, and examples needed to compile HiTs. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: http://www.euro.who.int/observatory/Hits/20020525_1.

Authors draw on multiple data sources for the compilation of HiT profiles, ranging from national statistics, national and regional policy documents, and published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. OECD Health Data contain over 1200 indicators for the 30 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the World Health Organization (WHO) Regional Office for Europe for the purpose of monitoring Health for All policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged European Union (EU) of 27 Member States.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT profile consists of 10 chapters.

1 Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.

2 Organizational structure: provides an overview of how the health system in the country is organized and outlines the main actors and their decision-making powers; discusses the historical background for the system; and describes the level of patient empowerment in the areas of information, rights, choice, complaints procedures, safety and involvement.

3 Financing: provides information on the level of expenditure, who is covered, what benefits are covered, the sources of health care finance, how resources are pooled and allocated, the main areas of expenditure, and how providers are paid.

4 Regulation and planning: addresses the process of policy development, establishing goals and priorities; deals with questions about relationships between institutional actors, with specific emphasis on their role in regulation and what aspects are subject to regulation; and describes the process of HTA and research and development.

5 Physical and human resources: deals with the planning and distribution of infrastructure and capital stock; the context in which IT systems operate; and human resource input into the health system, including information on registration, training, trends and career paths.

6 Provision of services: concentrates on patient flows, organization and delivery of services, addressing public health, primary and secondary health care, emergency and day care, rehabilitation, pharmaceutical care, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health care for specific populations.

7 Principal health care reforms: reviews reforms, policies and organizational changes that have had a substantial impact on health care.

8 Assessment of the health system: provides an assessment based on the stated objectives of the health system, the distribution of costs and benefits across the population, efficiency of resource allocation, technical efficiency in health care production, quality of care, and contribution of health care to health improvement.

9 Conclusions: highlights the lessons learned from health system changes; summarizes remaining challenges and future prospects.

10 Appendices: includes references, useful web sites and legislation.

The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are the subject of wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to the following:

- A rigorous review process (see the following section).
- There are further efforts to ensure quality while the profile is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely to ensure that all stages of the process are as effective as possible and that the HiTs meet the series standard and can support both national decision-making and comparisons across countries.

10.5 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the research directors of the European Observatory. The HiT is then sent for review to two independent academic experts and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

The Netherlands HiT was reviewed by Reinhard Busse (Professor and Head of the Department of Health Care Management, Berlin University of Technology), Jouke van der Zee (Professor, Chair of Primary Health Care Research, Faculty of Health, Medicine and Life Sciences, Maastricht University), Hans Maarse (Professor of Health Care Policy Analysis, Faculty of Health Sciences, Maastricht University), Richard Heijink (Researcher, Dutch Health Care Performance RIVM, National Institute for Public Health and the Environment), Judith de Jong (PhD and Programme Coordinator, Health Care System and Governance, NIVEL), Leo Vandermeulen (PhD, Manager, Health System, Prismant, Research Institute for Health Care) and Henk Leliefeld (Senior Adviser, Advisory Committee Medical Manpower Planning (Capacity Body)).

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