Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
KCE

The Belgian health system in 2010

KCE reports 138C

Belgian Health Care Knowledge Centre
Federaal Kenniscentrum voor de Gezondheidszorg
Centre fédéral d'expertise des soins de santé
2010

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FOREWORD

The European Observatory on Health Systems and Policies publishes a collection of reports "Health Systems in Transition" (HiT) which aims to give a detailed description of the health systems of different countries (mainly European) and their recent developments.

The KCE was recently contacted by the Observatory to become the permanent correspondent for Belgium and was responsible for updating the report on our country.

We are particularly pleased with this international recognition and with the Observatory's confidence in our expertise. We hope that this new edition will help anyone, Belgian or foreigner, to find one's way through the Belgian health care system and to understand an often complex organization due to our institutional framework.

We thank all those who have enlightened us in our research and who have allowed us to depict the Belgian reality more confidently.

Jean Pierre CLOSON
Deputy General Director

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General Director

Executive summary

INTRODUCTION

HiTs examine different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems. They describe the institutional framework, process, content and implementation of health and health care policies, and highlight challenges and areas that require more in-depth analysis.

The last Belgian HiT report described the health system and its development until 2007. This new version provides updated information as well as new policies and perspectives.

THE BELGIAN INSTITUTIONAL FRAMEWORK

Belgium is a federal state with a parliamentary democracy. There are three levels of government – the federal government, the federated entities (three regions and three communities) and the local governments (provinces and municipalities).

Health policy is both a responsibility of the federal authorities and federated entities (regions and communities). The federal authorities are responsible for the regulation and financing of the compulsory health insurance; the determination of accreditation criteria (i.e. minimum standards for the running of hospital services); the financing of hospital budgets and heavy medical care units; legislation covering different professional qualifications; and the registration of pharmaceuticals and their price control. Federated entities are responsible for health promotion and prevention; maternity and child health care and social services; different aspects of community care; coordination and collaboration in primary health care and palliative care; the implementation of accreditation standards and the determination of additional accreditation criteria; and the financing of hospital investment. To facilitate cooperation between the federal authorities and the federated entities, interministerial conferences are regularly organized.

THE COMPULSORY HEALTH INSURANCE AND ITS ORGANIZATION

The Belgian population reached 10.7 million in 2008. In 2007, life expectancy at birth was 82.6 years for females and 77.1 years for males. Almost the whole population (>99%) is covered for a very broad benefits package. Since January 2008, there is no longer any difference between health insurance coverage in the general scheme and the scheme for the self-employed, as the latter now includes the coverage of minor risks.

The organization of health services is characterized by the principles of therapeutic freedom for physicians, freedom of choice for patients, and remuneration based on fee-for-service payments.

The compulsory health insurance is managed by the National Institute for Health and Disability Insurance (NIHDI-RIZIV-NIHDI), which allocates a prospective budget to the sickness funds to finance the health care costs of their members. All individuals entitled to health insurance must join or register with a sickness fund: either one of the six national associations of sickness funds, including the Health Insurance Fund of the Belgian railway company, or a regional service of the public Auxiliary Fund for Sickness and Disability Insurance. Private profit-making health insurance companies account for only a small part of the non-compulsory health insurance market. In the past, sickness funds received the budget they needed to reimburse their members but since 1995, they have been held financially accountable for a proportion (25%) of any discrepancy between their actual spending and their budget, for which 30% is determined according to a normative risk-adjusted allocation.

Decision-making in the Belgian health system mainly relies on negotiations between several stakeholders. General policy matters concerning health insurance and its budget are decided by representatives of the government and the sickness funds but also by representatives of employers, salaried employees and self-employed workers. The health insurance system is also regulated by national conventions and agreements between representatives of health care providers and sickness funds (e.g. fees determination).

The Belgian health system is based on the principle of social insurance characterized by horizontal solidarity (between healthy and sick people) and vertical solidarity (based to a large extent on the labour incomes) and without risk selection. Financing is based mostly on proportional social security contributions related to taxable income and, to a lesser extent, on progressive direct taxation, and a growing area of alternative financing related to the consumption of goods and services (mainly value added tax).

The budget for public health expenditure is fixed by a legal real growth norm (4.5% since 2004). In 2007, Belgian total health expenditure was 10.2% of gross domestic product (GDP). Health expenditure expressed in US$ PPP (purchasing power parity) per capita was 3595 in 2007, which was the sixth highest health expenditure per capita among the EU27 countries.

Patients in Belgium participate in health care financing through official co-payments and diverse supplements. The main payment mechanism is the fee-for-service payment. There are two systems of payments: (1) a direct payment (mainly for ambulatory care), where the patient pays for the full cost of the service and then obtains a reimbursement from the sickness fund for part of the expense; and (2) a third-party payer system (mainly for ambulatory drugs and hospitals), where the sickness fund pays the provider directly and the patient is only responsible for paying any co-payments, supplements or non-reimbursed services. However, the third-party payer system can be applied under specific conditions for ambulatory care to ameliorate the financial access for vulnerable population groups.

The reimbursement of services depends on the type of service provided, the income and social status of the patient (preferential reimbursement or not), as well as the accumulated amount of co-payments already paid for that year. For more vulnerable population groups, several measures were taken to ensure their access to high-quality care (OMNIO, maximum billing (MAB) system, etc.)

HEALTH CARE PROVIDERS

A significant proportion of health care providers are paid on a fee-for-service basis. For salaried employees in the health sector, salaries and career evolution are negotiated through a series of collective agreements. The number of health care professionals has been quite stable since 2000. Planning for physicians, dentists and other health care personnel is undertaken by the Committee for Medical Supply Planning. This committee is responsible for formulating proposals for the federal Minister of Public Health on the annual number of candidates per community that are eligible to be granted the professional title of physician, dentist or physiotherapist, after obtaining the relevant diploma. Based on the committee's work, a proposal was made to establish a quota mechanism. The quota mechanism is applied immediately after the completion of basic training, at the moment of application for recognition as a dentist or physiotherapist, and at the time of application for specialization for a physician (general practitioner (GP) or specialist). In order to achieve the quotas, the communities, which are responsible for education policy, were requested to take measures to limit the number of students. Some measures to increase the attractiveness of the GP and nursing professions, to make health care providers more accountable, to strengthen primary care and to promote the integration of health services and multidisciplinarity have also been undertaken.

HEALTH CARE FACILITIES

In Belgium, hospitals can be classified into two categories: general and psychiatric. In 2008, there were 207 hospitals, of which 139 were general and 68 psychiatric. The general hospital sector consists of acute (112), specialized (19) and geriatric hospitals (8). The basic feature of Belgian hospital financing is its dual remuneration structure according to the type of services provided: accommodation costs, nursing activities in the nursing units, operating room, and sterilization are financed via a fixed prospective budget system; while medical services, polyclinics and medico-technical services (laboratories, medical imaging and technical procedures) and paramedical activities (physiotherapy) are mainly paid via a fee-for-service system to the service provider.

As an alternative to hospitalization, intermediary structures and services have been developed. These alternatives include day hospitalizations and long-term care centres. For specific groups, such as the elderly and persons suffering from mental illnesses, a wide range of community services are available as an alternative to residential long-term care.

PHARMACEUTICALS

Pharmaceuticals are exclusively distributed through community and hospital pharmacies. Only physicians and (to the extent that their profession requires) dentists and midwives can prescribe pharmaceuticals. About 2500 pharmaceutical products are on a positive list and therefore are partly or fully reimbursable. The percentage of the cost that is reimbursable varies, depending on the therapeutic importance of the pharmaceutical. To reduce expenditure on pharmaceuticals several measures have been undertaken. These include a further reduction in prices for products within the reference price system and establishment of prescription quotas for low-cost drugs, among others.

CONCLUSION

Overall, the health system was recently assessed as having good accessibility and an appropriate level of safety. However, further improvements in effectiveness of preventive care, appropriateness of care, efficiency and sustainability could further enhance the performance of the overall system.

Recent reforms to the health system essentially aim to provide a high quality of care to the whole population and, at the same time, protect the sustainability of the system. The reforms that will be carried out in the coming years will likely continue to promote the objectives of accessibility, quality and sustainability. Further changes will also aim at simplifying the system in order to make it more homogeneous.

Scientific Summary

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GLOSSARY

Abbreviation	English term	Dutch term	French term
A&E	Accident and emergency	–	–
ABVV-FGTB	General Labour Federation of Belgium	Algemeen Belgisch Vakverbond	Fédération Générale du Travail de Belgique
Achil	Ambulatory Care Health Information Lab	–	–
ACLVB-CGSLB	General Confederation of Liberal Trade Unions of Belgium	Algemene Centrale der Liberale Vakbonden van België	Centrale Générale des Syndicats Libéraux de Belgique
ACV-CSC	Confederation of Christian Trade Unions	Algemeen Christelijk Vakverbond	Confédération des syndicats chrétiens de Belgique
ADL	Activities of daily living	–	–
AED	Automated external defibrillators	–	–
AHRQ	Agency for Health Care Research and Quality	–	–
AIDS	Acquired immunodeficiency syndrome	–	–
AMI	Acute myocardial infarction	–	–
AP-DRG	All patients diagnosis-related groups	–	–
APR-DRG	All Patients Refined diagnosis-related groups	–	–
ATC	Anatomical Therapeutic Chemical classification	–	–
AWIPH	Walloon Agency for People with Disabilities	–	Agence Wallonne pour l'Intégration des Personnes Handicapées
BCGH-CBPH	Belgian Centre for Pharmacovigilance	Belgisch Centrum voor Geneesmiddelenbewaking	Centre Belge de Pharmacovigilance
BESADL	Belgian Evaluation Scale for Activities of Daily Living	–	–
BIVV-IBSR	Belgian Institute for Traffic Safety	Belgisch Instituut voor de Verkeersveiligheid	Institut Belge de la Sécurité Routière
BMI	Body mass index	–	–
BOT	Dutch-speaking Coordination Centres for Home Care and Services (Brussels)	Brussels Thuis Overleg	–
BS-MB	Belgian Official Journal	Belgisch Staatsblad	Moniteur Belge

Abbreviation	English term	Dutch term	French term
CBFA	Banking, Finance and Insurance Commission	Commissie voor het Bank-, Financie- en Assurantiewezen	Commission bancaire, financière et des assurances
CBO	Dutch Institute for Health Care Improvement	Centraal Begeleidingsorgaan voor Intercollegiale Toetsing	–
CBSS-KSZ-BCSS	Crossroads Bank of Social Security	Kruispuntbank van de Sociale Zekerheid	Banque Carrefour de la Sécurité Sociale
CE	European Conformity	–	–
CEBAM	Belgian Centre for Evidence-based Medicine	Belgisch Centrum voor Evidence-Based Medicine	Centre belge pour l'Evidence-Based Medicine
CIS	Commonwealth of Independent States	Gemenebest van Onafhankelijke Staten	Communauté des États Indépendants
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	–	–
CLB	Centre for student counselling	Centra voor Leerlingenbegeleiding	–
CLPS	Local Centres for Health Promotion (French community)	–	Centres Locaux de Promotion de la Santé
CMPH	Committee for Medicinal Products for Human Use	–	–
COCOF	French Community Commission	–	Commission communautaire française
CPP-CBPL-CPVP	Commission for the Protection of Privacy	Commissie voor de bescherming van de persoonlijke levenssfeer	Commission de la protection de la vie privée
CRP-CTG-CRM	Commission for the Reimbursement of Pharmaceuticals	Commissie Tegemoetkoming Geneesmiddelen	Commission de Remboursement des Médicaments
CSSD	Coordination Centres for Home Care and Services (Walloon region)	–	Centres de Coordination de Soins et Services à Domicile
CT	Computer (axial) tomography	–	–
CVA	Cerebrovascular accident	–	–
DALE	Disability-adjusted life expectancy	–	–
DDD	Defined daily dose	–	–
DGEC-	Department for Medical Evaluation and	Dienst voor	Service d'évaluation

Abbreviation	English term	Dutch term	French term
SECM	Inspection	Geneeskundige Evaluatie en Controle	et de contrôle médicaux
DMFT	Decayed, missing or filled teeth	–	–
DPB	German Agency for People with Disabilities	–	–
DRG	Diagnosis-related group	–	–
ECJ	Court of Justice of the European Communities	–	–
EEA	European Economic Area	–	–
EHIC	European Health Insurance Card	–	–
EMEA	European Medicines Agency	–	–
ESW	Extracorporeal shock wave	–	–
EU	European Union	–	–
EU15	EU Member States before May 2004	–	–
EU27	EU Member States including those acceding in May 2004 and January 2007	–	–
FAMHP-FAGG-AFMPS	Federal Agency for Medicines and Health Products	Federaal Agentschap voor Geneesmiddelen en Gezondheidsproducten	Agence fédérale des Médicaments et des Produits de Santé
FARES	Tuberculosis register for the French and German communities	–	Registre de la Tubercolose pour la communauté française et la communauté germanophone
FPS-FOD-SPF	Federal Public Service	Federale Overheidsdienst	Service Public Fédérale
FTE	Full-time equivalent	–	–
GATS	General Agreement on Trade in Services	–	–
GDP	Gross domestic product	–	–
GGC-COCOM	Joint Community Commission	Gemeenschappelijke Gemeenschapscommissie	Commission communautaire commune
GMD-DMG	Global Medical File	Globaal Medisch Dossier	Dossier Médical Global
GP	General practitioner	–	–
HALE	Health-adjusted life expectancy	–	–
HBD-	Hospital Billing Data	Anonieme ziekenhuis	Séjours hospitaliers

Abbreviation	English term	Dutch term	French term
AZV-SHA		verblijven	anonymisés
HIS	Health Interview Survey	–	–
HIV	Human immunodeficiency virus	–	–
HPV	Human papilloma virus	–	–
HTA	Health technology assessment	–	–
IADL	Instrumental Activities of Daily Living	–	–
IMA-AIM	Common Sickness Funds Agency	Intermutualistisch Agentschap	Agence Intermutualiste
INN	International Nonproprietary Name	–	–
IPH-WIV-ISP	Scientific Institute of Public Health	Wetenschappelijk Instituut Volksgezondheid	Institut Scientifique de Santé Publique
IQED-IKED-IPQED	Initiative for Quality Promotion and Epidemiology in Diabetes Care	Initiatief voor Kwaliteitsbevorderin g en Epidemiologie bij Diabetes	Initiative pour la Promotion de la Qualité et Epidémiologie du Diabète sucré
ISHC-GDT-SISD	Integrated Services for Home Care	Geïntegreerde Diensten voor Thuisverzorging	Services Intégrés de Soins à Domicile
IWSM	Walloon Institute for Mental Health	–	Institut Wallon de Santé Mentale
K&G	Child and Family	Kind & Gezin	–
KCE	Belgian Health Care Knowledge Centre	Federaal Kenniscentrum voor de Gezondheidszorg	Centre fédéral d'expertise des soins de santé
KUL	Catholic University (Leuven)	Katholieke Universiteit Leuven	–
LOGO	Local Health Network	Locaal Gezondheidsoverleg	–
LOK-GLEM	Local Quality Evaluation Group	Lokale Kwaliteitsgroep	Groupe Locaux d'Evaluation Médicale
LoS	Length of stay	–	–
LUSS	French federation of patients associations	–	Ligue des Usagers des Services de Santé
MAB-MAF-MAF	Maximum billing	Maximumfactuur	Maximum à Facturer
MCD-MKG-RCM	Minimal Clinical Data	Minimale Klinische Gegevens	Résumé Clinique Minimum
MHD-MZG-	Minimum Hospital Data	Minimale Ziekenhuisgegevens	Résumé Hospitalier Minimal

Abbreviation	English term	Dutch term	French term
RHM			
MIP	Medical Intervention Plan	–	–
MND-MVG-RIM	Minimal Nursing Data	Minimale Verpleegkundige Gegevens	Résumé Infirmier Minimum
MPD-MPG-RPM	Minimal Psychiatric Data	Minimale Psychiatrische Gegevens	Résumé Psychiatrique Minimum
MRI	Magnetic resonance imaging	–	–
MRPA	Homes for the elderly	Woonzorgcentra (previously called Rusthuis)	Maison de repos pour personnes âgées
MRSA	Methicillin-resistant Staphylococcus aureus	–	–
MUG-SMUR	Mobile Urgency Group	Mobiele urgentiegroep	Service mobile d'urgence
NACM-LCM-ANMC	National Alliance of Christian Mutualities	Landsbond der Christelijke Mutualiteiten	Alliance nationale des mutualités chrétiennes
NATO	North Atlantic Treaty Organization	–	–
NICE	National Institute for Health and Clinical Excellence	–	–
NIHDI-RIZIV-INAMI	National Institute for Health and Disability Insurance	Rijksinstituut voor Ziekte- en Invaliditeitsverzekering	Institut National d'Assurance Maladie-Invalidité
NISSE-RSVZ-INASTI	National Institute for the Social Security of the Self-employed	Rijksinstituut voor de Sociale Verzekeringen der Zelfstandigen	Institut national d'assurances sociales pour travailleurs indépendants
NHS	National Health Service	–	–
NSIH	National Surveillance of Infections in Hospitals	–	–
NSSO-RSZ-ONSS	National Social Security Office	Rijksdienst voor Sociale Zekerheid	Office National de Sécurité Sociale
NSSOLPA-RSZPPO-ONSSAPL	National Social Security Office for the Local and Provincial Administrations	Rijksdienst voor sociale zekerheid van de provinciale en plaatselijke overheidsdiensten	Office national de sécurité sociale des administrations provinciales et locales
NUFPM-LOZ-MLOZ	National Union of the Free and Professional Mutualities	Landsbond van de onafhankelijke ziekenfondsen	Union nationale des mutualités libres

Abbreviation	English term	Dutch term	French term
NULM-LLM-UNML	National Union of Liberal Mutualities	Landsbond van de liberale mutualiteiten	Union Nationale des Mutualités Libres
NUNM-LNM-UNMN	National Union of Neutral Mutualities	Landsbond van de neutrale ziekenfondsen	Union nationale des mutualités neutres
NUSM-NVSM-UNMS	National Union of Socialist Mutualities	Nationaal verbond van Socialistische Mutualiteiten	Union Nationale des Mutualités Socialistes
OCMW-CPAS	Public municipal welfare centre	Openbare Centra voor Maatschappelijk Welzijn	Centres Publics d'Action Sociale
OECD-OESO-OCDE	Organisation for Economic Co-operation and Development	Organisatie voor Economische Samenwerking en Ontwikkeling	Organisation de Coopération et de Développement Economiques
ONE	Birth and Childhood Organization Office	–	Office de la Naissance et de l'Enfance
Orthopride	Orthopaedic Prosthesis Identification Data	–	–
OSSO-DOSZ-OSSOM	Overseas Social Security Office	Dienst voor de Overzeese Sociale Zekerheid	Office de Sécurité Sociale d'Outre-Mer
PAAZ	Psychiatric departments in acute hospitals	Psychiatrische Afdeling Algemeen Ziekenhuis	–
PAB	Personal Assistance Budget	Persoonlijke-assistentiebudget	Budget d'assistance personnel
PET	Positron emission tomography	–	–
PHARE	Agency for People with Disabilities (for the French-speakers of the Brussels-Capital region)	–	Personne Handicapée Autonomie Retrouvée
PIT	Paramedical Intervention Team	–	–
PPP	Purchasing power parity	Koopkrachtpariteit	Parité de pouvoir d'achat
PSIP	Psychosocial Intervention Plan	–	–
PTCA	Percutaneous transluminal coronary angioplasty	–	–
QERMID	Quality Electronic Registration of Medical Implants and Devices	–	–
RVT-MRS	Nursing home	Rust-en verzorgingstehuis	Maison de repos et de soins
SAFE	Shared Arthritis File for Electronic use	–	–

Abbreviation	English term	Dutch term	French term
SBU	Swedish Council on Technology Assessment in Health Care	–	–
SCPS	Community Services for Health Promotion (French community)	–	Services Communautaires de Promotion de la Santé
SCSS&H	Sectoral Committee of the Social Security and Health	–	–
SEL	Cooperation Initiatives in front-line health care (Flanders)	Samenwerkingsinitiatieven eerstelijnsgezondheidszorg	–
SHA	System of Health Accounts	–	–
SIT-HISC	Cooperation Initiatives in Home Care (Flanders)	Samenwerkingsinitiatieven inzake thuisverzorging	–
STD	Sexually transmitted disease	–	–
Sumehr	Summarized Electronic Health Record	–	–
UCL	Catholic University (Louvain-La-Neuve)	–	Université catholique de Louvain-La-Neuve
ULB	Free University of Brussels	–	Université libre de Bruxelles
VAPH	Flemish Agency for People with Disabilities	Vlaams Agentschap voor Personen met een Handicap	–
VGC	Flemish Community Commission	Vlaamse Gemeenschapscommissie	–
VHI	Voluntary health insurance	–	–
VIGeZ	Flemish Institute of Health Promotion and Sickness Prevention	Vlaams Instituut voor Gezondheidspromotie en Ziektepreventie	–
VINCA	Pilot project to provide nurses with administrative support across mobile computing	–	–
VIPA	Flemish Infrastructure Fund for Personal Affairs	Vlaams Infrastructuurfonds voor Persoonsgebonden Aangelegenheden	–
VPP	Flemish Federation of Patients Associations	Vlaams Patiëntenplatform	–
VRGT	Flemish Association for Respiratory Care and Tuberculosis	Vlaamse Vereniging voor Respiratoire Gezondheidzorg en	–

Abbreviation	English term	Dutch term	French term
		Tuberculosebestrijding	
VVGG	Flemish Association for Mental Health	Vlaamse Vereniging voor Geestelijke Gezondheid	–
WHO	World Health Organization	–	–
WTO	World Trade Organization	–	–
ZOAST	Organized Cross-border Areas for Access to Care	–	Zones organisées d'accès aux soins transfrontaliers

English term	Dutch term	French term
Care pathways	Zorgtraject	Trajet de soins
Committee for Medical Supply Planning	Belgische Planningscommissie Medisch Aanbod	–
Community care centres	Dagverzorgingscentra	Centre d'accueil de jour
Day-care centres	Centra voor dagverzorging–Centres de soins de jours)	Centres de soins de jours
Flemish Care Insurance Scheme	Vlaams Zorgverzekering	–
FPS Health, Food Chain Safety and Environment	FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu	SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environement
FPS Social Security	FOD Sociale Zekerheid	SPF Sécurité Sociale
Medical houses	Wijkgezondheidscentra	Maison médicale
Networks of palliative care	Samenwerkingsverbanden in palliatieve zorg	Associations en matière de soins palliatifs
Permanent Sample	Permanente steekproef	Echantillon Permanent
Short-stay centres	Centrum voor kortverblijf	Centre de court séjour

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1 INTRODUCTION[a]

1.1 GEOGRAPHY AND SOCIODEMOGRAPHY

Belgium is situated in the west of Europe and shares borders with the Netherlands, Luxembourg, Germany and France (see Fig. 1.1 for map). Belgium has one of the highest population densities in Europe. Its 10 666 866 inhabitants (in 2008) live in a total land area of 30 528 km^2 (349 people per km^2). Brussels is the capital and the largest city with around 1 million inhabitants. Brussels is also the capital of Europe and the site of the headquarters of the European Commission, the Council of Ministers and the European Parliament. Other major international organizations, such as the North Atlantic Treaty Organization (NATO), are also located in Brussels (Statistics Belgium 2009; Belgium Federal Portal 2009).

The geography of Belgium falls into three major areas: lower Belgium (up to 100 m above sea level), central Belgium (between 100 and 200 m above sea level) and upper Belgium (from 200 to over 500 m above sea level). Belgium has a coastline of 65 km and is crossed by the Lys, Meuse and Schelde rivers (Belgium Federal Portal 2009). The Belgian climate is temperate and is characterized by relatively cool and wet summers and mild and rainy winters (IRM 2009).

Belgium has three official languages: Dutch, French and German. Dutch is spoken by around 59% of the population, French by around 40% and German by less than 1% (Belgium Federal Portal 2005). The country is divided into Dutch-speaking Flanders in the north and French-speaking Wallonia in the south. Brussels is bilingual, but its dominant language is French. German is spoken in nine communities close to Germany. About 9.1% of the population are foreigners mostly from Italy (1.6%), France (1.2%), the Netherlands (1.2%), Morocco (0.7%), Spain (0.4%), Turkey (0.4%) and Germany (0.4%) (Statistics Belgium 2009). The majority of the population is classified as Roman Catholic, although most of them are not practising on a regular basis.

According to the Federal Planning Bureau, international immigration has been particularly important since 2004. In addition to the usual immigration from the former EU15, there was a surge of immigrants from the new Member States. Conversely, the number of immigrants from non-European countries, especially Turks and Moroccans, is stagnating and even declining slightly.

Individuals aged 65 years and older made up 17.1% of the population in 2008 compared to 14.3% in 1980. The fertility rate has increased very slightly from 1.7 children per woman between 15 and 49 years old in 1980 to 1.8 in 2007. In recent years, the birth rate has also increased slightly to 11.7 per 1000 population in 2007 after declining continuously up till 2002. The death rate declined slightly from 11.5 per 1000 population in 1980 to 9.5 per 1000 population in 2008 (see Table 1.1).

[a] This chapter was written by Sophie Gerkens and Maria Isabel Farfan.

Table 1.1: Population and demographic indicators, 1980–2008 (selected years)

	1980	1990	2000	2005	2006	2007	2008
Total population (thousands; 1 January)	9 855	9 948	10 239	10 446	10 511	10 585	10 667
Population, female (% of total)	51.1	51.1	51.1	51.1	51.1	51.0	51.0
Population ages 0–14 years (% of total)	20.3	18.1	17.6	17.2	17.1	17.0	16.9
Population ages 65 and above (% of total)	14.3	14.8	16.8	17.2	17.2	17.1	17.1
Population ages 80 and above (% of total)	2.6	3.5	3.5	4.3	4.4	4.6	4.7
Population growth (average annual growth rate)	+0.1	+0.2	+0.2	+0.5	+0.6	+0.7	+0.8
Population density (people per sq km)	323	326	335	342	344	347	349
Fertility rate (births per woman 15–49)	1.7	1.6	1.7	1.8	1.8	1.8	–
Live birth rate (crude, per 1 000 people)	12.6	12.4	11.2	11.3	11.5	11.4	11.7
Death rate (crude, per 1 000 people)	11.5	10.5	10.2	9.9	9.7	9.5	9.5
Age dependency ratio (0–14 and 65+ / 15–64 years)	52.4	49.4	52.5	52.3	52.3	52.3	–
% of urban population	95	97	97	97	–	–	–
Population aged 25–64 having completed at least upper secondary education (%)	–	–	58.5	66.1	66.9	68.0	69.6

Sources: Eurostat 2009; OECD 2009a; WHO Regional Office for Europe 2008a (August).

The further increase in life expectancy and the expected substantially positive immigration balance should lead to a rise in the Belgian population of 24% between 2000 and 2060 (see Table 1.2). This increase will be especially important in the region of Brussels-Capital (+38%; +29% in the Walloon region and +18% in the Flemish region). Moreover, the ageing of the population will be amplified in the future. The population over 65 will increase from 16.8% of the population in 2000 to 26.3% in 2060 (+48%). Very old people (80+) will represent 10% of the population, compared to 3.5% in 2000. Therefore, the ageing intensity ratio, measuring the proportion of "very old people" (80+) in the group of old people (65+), will increase to 39.5% in 2060.

Table 1.2: Population projections, 2000–2060

	2000	2010	2020	2030	2040	2050	2060
Total population (in thousands, situation in January)	10 239	10 807	11 538	11 982	12 227	12 439	12 663
Brussels-Capital (% of total)	9.4	9.9	10.4	10.5	10.3	10.4	10.5
Wallonia (% of total)	32.6	32.4	32.5	32.9	33.4	33.8	34.2
Flanders (% of total)	58.0	57.7	57.1	56.6	56.3	55.9	55.4
Balance of external migration	13 732	55 991	39 119	17 407	19 473	26 176	28 707
Life expectancy at birth, females	81.42	83.86	85.51	87.03	88.43	89.73	90.94
Life expectancy at birth, males	75.08	77.87	79.61	81.17	82.63	83.99	85.27
Population 65 and over (% of total)	16.8	17.2	19.2	22.7	25.0	25.7	26.3
Population 80 and over (% of total)	3.5	4.9	5.5	6.5	8.5	10.1	10.4
Ageing intensity ratio (80+/65+)	20.8	28.6	28.7	28.5	33.9	39.2	39.5
Age dependency ratio (0–14 and 65+ / 15–64 years)	52.4	51.7	57.3	64.4	69.0	71.0	72.5
Fertility rate (births per woman 15–49)	1.66	1.84	1.78	1.76	1.75	1.76	1.77

Source: Federal Planning Bureau 2008.

Figure 1.1: Map of Belgium

Source: Central Intelligence Agency, The World Factbook 2006.

1.2 ECONOMIC CONTEXT

Living standards are considered high in Belgium; Belgium ranks 17th in the 2009 United Nations *Human development report* (United Nations 2009). The adjusted purchasing power parity (PPP) gross domestic product (GDP) per capita amounts to €28 600 in 2008, which is above the EU15 and EU27 averages of €27 800 and €25 100 respectively (Eurostat 2009).

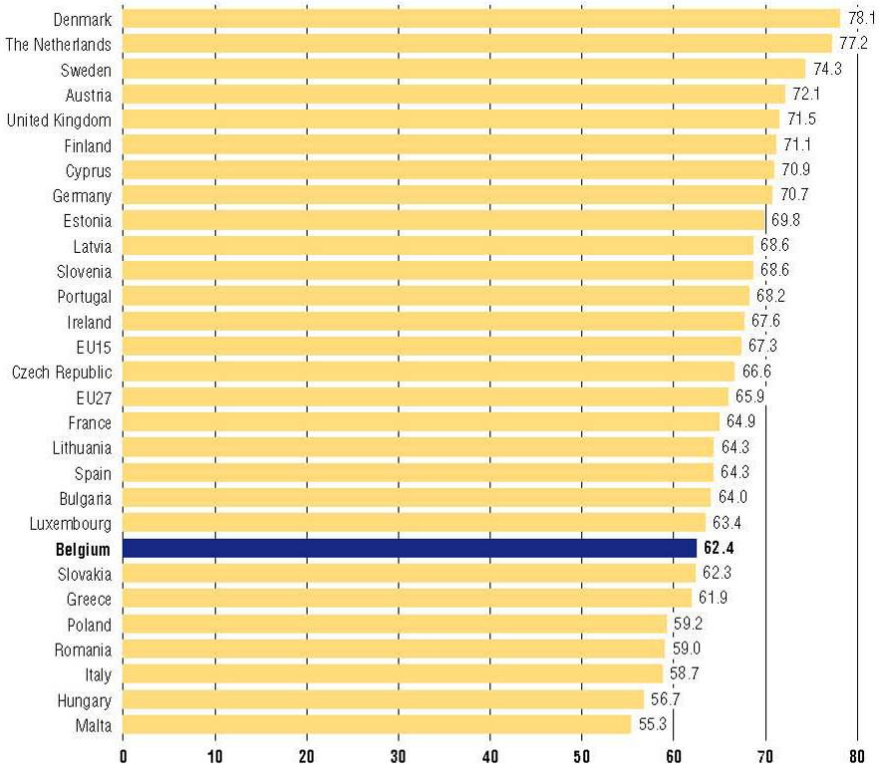
Belgium has a mixed economy based on services, international trade and manufacturing. In 2009, the service sector accounted for 77.6% of GDP, whereas the manufacturing sector and agriculture represented 21.8% and 0.6%, respectively (Eurostat 2009). Together with 11 other Member States of the European Union (EU), Belgium began circulating euro currency in January 2002.

The Belgian economy depends heavily on the export of a large volume of manufactured goods and is therefore very dependent on the state of the world market and the European market in particular. In 2008, exports and imports of goods and services accounted for 85.8% and 84.9% of GDP respectively. Between 1985 and 2007, Belgium ran a current account surplus. In 2007 this surplus totalled 2.2% of GDP. However, in 2008 the current account ran a deficit of -2.65% (National Bank of Belgium 2009). The global economic slowdown, higher prices of imported commodities as well as the declining market shares of Belgian exports could partly explain this deficit. However, for 2009 a surplus of 0.5% is expected for the current account (National Bank of Belgium 2010a).

Between 1995 and 2008, Belgium had an average real economic annual growth of 2.2%. Nevertheless, in 2008, the slowdown in activity meant that GDP growth dropped to 0.8% and in 2009, first estimates show a GDP decrease of -3.0% with respect to the previous year (see Table 1.3) (National Bank of Belgium 2010b). Over the same period (1995–2008), prices increased modestly with an average inflation rate of 2.3%. The annual average inflation rate surged to 4.5% in 2008 and was estimated at -0.1% in 2009 (Eurostat 2009; National Bank of Belgium 2009; National Bank of Belgium 2010b).

In 2008, the employment rate in Belgium was 62.4%, which is below the EU27 average of 65.9%. In comparison to other Member States in the EU27, Belgium ranked 20th (see Fig. 1.2). This low employment rate can be partially attributed to the slow economic growth, but mostly to the specific characteristics of the Belgian job market (Corens 2007).

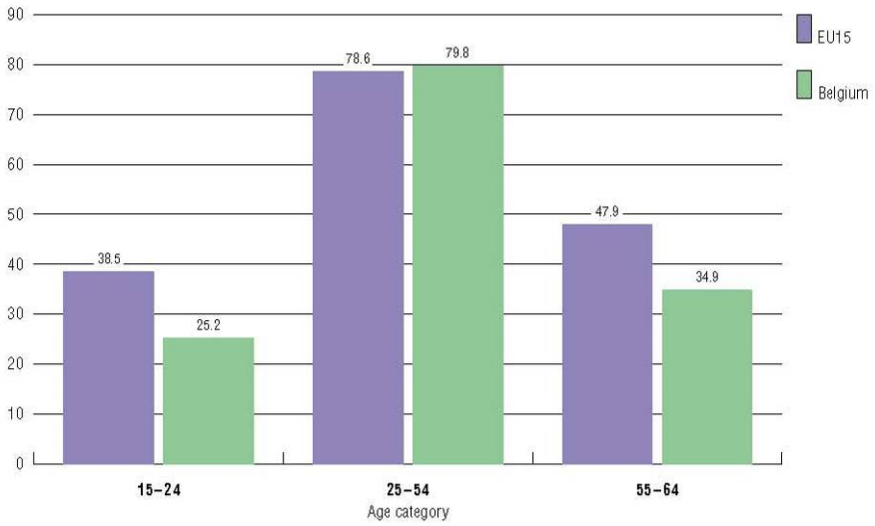
Figure 1.2: Employment rate in the EU-27, 2008



Source: Eurostat 2010 (accessed March 4, 2010)

Employment rates in 2009 are particularly low for older workers (at 34.9% of the population aged 55–64), younger workers (at 25.2% of the population aged 15–24) and ethnic minorities (at 38.6% for those of non-EU nationality). By contrast, employment rates are near international averages for those of prime working age (25–54 years) (see Fig. 1.3) (Eurostat 2009). The low employment rate in Belgium implies that there is a high level of an unused potential labour force. Higher employment would contribute to economic growth by helping to alleviate strains on public finances and to sustain the social security system faced with an ageing population.

Figure 1.3 Employment rate per age categories (2009)



Source: BNB 2010

Although it decreased from 1993 to 2007, the consolidated gross public debt to GDP ratio has remained high (84.2% in 2007) and increased to 89.8% in 2008 (National Bank of Belgium 2009; Eurostat 2009). In 2009, the debt to GDP ratio was 97.8%. This can be attributed to both a decrease in the nominal GDP and a generalized deficit among most public administrations (National Bank of Belgium 2010b). Since 2000, the government has succeeded in balancing its budget but further debt reduction is necessary to respect stability programmes and the Maastricht Treaty, which call for gross public debt to be reduced to less than 60% of GDP to prepare for the future costs of the ageing population. The resulting decrease in interest payments should create financial possibilities to pay for expenses related to ageing, such as pensions and health care.

Table 1.3: Macroeconomic indicators, 2009

GDP (current prices, in million €)	337 758
GDP, PPP (current prices, in million €)	295 584
GDP per capita, PPP, (current prices, in €)	28 600 [1]
Real GDP growth (annual % change [2])	-3.0
Public debt (% of GDP)	97.8
Value added in agriculture (% of GDP)	0.6
Value added in industry (% of GDP)	21.8
Value added in services (% of GDP)	77.6
Labour force (total)	5 071
Employment rate (% population of working age)	61.5
Unemployment (% of labour force)	7.9
Exchange rate (US$/euro)	1.4
Gini coefficient [3]	28 [1]
At-risk-of-poverty rate [4]	15 [1]

Sources: National Bank of Belgium 2009; Eurostat 2009; OECD 2009a; Statistics Belgium 2009.
Notes:
1 Latest available data 2008.
2 Data adjusted for seasonal and calendar effects and calculated in terms of chained 2007 prices.
3 Gini coefficient (data for 2008): "Measure of (income) inequality or concentration derived from the Lorenz curve, which plots cumulative shares of the population, from the poorest upwards, against the cumulative share of incomes that they receive. The Gini coefficient is defined as the area between the Lorenz curve and the 45°-line, taken as a ratio of the whole triangle. An increase in the Gini coefficient represents an increase in inequality."
4 "The at-risk-of-poverty rate is measured as the share of persons with an equivalized disposable income below the at-risk-of-poverty threshold. The threshold is set at 60% of the national median equivalized disposable income" (Eurostat 2009).

1.3 POLITICAL CONTEXT

Belgium is a federal parliamentary democracy under a constitutional monarch. The King is the head of the state, but in practice the executive power is exercised by the government. Federal legislation is approved by a bicameral parliament consisting of a Chamber of Representatives (150 members) and a Senate (71 members). Elections are held every four years and voting is compulsory for all citizens 18 and over (Belgium Federal Portal 2009).

At the federated level, Belgium is divided into three regions (based on territory) and three communities (based on language and culture) (see Fig. 1.4 and Fig. 1.5). The devolved structure of regions and communities has developed as a result of several revisions to Belgium's Constitution since it was originally drafted in 1831. Important constitutional reforms were carried out in 1970, 1980, 1988 and 1993. The three regions are the Flemish region, the Walloon region and the region of Brussels-Capital (Belgium Federal Portal 2009). The three communities are the Flemish community, the French community and the German community. The French community exercises its competence throughout the Walloon region (except for the German-speaking area) and the Brussels-Capital region. The German community covers the German-speaking part of Belgium. The Flemish community is responsible for the citizens living within the Flemish and Brussels-Capital regions. Both French- and Dutch-speaking citizens live in the region of Brussels-Capital. To enable each of the two communities (French and Flemish communities) to conduct community-specific policies in Brussels-Capital, three special institutions were created: the French Community Commission (COCOF), the Flemish Community Commission (VGC) and the Joint Community Commission (GGC-COCOM) (Belgium Federal Portal 2009).

Repartition of competences between these three levels of power (federal, federated and local authorities) is discussed in Section 2.4 *Decentralization and centralization*.

Fig. 1.4: Belgian regions

Source: Belgium Federal Portal 2005.

Fig. 1.5: Belgian communities

Source: Belgium Federal Portal 2005.

Each region and community has a legislative body (the parliament) and an executive body (the government). In Flanders, however, institutions merged in 1980 so that a single government and a single parliament are responsible for both the community and the region (Belgium Federal Portal 2009).

Regional elections are held every five years. At the local level, there are ten provinces (Antwerp, Flemish Brabant, Walloon Brabant, West Flanders, East Flanders, Hainaut, Liège, Limburg, Luxembourg and Namur) and 589 municipalities, elected every six years (Belgium Federal Portal 2009).

Belgium is characterized by a proportional system of elections where political parties present lists of candidates. According to results of the election, parties have to agree on a coalition government.

The three main trade union organizations present in Belgium are the Confederation of Christian Trade Unions (ACV-CSC), the General Labour Federation of Belgium (ABVV-FGTB) and the General Confederation of Liberal Trade Unions of Belgium (ACLVB-CGSLB). These organizations defend the interests of workers and their actions range from the expression of workers' conflicts in enterprises to participation in the management of large organizations, such as the National Social Security Office (NSSO-RSZ-ONSS), to pressure on political decisions, both at the federal level and at the level of federated authorities (regions and communities) (Arcq and Blaise 1999).

At the international level, Belgium is member of the EU, the Council of Europe, the World Trade Organization (WTO), the United Nations, NATO, the World Health Organization (WHO) and the Organisation for Economic Co-operation and Development (OECD), and has signed up to major international treaties, such as the General Agreement on Trade in Services (GATS), the Convention on the Rights of the Child, the European Human Rights Convention and the International Bill of Human Rights (WTO 2009; United Nations 1989; Europa 2009; Council of Europe 2009).

1.4 HEALTH STATUS

In Belgium, life expectancy at birth is 82.6 years for females and 77.1 years for males (2007) (see Table 1.4). Since 1980, life expectancy has increased on average by three months per year. Belgian life expectancy is in line with EU27 averages of 82.2 years for females and 76.1 years for males. Regional differences in life expectancy exist in Belgium. For example, life expectancy at birth for males was lower in the Walloon region, and especially in Hainaut with a difference of three years compared to the Belgian life expectancy in 2006 (see Section 7.2 *Equity*).

Since its *World Health Report 2000,* WHO has been encouraging its Member States to collect data on disability-adjusted life expectancy (DALE) in order to compare the extent to which societies are not only lengthening people's lives, but also improving the quality of their lives by assessing the number of years that people live without disabling conditions (WHO 2000). In 2002 (latest year available), DALE at birth was 73.3 years for females and 68.9 years for males (see Table 1.5).

Table 1.4: Mortality and health indicators, 1980–2007 (selected years)

	1980	1990	2000	2005	2007
Life expectancy at birth, total [a]	73.3	76.1	77.8	79.1	79.9
Life expectancy at birth, males [a]	69.9	72.7	75.0	76.2	77.1
Life expectancy at birth, females [a]	76.7	79.5	81.4	81.9	82.6
Total mortality rate, adult, male [b] (deaths per 100 000, standardized rates)	1 291.1	1 055.0	925.5 [d]	823.7 [e]	–
Total mortality rate, adult, male (1–64 years) [b] (deaths per 100 000, standardized rates)	462.5	345.2	303.94 [d]	267.9 [e]	–
Total mortality rate, adult, female (deaths per 100 000, standardized rates) [b]	772.13	602.14	539.2 [d]	500.2 [e]	–
Total mortality rate, adult, female (1–64 years) (deaths per 100 000, standardized rates) [b]	230.4	178.87	154.3 [d]	141.2 [e]	–
Mortality rate, infant (0–1 years) [a] (deaths per 1 000 live births)	12.1	8.0	4.8	3.7	4.0
Mortality rate, infant (1–4 years) [b, c] (deaths per 1 000 live births)	–	–	1.05 [d]	0.8 [e]	–

Sources: [a] OECD 2009a; [b] WHO Regional Office for Europe 2010 (March); [c] FPS Economy 2009.
Notes: Mortality rate, infant (1–4 years) – own calculation. d 1999; e 2004.

Infant mortality, which represents the ratio of the number of child deaths under one year of age per 1000 live births, has declined between 1980 and 2007 from 12.1 to 4. This declining trend is noted throughout the whole of the EU27. The EU27 average in 2006 was 4.7 (Eurostat 2009).

No national data on the causes of death after 2004 are currently available, but such data will soon be available again. The main causes of death in Belgium in 2004 were cardiovascular disorders, neoplasms and disorders of the respiratory system. The primary causes of death vary according to the different age groups (see Table 1.6). At a younger age (with females up to age 24 and males up to age 44), non-natural causes, together with cancer, are the main causes. After this age, cancer and cardiovascular disorders become the principal causes of death. In the older age groups, cardiovascular diseases are the most prevalent causes of death (Eurostat 2009; OECD 2009a). More recent indicators for the Flemish region can be found from the Flemish Agency for Care and Health (2010).

Table 1.5: DALE and HALE, 2000–2002

	2000	2001	2002
DALE, females	71.6	71.8	73.3
DALE, males	67.5	67.7	68.9
DALE, total	**69.6**	**69.7**	**71.1**
HALE, females	71.6	71.8	73.3
HALE, males	67.5	67.7	68.9
HALE, total	**69.6**	**69.7**	**71.1**

Source: WHO Regional Office for Europe 2008a (August).
Note: HALE: Health-adjusted life expectancy.

Table 1.6: Main causes of death, 1980–2004 (deaths per 100 000, standardized rates, selected years)

	1980	1990	1995	1999	2004
Infectious and parasitic diseases	7.19	7.59	9.48	10.69	16.32
Tuberculosis	2.08	0.82	0.86	0.78	0.44
HIV/AIDS	–	0.81	2.17	0.52	0.59
Circulatory diseases	414.16	284.76	258.87	232.66	207.62
Malignant neoplasms	232.50	215.24	213.37	193.39	173.87
Trachea/bronchus/lung cancers	116.46	109.04	106.19	87.88	76.43
Mental and behavioural disorders	16.66	4.29	13.25	21.08	18.29
Suicide	21.59	17.53	19.68	16.80	17.46
Diseases of the respiratory system	65.50	63.48	67.59	72.25	65.02
Digestive diseases	37.92	30.00	31.42	29.87	28.85
Transport accidents	25.40	17.84	15.62	14.78	11.07

Sources: OECD 2009a; Eurostat 2009

The last complete results of the Health Interview Survey (HIS) were published in 2006, and were related to the situation in 2004 (Bayingana et al. 2006). Additional surveys were organized in 1997 (Demarest et al. 1998), 2001 (Gisle et al. 2002) and 2008. Complete results of the 2008 survey are expected at the end of 2010. Methods used for each survey can be found on the web site of the Scientific Institute of Public Health (IPH 2010a).

In 2008, 23% of the population regarded their health as "not satisfactory". This percentage increases to 48% in those aged 75 years and older. People with low levels of education are relatively more dissatisfied with their health. The results on subjective health status for the four surveys (1997, 2001, 2004 and 2008) are very similar, showing that this indicator is very stable in Belgium.

In 2008, more than one quarter (27.6%) of the population reported having at least one long-term illness, disorder or disabling condition (see Table 1.7). Although the population between 1997 and 2004 grew older, no important increases in the prevalence of chronic diseases were reported. However, from 2004 to 2008 there was an observed increase in the prevalence of chronic diseases. This increase can be attributed in part to a higher prevalence of some diseases, such as hypertension, diabetes, cancer and osteoporosis (Van der Heyden et al. 2001).

On the topic of mental health, the results of the health survey indicate that for the population aged 15 years and older, one out of four (26%) has to contend with psychological distress, a little more than half of these individuals (14.2% of the total) could have quite a serious mental disorder, 9.5% have depressive feelings, 8% have somatic complaints, 6% have anxiety disorder and 21.3% have sleeping problems. Furthermore, 11.7% of the population have thought about suicide and 4.9% have tried to commit suicide (IPH 2010a). New results from the 2008 survey show a slight deterioration of mental health among individuals aged 15 years and older when compared to the 2004 survey results.

Table 1.7: Indicators on long-term illness, drug consumption and mental health 1997–2008 (selected years)

	1997	2001	2004	2008
Having a long-term illness (% of population)	24.6	25.3	23.8	27.6
Having an officially recognized disability (% of population)	7.6	9.3	6.4	–
Use of medicines in the past two weeks (% of population)	60.1	62.0	59.3	–
Mean GHQ-12 score of psychological distress	1.6	1.3	1.3	1.4
Psychological distress (GHQ score 2+) (% of the population)	31.1	24.8	24.5	26.0
Probable mental disorder (GHQ score 4+) (% of the population)	17.2	13.2	12.7	14.2
Lifetime suicidal ideation (% of population)	–	–	12.2	11.7
Lifetime suicide attempt(s) (% of the population)	–	–	3.7	4.9
Prevalence of depressive disorder (% of the population)	–	8.6	8.0	9.5
Reported depression in the last 12 months (% of the population)	6.5	6.3	5.9	6.1

Source: IPH 2010a.
Note: GHQ: General Health Questionnaire

Since the 1980s, the number of daily smokers has decreased substantially from 40.5% in 1980 to 20.0% in 2008. Daily smokers smoke an average of 17 cigarettes per day. The percentage of heavy smokers (> 20 cigarettes per day) is 10%. The age when people start to smoke regularly is 17 years, but 10% of the current smokers started smoking at the early age of 14. Additionally, 6% of the population are occasional smokers (CRIOC 2009).

In 2004, 26% of the population aged 15–24 smoked, which is an improvement in comparison to 31% in 2001. The reduction in tobacco use could be attributed to the adoption of non-smoking campaigns and tax increases on tobacco products (Demotte 2004). However, 34% of current smokers are moderately dependent to very dependent on tobacco, while 68% have already tried in vain to give up smoking.

Nevertheless, smoking-related mortality has decreased (from 321.2 per 100 000 inhabitants in 1980 to 248.5 in 1995) (see Table 1.8). Both alcohol consumption and alcohol-related mortality have been decreasing since the 1980s.

In 2004, the average body mass index (BMI) of Belgians aged 18 years and older was 25.1. Moreover, 44.1% of the adult population has a BMI above 25, with 31.4% classified as overweight (BMI between 25 and 30) and 12.7% as obese (BMI above 30).

Table 1.8: Factors affecting health status, 1980–2004 (selected years)

	1980	1985	1990	1995	2000	2004
Daily smokers (% of population, 15+)	40.5	38.4	32.0	28.5	31.0	20.0
Selected smoking-related causes of death (deaths per 100 000, standardized rates)	321.2	297.4	248.4	248.5	–	–
Alcohol consumption (litres per capita, 15+)	14.0	12.9	12.1	11.1	10.3	10.7[c]
Selected alcohol-related causes of death (deaths per 100 000, standardized rates)	135.8	108.1	101.5	76.3	–	–
Overweight population (% of total population 25<BMI<30kg/m²)	–	–	–	30.5[a]	32.4[b]	31.4
Obese population (% of total population BMI>30kg/m²)	–	–	–	10.8[a]	12.1[b]	12.7

Sources: OECD 2009a; WHO Regional Office for Europe 2009 (August); IPH 2010a.
Notes: [a] 1997; [b] 2001; [c] 2003

Between 1980 and 2005, neonatal mortality decreased from 7.5 to 2.3 deaths per 1000 live births and postneonatal mortality decreased from 4.5 to 1.4 deaths per 1000 live births (2004 rate) (see Table 1.9). Although maternal mortality shows an overall decrease from 20.4 to 7.0 deaths per 100 000 live births from 1970 to 2006, an increase has been observed since its lowest level of 2.5 deaths per 100 000 live births recorded in 2004.

Table 1.9: Maternal and child health indicators, 1980–2006 (selected years)

	1980	1990	2000	2004	2005	2006
Termination of pregnancy rates (abortion/1 000 live births)[a]	–	134.4[b]	119.8	138.6	141.5	145.5
Neonatal mortality (deaths/1 000 live births)	7.5	4.2	2.9	2.2	2.3	–
Postneonatal mortality(deaths/1 000 live births)	4.5	3.6	–	1.4	–	–
Maternal mortality (death/100 000 live births)	5.6	3.4	8.1	2.5	7.7	7.0

Sources: OECD 2009a; [a] WHO Regional Office for Europe 2010 (March).
Note: [b] 1989.

Since 3 April 1990, the voluntary termination of pregnancy is allowed on condition that the procedure is carried out before the end of the twelfth week of gestation and that the woman is considered to be in distress. After this date, termination of pregnancy is allowed if the mother's health is in danger or if the child to be born suffers from an incurable disease (Code Penal 1990-04-03/30, Art. 2, 002). Termination of pregnancy rates increased from 2001 to 2004, but have been stable (with only a slight increase) between 2004 and 2006.

Since the 1980s, the dental health status of Belgian children and adolescents has improved significantly. In 2001, the number of decayed, missing or filled teeth (DMFT) was 0.92 among 12-year-olds in comparison with 3.1 in 1985 (see Table 1.10). Epidemiological study data show that Belgian schoolchildren are among those in European countries with moderate to low caries prevalence. However, attention should be paid to socioeconomically underprivileged children whose dental health status is significantly worse than that of privileged ones (Van Nieuwenhuysen and Carvalho 2000). More information on social inequalities in health is discussed in Section 7.2 *Equity*.

Table 1.10: Decayed, missing or filled teeth at age 12, 1985–2001 (in the Flemish region, selected years)

	1985	1990	1998	2001
DMFT	3.1	2.7	1.6	0.92[a]

Sources: WHO Regional Office for Europe 2009 (August). [a] Source for the year 2001: De Vos and Vanobbergen 2006.

2 ORGANIZATIONAL STRUCTURE[b]

2.1 OVERVIEW OF THE HEALTH SYSTEM

The Belgian health system is based on the principle of social insurance characterized by solidarity between the rich and poor, healthy and sick people and with no selection of risk. The organization of health services allows for therapeutic freedom for physicians, freedom of choice for patients and remuneration based on fee-for-service payments. Almost the whole population (> 99%) is covered for a very broad benefits package. The services that are covered by compulsory health insurance are described in the nationally established fee schedule (more than 8000 services). Services not included in the fee schedule are not reimbursable. Financing is based on progressive direct taxation, proportional social security contributions related to income and alternative financing related to the consumption of goods and services (value added tax). Approximately 20% of the total health care expenditures are paid by the patients through official co-payments, supplements and non-reimbursed medical acts, drugs and devices. Co-payments are the same for everyone except for people with preferential reimbursement status.

Decision-making in the Belgian health system relies on negotiations between several stakeholders. General policy matters concerning health insurance and the public health budget are decided by representatives of the government and the sickness funds, but also by representatives of employers, salaried employees and self-employed workers. An important part of the health system is also regulated by national conventions and agreements between representatives of health care providers and sickness funds.

In Belgium, responsibilities for health policy are shared between the federal level and the federated entities (regions and communities). The federal level is responsible for the regulation and financing of compulsory health insurance; the determination of accreditation criteria (that is, minimum standards for the running of hospital services); the financing of hospital budgets and heavy medical equipment (e.g. CT and MRI scanners); legislation covering different professional qualifications; and the registration of pharmaceuticals and their price control. At the level of federated entities (regions and communities), governments are responsible for health promotion and prevention; maternity and child health services; different aspects of elderly care, home care, coordination and collaboration in primary health care and palliative care; the implementation of accreditation standards and the determination of additional accreditation criteria; and the financing of hospital investment. To facilitate cooperation between the federal level and governments of regions and communities, interministerial conferences are regularly organized.

Compulsory health insurance is organized through six private, non-profit-making national associations of sickness funds and one public national association sickness fund. The major responsibilities of the sickness funds are to reimburse health service benefits and to represent their members in the National Institute for Health and Disability Insurance (NIHDI-RIZIV-INAMI). Since 1995, Belgian sickness funds have been made more financially accountable for the expenditure of their insured members. Private profit-making health insurance companies account for only a small part of the non-compulsory health insurance market.

Health care is provided by public health services, independent ambulatory care professionals, independent pharmacists, hospitals and specific facilities for the elderly. Hospital care is provided by either private non-profit-making or public hospitals. Most medical specialists work independently in hospitals or in private practices on an ambulatory basis. General practitioners (GPs) provide ambulatory or primary care. Dentists and pharmacists also generally work independently.

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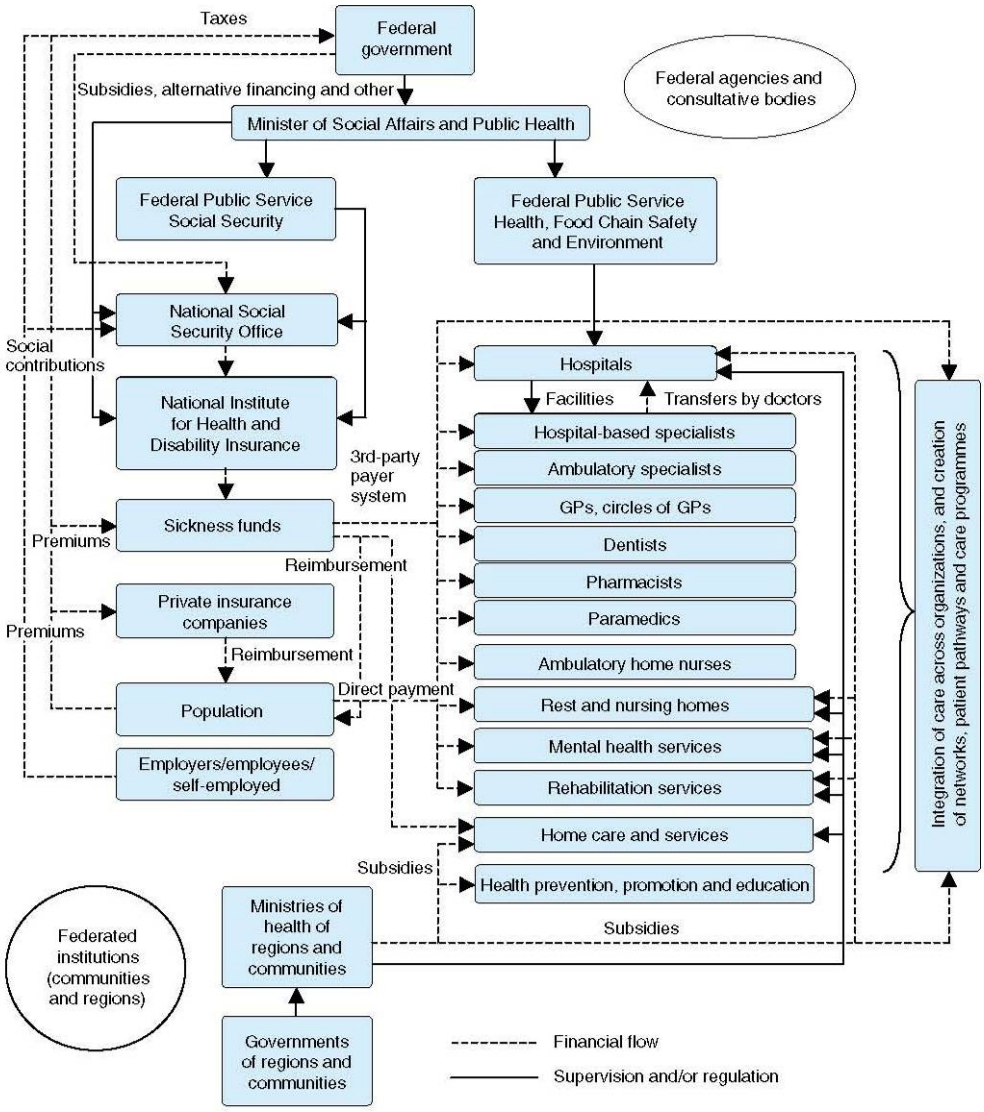
b This chapter was written by Sophie Gerkens, Maria Isabel Farfan and Stefaan Van de Sande.

Fig. 2.1: Overview chart of the health system



Source: Adapted from Corens 2007.

Several measures have been undertaken to increase the accountability of health care providers. Some of the new objectives of policy-makers include the integration of care and multidisciplinary cooperation; patients' pathways, care programmes and networks have been created.

Fig. 2.1 shows the overview of the health system in Belgium.

2.2 HISTORICAL BACKGROUND

Table 2.1 provides an overview of the major health care reforms and policy measures from the introduction of the compulsory health insurance system in 1944 to 2006. Further developments and reforms are described in Chapter 6.

Table 2.1: Major health care reforms and policy measures, 1944–2006

Year of approbation	Reform	Description
1944	Social security legislation	Introduction of compulsory social security for salaried workers.
1963	Health Insurance Act	Completion of the compulsory social health insurance system combined with a private system of medical care based on independent medical practice, free choice of physician and hospital, and reimbursed fee-for-service payment.
1963	Hospital Act	Provision of free hospital care for all insured citizens, improvement of the quality of hospital care via the use of norms and accreditation, insuring financial viability of public and private hospitals via a per diem financing system and the introduction of planning in the hospital sector.
1967	Practice of Medicine (and Other Health Care Professions) Act	Regulation of medical and paramedical professions.
1980	State reform	Devolution of responsibility for preventive health care, health promotion, implementation of hospital accreditation, and planning, and coordination of home care from the national (federal) level to the level of federated entities (see Section 2.4 Decentralization and centralization).
1982–1986	Hospital reform	Introduction of moratorium on the increase of hospital beds, creation of specialized geriatric services in hospitals, planned conversion of acute and chronic hospital beds into geriatric beds and beds in homes for the elderly and nursing homes, introduction of minimum capacity, imposition of bed-day quotas.
1986	Hospital financing reform	Towards the better allocation of resources between hospitals by putting less emphasis on historical costs and more on activities, functions and performance.
1989	Financing reform	Reform of funding for clinical laboratory tests and medical imaging.
1990	Psychiatric care reform	Provision of the most appropriate treatment of psychiatric patients.
1990	Sickness Funds Act	Confirmation of the role of sickness funds as administrators of the compulsory health insurance system and implementation of increased control on sickness funds.
1993	Health Insurance Reform Act	Reform of the NIHDI management structure, introduction of a stricter budgetary procedure and expenditure control, and measures to reinforce the financial responsibility of the care providers.
1993	State reform	Devolution of some responsibilities on person-related matters from the French community to the French Community Commission (COCOF) and the Walloon region. Person-related matters include policy on curative

Year of approbation	Reform	Description
		and preventive care as well as family support services (youth protection, social and family support, etc.).
1994	Reform of sickness funds	Increased accountability of sickness funds for health expenditure.
1997	Planning for medical supply	Determining the number of physicians authorized to practise medicine in 2004 and projecting numbers for future years.
1997	Elderly care	The federal and federated authorities (regions and communities) signed a protocol agreement in order to pursue a coherent policy on health care for the elderly. In this protocol, they agreed on how health insurance could be used by the regions and communities. Two other protocols were signed in 2003 and 2005.
1998	Annual right	Placing all health insurance beneficiaries under either the general scheme or the self-employed scheme, and ensuring stability of the health insurance status and entitlements.
1999	Global Medical File	Introduction of a Global Medical File (GMD) to strengthen the role of primary care.
2001–2002	Pharmaceutical policy reform	Introduction of reference pricing for generics, reform of the reimbursement procedure, introduction of new rules for the removal of products from reimbursement status.
2002	Maximum billing	Introduction of a maximum annual ceiling for cost-sharing according to social status and the family's net income.
2002	Euthanasia	Legalizing euthanasia.
2002	Palliative care	Law on the definition of palliative care as a right for everybody.
2002	Hospital financing reform	Introduction of hospital budgets based on the case mix of the hospital ("justified activity"), surgical day hospitalization included in the hospital budget, introduction of a specific budget for university hospitals and monthly payment for hospital budgets.
2002	Regulation of patients' rights	Strengthens the legal status of the patient in the health system.
2002	Reference amounts in hospitals	Introduction of reference amounts for standard surgical procedures.
2003	Belgian Health Care Knowledge Centre	Foundation of the Belgian Health Care Knowledge Centre to support health care policy with objective research.
2003	Reform of the Office for Medical Evaluation and Control	Making health care providers individually accountable.
2005	Pharmaceutical policy reform	Introduction of a number of reforms to control public spending on pharmaceuticals, e.g. introduction of a tender process for certain pharmaceuticals and stricter control over prescription of pharmaceuticals.
2006	Lump sum financing for hospital pharmaceuticals	Introduction of a prospective financing system for hospitalized patients.
2006	Federal Pharmaceuticals and Health Products	Foundation of the Federal Pharmaceuticals and Health Products Agency to ensure the quality, safety and

Year of approbation	Reform	Description
	Agency	effectiveness of pharmaceuticals for humans and animals.
2006	GP Impulse fund I	Special fund to support doctors to start up a practice in a region with a shortage of GPs.

2.2.1 Health insurance and sickness funds

The origins of the health insurance system can be traced to the late 19th century, when workers created mutual benefit societies to protect affiliated members against the risk of disease, unemployment and incapacity for work. Small-scale voluntary "mutualities" or sickness funds were organized according to employment type without state subsidies. These associations were then made official by the state in 1851 and in 1894, more legislation was passed to serve as the sickness funds' legal foundation for about a century. At the beginning of the 20th century, the sickness funds were then grouped into national associations according to their political or ideological background as follows: the National Alliance of Christian Mutualities (1906); the National Union of Neutral Mutualities (1908); the National Union of Socialist Mutualities (1913); the National Union of Liberal Mutualities (1914); and the Union of the Free and Professional Mutualities (1920) (Engels 1970; NIHDI 2007a). The legal framework for sickness funds of 1894 was replaced by the 1990 Sickness Funds Act, which stipulates the tasks of the sickness funds within and outside the compulsory health insurance system, the basic rules for their functioning as well as their supervision. This Act was introduced because of political demand for stronger democratization of management and more financial transparency.

The principal characteristics of the Belgian health system result from decisions made after the Second World War to create a compulsory health insurance system based on independent medical practice, free choice of health care provider by the patient, fee-for-service payment of providers and reimbursement. During the Second World War, important steps were taken towards a compulsory social insurance system. On 7 August 1943, representatives of employers and trade unions signed a draft Agreement on Social Solidarity which laid the foundations for the Social Security Act of 28 December 1944 that established a social security system compulsory for all salaried workers. This law created the NSSO-RSZ-ONSS to collect the contributions for all social security sectors, and the National Fund for Sickness and Disability to manage health insurance in particular.

One of the main turning points in the history of the Belgian health system was the Health Insurance Act of 9 August 1963. This law extended coverage under compulsory health insurance within a private system of medical care based on the principles of independent medical practice, free choice of physician and hospital for the patient, and fee-for-service payment. This law introduced the following developments: the so-called "nomenclature", which lists the reimbursed medical services and gives them a relative value; the current NIHDI replacing the National Fund for Sickness and Disability; the definition of a new category of beneficiaries – including widows, orphans, pensioners and disabled people – having a preferential reimbursement rate for health care costs; and the current system of conventions and agreements between representatives of sickness funds and of health care providers. Further details about elements introduced by this law and the reaction of physicians can be found in the *Belgium HiT* 2007 (Corens 2007).

The Belgian health insurance system has gradually evolved towards universal coverage. In 1964, the self-employed were obliged to insure themselves against major risks[c] in medical care. Health insurance coverage was extended to public sector workers for both major and minor risks[d] in 1965; to those physically incapable of working in 1967; to the mentally ill in 1968; and to everyone not yet protected in 1969. From 1998, all beneficiaries of compulsory health insurance were covered either under the general scheme (for minor and major risks) or the scheme for self-employed workers (for major risks) and since 2008, all beneficiaries are covered for both minor and major risks.

In the 1980s, 1990s and 2000s, many reforms attempted to control the supply of health care and to increase the financial responsibility of the main actors in the system. In 1991, a fixed budget for each subsector of health care was introduced into the health insurance system. If the budget limits were surpassed, correction mechanisms would be activated. This cost-controlling reform represented a fundamental change in government policy towards health care from the previous demand-led funding strategy. A more extensive reform of the budgetary procedures was introduced in 1993, when the system of compulsory health insurance was thoroughly reformed. In 1995, a real growth norm of health expenditures fixed at 1.5% per year was introduced. This norm was then raised to 2.5% in the period from 2000 to 2003 and to 4.5% since 2004. In 1995, sickness funds were also made partially financially accountable for their health care expenditures. Additional reforms undertaken to increase the accountability of the main actors of the system are described in Section 2.6.3 *Mechanisms to ensure the quality of care,* and in Chapter 6.

2.2.2 Health care facilities

Hospitals had opened in Belgium as early as the 12th century in the case of Saint Jan's Hospital in Bruges and Elisabeth's Hospital in Antwerp, but until 1963 hospital legislation had been limited. In 1963, the government decided to regulate the hospital system via specific legislation rather than include hospitals in the Health Insurance Act. The 1963 Hospital Act had four objectives: to provide open-access hospital care for all citizens; to improve the quality of hospital care via the use of norms and accreditation criteria; to ensure the financial viability of public and private hospitals via a per diem financing system; and to introduce planning in the hospital sector. It should be noted that this hospital act did not determine the financing of medical, medico-technical and paramedical services (chargeable to the compulsory health insurance system). Physicians are paid for their medical services separately from the hospital and then they cede part of their fees to help finance the operating costs of medical activities in the hospital. The physicians' contribution to the operating cost would depend on the general agreement between hospital management and hospitals' physicians (see also Section 3.6.2 *Paying health care professionals*) (Van de Sande et al., 2010).

In 1973, a system of mandatory hospital planning was introduced to remedy the estimated surplus of hospital beds and to reorient hospital provision towards areas which were underserved. It was necessary for hospitals or a particular hospital service to follow the hospital planning framework in order to obtain accreditation.

In 1982, a moratorium on the number of general hospital beds was introduced such that the number of beds on 1 July 1982 cannot be exceeded. The National Council for Hospital Supplies was also established to give advice to the federal government in the field of planning, accreditation and financing of hospitals.

Also in the 1980s, the government introduced a policy of concentration whereby every hospital had to maintain a minimum of 150 beds spread across at least three departments, or else close or merge with another hospital. Specific financial incentives were created to promote hospital mergers.

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c Major risks include hospital care, delivery of babies, major surgery, dialysis functional rehabilitation care, implantable medical devices and specialist care, among others.

d Minor risks include physicians' visits, dental care, minor surgery, home care and pharmaceuticals for outpatient care, among others.

Hospital financing was also significantly reformed from the 1980s. Prospective financing in this sector was introduced in 1986. Prior to this, hospitals received a fixed per diem payment for each patient-day. As of 1982, a patient-day quota was imposed on hospitals based on number of beds and a normative rate of occupancy. Since 1991, different measures have also been put in place in order to better account for the activities of hospitals and to progressively reduce the historical component of the budget.

Moreover, incentives have been created to improve hospital efficiency. In 1994, diagnosis-related groups (DRGs) were introduced into the hospital budget in order to reward or penalize financially those hospitals that make use of their beds in more or less efficient ways. Since 1995, the hospital budget has been based on patient characteristics, such as type of pathology, age (more or less than 75 years) and the nature of the stay. Hospital performance with regard to length of stay is measured by the difference between the actual length of stay and the national average according to the three factors mentioned above. Hospitals with an average length of stay for all patients that is greater than that of the sample of all Belgian patients see their budget decrease in favour of those hospitals with a shorter length of stay.

Since 2002, hospital budgets have been based on the case mix of the hospital ('justified activity'); surgical day hospitalization is included in the hospital budget; a specific budget for university hospitals has been introduced; and the hospital budgets are paid each month (see Section 3.6 *Payment mechanisms*). In order to address significant differences in medical practice between hospitals, which can not be explained medically, a system of reference amounts for standard interventions was also introduced in 2002 (see Section 2.6.3 *Mechanisms to ensure the quality of care*). Incentives were also created for hospitals within the hospital financing system to rationalize supply, to create complementarities between different hospital sites or to reduce their number of beds (see Section 2.6.3 *Mechanisms to ensure the quality of care*).

Reforms on the financing of pharmaceuticals in hospitals were also undertaken. In 1997, the first step was taken towards the prospective financing of pharmaceuticals in hospitals through the introduction of a fixed sum for the prophylactic use of antibiotics for surgical interventions. The fixed sum covers 75% of the costs for antibiotics that are administered to hospitalized patients the day before, on the day of and the day after a surgical intervention. For the remaining 25%, the antibiotics remain reimbursed per product. Since July 2006, a system of lump sum payment per hospital stay applies for pharmaceutical products administered in acute hospitals (see also Section 5.6 *Pharmaceutical care*).

Furthermore, there has been a progressive shift in Belgium from general hospitals towards other structures. In 1982, the first nursing homes were created with the explicit intention to create an intermediary structure between a home for the elderly and a hospital. Financial incentives were also provided to convert acute and chronic hospital beds into geriatric beds and beds in homes for the elderly and nursing homes. These measures were not intended to have any impact on access to services for the elderly, as beds were not closed but only altered in status. An important reform was also carried out in the psychiatric sector in 1990, aimed at cutting back on psychiatric hospital beds; instead, new provisions aimed to stimulate the social integration of patients. The new initiatives arose as a reaction to the increasing tendency to offer chronic patients appropriate care outside of psychiatric hospital. Alternative facilities for mental health care were created, such as psychiatric nursing homes, sheltered accommodation and home care. The reform also aimed to improve the quality of residential care by resisting large-scale operations and developing a better regional distribution in the supply of mental health care facilities. In addition, the focus shifted somewhat from prevention to treatment. Also, a policy reform of 1999 aimed to improve intensive and specialized care in psychiatric hospitals, set up cooperation between the intramural and extramural sectors, and further shifted hospital and elderly care beds to psychiatric nursing homes and places of sheltered accommodation (see also Chapter 5 for more reforms).

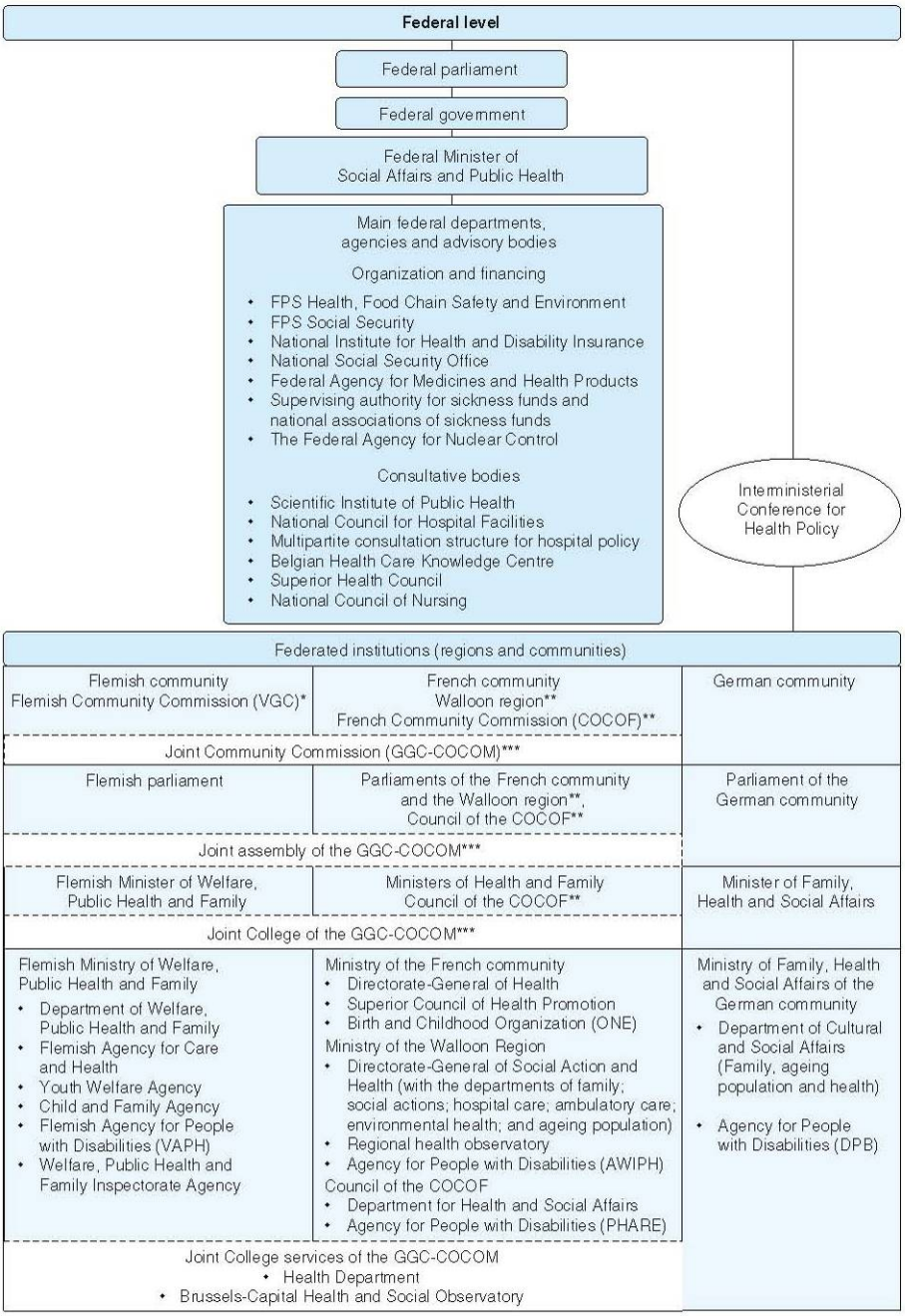
More recently, incentives to promote the integration of care between organizations and multidisciplinary cooperation between health care providers have also been undertaken (see Section 2.6.3 *Mechanisms to ensure the quality of care* and Chapter 6.

2.3 ORGANIZATION

Numerous public authorities are responsible for the funding of health care and the oversight of its organization. The division of responsibilities mirrors the fragmented structure of the Belgian state. Since the early 1980s, elements of responsibility for health care have been devolved to the communities. However, devolution is limited, especially for curative medicine, for which the federal authorities remain responsible.

Fig. 2.2 shows the organization of the health system at the federal level and the level of federated entities, with the most important departments, agencies and advisory bodies. Their roles are detailed in the next sections. Only the most important advisory bodies are mentioned here. In reality, there are about 150 official commissions in the Belgian health care sector (Peers et al. 1999).

Fig. 2.2: Organization of the health system



Note: (*) (**) (***)To allow the French and Flemish communities to pursue community policies in the bilingual territory of the
Brussels-Capital Region, three institutions have been created: the VGC, the COCOF and the

GGC-COCOM. (*)The VGC is under
the Flemish community supervision and only plays an additional role (no transfer of competences). (**) The French community
has transferred some person-related competences to the Walloon region and the COCOF.
(***)The GGC-COCOM is responsible
for matters relating to the two communities.

2.3.1 Federal level

At the federal level, the parliament is the legislative body. The federal government and the Minister of Social Affairs and Public Health are the executive bodies. The federal authorities are described in the following subsections (see also Section 2.4 *Decentralization and centralization*).

2.3.1.1 The FPS Health, Food Chain Safety and Environment

The Federal Public Service (FPS) Health, Food Chain Safety and Environment is accountable to the Minister of Social Affairs and Public Health and consists of four departments: Health Care Facilities Organization; Primary Health Care and Crisis Management; Animal, Plant and Foodstuffs; and Environment (see Fig. 2.3).

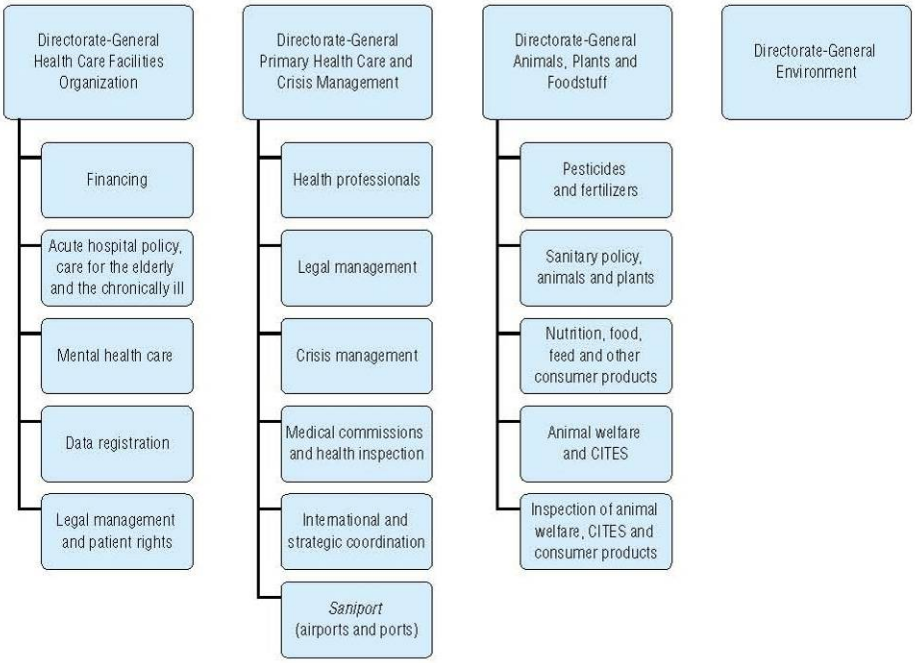
The Health Care Facilities Organization department is in charge of the organization, planning rules, recognition criteria, evaluation of the quality of medical and nursing practices in health care facilities, registration of data and financing of inpatient health care facilities, as well as the implementation of patients' rights. This covers hospitals (acute, specialized, geriatric, psychiatric and university hospitals), homes for the elderly and nursing homes, psychiatric rest homes and sheltered accommodation, and cooperative ventures.

The responsibilities of the Primary Health Care and Crisis Management department include the recognition and planning of activities for health care professionals, and designing a policy for the prevention and monitoring of health crises, including crisis scenarios, emergency plans and organization of relief. In addition, this department is also responsible for the organization of emergency medical assistance. Other competences involve following up on the international health situation and the policy concerning infectious diseases.

The Animal, Plant and Foodstuffs department is responsible for policies, notification, standardization and inspection in the domains of food, food chain safety, alcohol, tobacco, cosmetics and pesticides (FPS Health, Food Chain Safety and Environment 2009a).

The Environment department is responsible for matters concerning climate change, biodiversity and genetically modified organisms, marine environment, chemical substances, electromagnetic fields, products' inspection and environmental rights.

Fig. 2.3: Organization of the FPS Health, Food Chain Safety and Environment



2.3.1.2 *The FPS Social Security*

The FPS Social Security sits at the crossroads of all legislation that contributes to the social security of citizens. The FPS Social Security ensures that everybody appropriately enjoys social rights and aims to ensure the viability of a system of support and solidarity that is as efficient as it is fair. This FPS is also in charge of the recognition of benefits for disabled people (FPS Social Security 2009d).

2.3.1.3 *The National Social Security Office (NSSO)*

The NSSO is the central institution in the social security system for private sector employees and most civil servants. It is managed by a management committee composed of an equal number of representatives of the trade unions and the employers' organizations, under the control of the Minister of Social Affairs and Public Health. For aspects relating to unemployment insurance, the Minister of Labour also controls the NSSO.

The NSSO collects both the employers' and the employees' social security contributions and redistributes the social security budget to the payment institution for each social security sector (i.e. the NIHDI for health insurance). The NSSO also collects and redistributes administrative data to the other social security institutions.

Self-employed workers pay their own social insurance contributions to the social insurance fund to which they are affiliated, which in turn forwards the funds to the National Institute for the Social Security of the Self-employed (NISSE-RSVZ-INASTI). The National Social Security Office for the Local and Provincial Administrations (NSSOLPA-RSZPPO-ONSSAPL) collects social security contributions for the civil servants of the local and provincial authorities. For other "small" schemes, there are also specific collection agencies, such as the Overseas Social Security Office (OSSO-DOSZ-OSSOM) for people working abroad and having paid a contribution (FPS Social Security 2006; NSSO-ONSS 2009).

2.3.1.4 *The National Institute for Health and Disability Insurance (NIHDI)*

The NIHDI is a public social security institution accountable to the Minister of Social Affairs and Public Health. This institute is responsible for the general organization and financial management of the compulsory health care and benefits insurance. Its most important tasks are:

- to organize reimbursement of medical costs;
- to ensure a replacement income in case of incapacity;
- to elaborate legislation and regulation;
- to prepare the budget and to make sure that activities of health care providers and sickness funds are appropriately financed;
- to monitor the evolution of health care spending;
- to inform health care providers, sickness funds and the insured, and to ensure they apply the legislation and regulation correctly; and
- to organize the negotiations between the different actors involved in compulsory health insurance.

The NIHDI is composed of five departments: the Health Care Department; the Department for Medical Evaluation and Inspection; the Benefits Department; the Department for Administrative Inspection; and the General Support Departments (see Fig. 2.4) (De Cock 2007; NIHDI 2009d).

The Health Care Department is charged with the administrative and financial management of compulsory health insurance. This department determines the reimbursement criteria, establishes and monitors the budget, informs the health care providers, promotes the quality of care for physicians and organizes negotiations between different actors involved in compulsory health insurance. This department is managed by the General Council and the Committee for Health Care Insurance.

The Department for Medical Evaluation and Inspection informs the health care providers about the correct application of the health care and benefits insurance regulation, more specifically to prevent administrative errors. It evaluates the professional practice of a group of health care providers by examining the use of health care services. It verifies whether the services performed by the health care providers and the prescribing of medicines are correctly carried out and are in line with the rules of the health care and benefits insurance regulation.

The inspection also encompasses the incapacity for work and the accumulation of incapacity for work benefits with the practice of a non-allowed activity.[e]

The Benefits Department is in charge of determining criteria and guidelines concerning benefits in case of incapacity for work, and in case of maternity, paternity or adoption leave.

The Department for Administrative Inspection is responsible for monitoring legal and other regulations of the sickness funds. This department is also in charge of sanctioning non-adherence to the rules.

The General Support Departments offer "strategic" support to the other departments of the NIHDI (human resources management, ICT support, etc.).

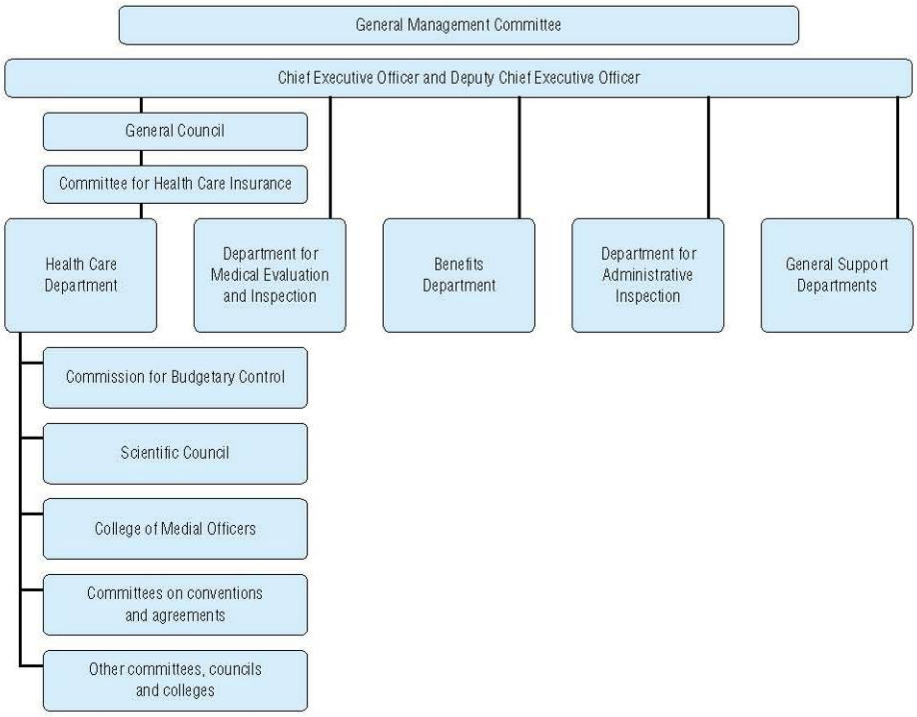
In the General Council, decision-making power is shared between the financial contributors to the system (government, employers, salaried employees and self-employed workers) and the sickness funds. Representatives of health care providers have an advisory role. The General Council decides on general policy matters concerning health insurance, approves the annual global budget target for health benefits on the basis of a proposal from the Committee for Health Care Insurance, establishes

[e] Activities which may have an economic impact on society are not allowed for people with incapacity to work; however, it is possible (under certain conditions) for those with incapacity to work to undertake professional activity and earn an income for the work with prior authorization of the medical adviser of the sickness fund.

the budget of the health insurance, determines the distribution of the budget for the different health care sectors and monitors the financial balance of the health insurance. The government has a power of veto over decisions made in the General Council (De Cock 2007; NIHDI 2009d).

The Committee for Health Care Insurance reports to the General Council and is made up of an equal number of representatives of sickness funds and health care providers. Representatives from employer and employee (salaried and self-employed) organizations and representatives of the government have an advisory role. One of the tasks of the Committee for Health Care Insurance is drafting the annual global budget target for the General Council. This committee also decides on the transmission of proposals to modify the nomenclature of health benefits and approves agreements and conventions, subject to the decision of the General Council.

Figure 2.4 Organizational chart of the NIHDI



Moreover, the following structures play an important role in the Health Care Department: the Commission for Budgetary Control; the Scientific Council; and the College of Medical Officers.

The Commission for Budgetary Control oversees funding and expenditures, alerts the General Council when budget limits are exceeded and proposes measures to respect the budgetary target. This Commission is composed of representatives of sickness funds and health care providers, representatives from employer and employee (salaried and self-employed) organizations and representatives of the government. The Scientific Council gives scientific advice and recommendations in relation to health care insurance and quality of care. The College of Medical Officers plays an important role in the regulation of the rehabilitation sector. This College is also responsible for the management of the Special Solidarity Funds (see Section 3.4.3 *Fixed payments to patients*) (De Cock 2007; NIHDI 2009d).

There are various other committees within the Health Care Department, most notably the Committees on Conventions and Agreements, which negotiate fees between insurers and health care providers. One example is the National Committee of Representatives of Physicians and Sickness Funds. These committees are assisted by technical councils that are responsible for helping to define services that should be delivered (e.g. the Technical Pharmaceutical Council, the Technical Medical Council and the Technical Dental Council).

There is also the National Council for Quality Promotion, composed of representatives of physicians, the universities, the scientific medical associations, the sickness funds and the Minister of Social Affairs and Public Health (see Section 2.6.2 *Regulation of providers*), and the Committee for the Evaluation of Medical Practices for Drugs which focus on prescribing quality.

2.3.1.5 Sickness funds

The NIHDI oversees the general organization of compulsory health insurance; however, the task of actually providing insurance falls to the sickness funds. Sickness funds receive their financial resources from the NIHDI. Sickness funds are private non-profit-making organizations with a public interest mission. They are active members of both the executive and the advisory committees of the NIHDI. They are also in charge of medical auditing: they verify that services have really been carried out and that the fees charged conform to regulations (see also Section 2.6.1 *Regulation of third-party payers*).

2.3.1.6 The Federal Agency for Medicines and Health Products

The Federal Agency for Medicines and Health Products (FAMHP-FAGG-AFMPS) ensures the quality, safety and effectiveness of pharmaceuticals for humans and animals. The main tasks of the agency are:

- to control the risk to which patients are exposed during the development stage of a pharmaceutical;
- to evaluate applications to bring a new pharmaceutical on the market;
- to distribute licences for trading pharmaceuticals;
- to collect and evaluate all relevant information to trace, diminish and avoid possible side-effects for the user;
- to control the production, distribution and delivery of pharmaceuticals;
- to spread information on the best use of pharmaceuticals; and
- to supervise advertising on pharmaceuticals.

2.3.1.7 The Supervising Authority for Sickness Funds and National Associations of Sickness Funds

General control over the sickness funds and the national associations of sickness funds is exercised by the Supervising Authority for Sickness Funds and National Associations of Sickness Funds. The Supervising Authority is a public agency under the supervision of the FPS Social Security, established in 1990. The Supervising Authority oversees the services and activities established by the sickness funds and their associations, ensuring that they are in agreement with the Sickness Funds Act and that administrative, accounting and financial regulation is respected. Furthermore, the authority supervises the valid composition and functioning of the general assemblies and governing boards of the sickness funds and the national associations. The authority submits a report to the General Council of the NIHDI regarding their tasks as relevant to the regulations of the compulsory health insurance. A report is compiled annually concerning the activities and the financial situation of the sickness funds and their national associations (Supervising Authority for Sickness Funds and National Associations of Sickness Funds 2006).

In 1993, the powers of the Supervising Authority were extended as a result of the financial responsibility of the sickness funds (see also Chapter 3 *Financing*). The Supervising Authority was, among other things, charged with the evaluation of the management performance of the sickness funds.

2.3.1.8 The Federal Agency for Nuclear Control

The mission of the Federal Agency for Nuclear Control is to ensure that the population and the environment are effectively protected against the dangers of ionizing radiation. The Federal Agency is concerned with determining basic standards for radiation protection, the regulation of classified facilities, control of facilities, the transport and import of radioactive substances, radiological monitoring of the territory, the emergency plan, medical applications of ionizing radiation and natural radioactivity.

2.3.1.9 *Consultative bodies*

The Scientific Institute of Public Health (IPH-WIV-ISP) is a federal research institute in public health. It consists of four operational directions: communicable and infectious diseases; food, medicines and consumer safety; public health and surveillance; and expertise, service provision and customer relations. The main tasks of the IPH are health promotion and disease prevention by providing the federal and federated governments with knowledge based on scientific evidence. The main activities are the surveillance of communicable and noncommunicable diseases (e.g. AIDS, hepatitis, newly emerging and re-emerging infections); the verification of federal product norms (e.g. food, pharmaceuticals and vaccines); risk assessment (e.g. chemical products, genetically modified organisms); management of biological resources (collections of strains of micro-organisms); gaining insight into the population's health status and its determinants; and coordinating health information.

The direction on public health and surveillance is involved in Health Services Research in different health care settings with a focus on primary care, diabetes care and care for specific conditions, such as mucoviscidosis or neuromuscular diseases. The direction works with hospitals and nursing homes in the domain of prevention of health care associated infections, antibiotic consumption and antibiotic-resistance. Infectious diseases in the general population are monitored through registers, sentinel laboratory surveillance systems and a network of reference laboratories. The direction is responsible for several health-related surveys in Belgium of which the HIS is the most important. In 1997, the first HIS, involving 10 000 respondents, was organized to evaluate the health status, lifestyle and use of health care services in Belgium (Van Oyen et al. 1997). The survey has been regularly repeated since then (in 2001, 2004 and 2008) (see also Section 2.5.2 *Information systems*). Inequality in health is a major theme in several research programmes of the direction. Finally, the direction provides to the different Belgian authorities a 24/7 duty call system for epidemiological support in case of a public health emergency.

The National Council for Hospital Supplies is composed of stakeholders from the hospital sector. It plays an important role in the formation of Belgian health care policy by advising the Minister of Social Affairs and Public Health on issues related to hospital planning, accreditation and financing. The National Council for Hospital Supplies consists of two departments: planning and accreditation, and hospital financing. The main responsibilities of the planning and accreditation department are: setting up the planning criteria for different types of hospitals, hospital services and hospital groups; authorizing the installation of high-technology medical equipment and drawing up the appropriate standards; defining the rules and regulations for reducing a surplus of beds; drawing up the accreditation requirements for hospitals and hospital services; determining the rules for the general planning of hospitals; and organizing and implementing hospital services. The recommendations of the department for hospital financing are primarily related to the budget for financial resources, accounting matters and the financing of hospital construction and renovation.

The multipartite consultation structure for hospital policy has existed since 1996; however, it was reformed in 2002 with clearly defined advising responsibilities. The goal of this consultative structure is to build bridges between the NIHDI (providing insurance for inpatient care) and the FPS Health, Food Chain Safety and Environment (responsible for the organization and quality regulation of inpatient care) to improve administration in the hospital sector. Within this structure, an equal number of hospital physicians, hospital administrators and sickness fund representatives consult with each other and give advice on matters which concern both the hospital budget and the fee-for-service system for physicians (such as radiotherapy, MRI and positron emission tomography (PET)). They also have an important advisory role in the regulation of the system of reference amounts for standard interventions (see Chapter 6), the reimbursement of pharmaceuticals in hospitals, the financing of endoscopic and viscerosynthesis material, and the evaluation of the hospital admission policy.

The Belgian Health Care Knowledge Centre (KCE) was set up in 2002 to provide scientific support to health care decision-makers and became active in 2003. The KCE is scientifically and professionally independent but works together with all main stakeholders in the health care sector, universities, other scientific institutions and international organizations. The KCE is active in producing recommendations and carrying out research in the following areas: the analysis of clinical practice and the development of guidelines for Good Clinical Practice (Good Clinical Practice); the assessment of medical technology and medicine (health technology assessment (HTA)); and the study of health care organization and financing (Health Services Research, including research on equity and patient behaviour). The KCE is neither involved in the policy decisions themselves nor in their implementation. Its mission is more to suggest the most effective solutions and to work towards greater accessibility of high quality care, taking into account both growing need and budget limitations.

The Superior Health Council is the link between government policy and the scientific community in the field of public health. The Council provides independent advice and recommendations to the Minister of Social Affairs and Public Health, on the Minister's specific request for information or on its own initiative. The Superior Health Council is competent on all matters related to public health; in particular, it deals mostly with the following areas: mental health (e.g. behaviour, addiction, psychosocial factors in public health, training professionals and psychotherapy), physical and chemical environment (e.g. ionizing radiation, nonionizing radiation, noise pollution, chemicals, pollutants, biocides and pesticides), nutrition (e.g. healthy eating, additives, safety, packaging, novel foods, contaminants and microbiology), and biological problems (e.g. infectious diseases, vaccines and hygiene issues). The council has 90 members and an indeterminate number of invited members. They are drawn mostly from university and governmental circles and appointed on the basis of their specialist knowledge.

The National Council of Nursing provides independent advice and recommendations to the Minister of Social Affairs and Public Health on all matters relating to the art of nursing and particularly on the practice of nursing and required qualifications. The National Council of Nursing may also give an opinion to the community authorities on any matter relating to the education and training of nurses. The Council is composed of representatives of nurses, physicians, the competent authorities in the field of education and representatives of the Minister.

2.3.2 Federated authorities

2.3.2.1 Flemish community

For the Flemish community, the Flemish Agency for Care and Health of the Flemish Ministry of Welfare, Public Health and Family is responsible for the development, implementation and evaluation of policies concerning regional health and care responsibilities. The agency is charged with the programming, accreditation and funding of facilities for elderly care, and general and mental health care in the area of public health and welfare. In the context of the implementation of the preventive health policies, the agency develops and implements projects and programmes; recognizes and subsidizes initiatives for the implementation of projects and programmes; and coordinates and monitors vaccination programmes and prophylaxis of infectious diseases. It conducts inspections, gives advice on environmental permits, and handles complaints and incidents in the field of public health. Additionally, the agency manages the Flemish Care Insurance Scheme (*Vlaams Zorgverzekering*).[f]

[f] The Flemish Care Insurance Scheme is a compulsory insurance scheme for everybody who lives in Flanders and is older than 25 years (since October 2001). This insurance provides partial or full coverage for nonmedical care services from professional care providers or informal carers to those who need it. The Flemish Care Insurance pays an allowance to people who have a significantly decreased ability to take care of themselves and who need residential treatment, partial residential treatment or treatment at home (Vlaams Agentschap Zorg en Gezondheid 2010a).

The objectives of the Flemish Agency for Care and Health are to promote healthy lifestyles; prevent diseases, including related risk factors and complications; optimize the performance of health and care facilities; adjust the supply of health and care facilities to meet the needs of the population; provide accessible and affordable care; and strengthen the active participation and correct treatment of users of care.

Other agencies responsible for health and welfare in Flanders are: the Child and Family Agency (K&G); the Youth Welfare Agency; the Flemish Agency for People with Disabilities (VAPH); and the Welfare, Public Health and Family Inspectorate Agency. K&G is responsible for organizing preventive health care for children under 3 years of age and supporting parents and families in the care of young children. The Welfare, Public Health and Family Inspectorate Agency is responsible for inspecting all health and care services recognized by the Flemish government. To this end, it monitors compliance with regulations and ensures that government resources are spent legitimately and transparently.

2.3.2.2 French community

For the French community, public health policies are administered by the Directorate-General of Health within the Ministry of the French Community. The following agencies are also involved in public health policy in the French community: the Birth and Childhood Organization Office (ONE) and the Superior Council of Health Promotion. The Superior Council of Health Promotion provides advice to the government on health promotion and preventive health care.

Since 1993, some responsibilities of the French community have been devolved to the Walloon region (see Section 2.4 *Decentralization and centralization*). For example, at the Ministry of the Walloon Region the Directorate-General of Social Action and Health is responsible for policies regarding hospitals, homes for the elderly and nursing homes.

The French community also transferred responsibility on the integration of people with disabilities to the Walloon region and to the COCOF for the French-speaking population of the region of Brussels-Capital (see also Section 1.3 *Political context*). The Walloon Agency for People with Disabilities (AWIPH) is responsible for carrying out the Walloon policy and the agency for French-speaking people with disabilities (*Personne Handicapée Autonomie Retrouvée,* PHARE) is responsible for carrying out the policy of the COCOF. A Regional Health Observatory was also set up in the Walloon region to improve health in the region and to contribute to health information.

2.3.2.3 German-speaking community

For the German-speaking community, the Department of Cultural and Social Affairs of the Ministry of the German-speaking Community is responsible for matters related to public health and health promotion. The German Agency for People with Disabilities (DPB) is responsible for carrying out the German policy on the integration of people with disabilities.

2.3.3 Intergovernmental level

Since the devolution of public health policy to the communities in 1980, so-called interministerial conferences have been regularly organized to facilitate cooperation between the federal government, the communities and the regions. The interministerial conferences are composed of the ministers responsible for health policy from the federal and federated governments. These conferences have no binding decision-making power, but they are the ideal forum for smooth and efficient consultation between the governments, with respect for the autonomy of each of them. Within the framework of the interministerial conferences for health policy, protocol agreements have been made concerning the most divergent problems in the field of public health. The most important protocols are related to long-term and elderly care, home care, mental health care, the organization of cancer screening (breast cancer and colorectal cancer), the harmonization of vaccination policy, the food plan, the organization of the health survey, the policy on drug abuse, the hepatitis B prevention policy and the control of the number of hospital beds.

2.3.4 Nongovernmental bodies

Belgian health care organization and policies are highly influenced by a number of nongovernmental stakeholders including the Order of Physicians, health professionals' associations, hospital associations, pharmacists' associations, the Order of Pharmacists, the pharmaceutical industry, trade unions, employer organizations and others. Patients' associations are also beginning to have an impact on health policy (see Section 2.7 *Patient empowerment*). Not only do these stakeholders influence health care policy by traditional lobbying, they are also directly involved in the management of the system, mostly by membership on one or more of the executive councils or committees in the NIHDI, and are represented in different advisory bodies. Some of the larger or more influential of these stakeholders are described below.

Within the health insurance management bodies, health care providers are represented by different professional associations (physicians, dentists and physiotherapists). Their representation is determined on the basis of elections which are organized every four years. All health providers can take part in these elections irrespective of whether they are members of a professional organization or not. In 2006, the Committee for Health Care Insurance of the NIHDI decided to give public funding to some professional associations.

The Order of Physicians is an organization that self-regulates the Belgian medical profession. Every Belgian physician must be registered on the list of the council of the Order of Physicians in the province where he/she is active. The most important function of the provincial councils is to ensure observance of the rules of professional conduct for physicians and preservation of the reputation, standards of discretion, probity and dignity of the members of the Order. To this end, the councils are responsible for disciplining any misconduct committed by their registered members in, or in connection with, the practice of the profession, as well as serious misconduct committed outside the realm of professional activity, whenever such misconduct is liable to damage the reputation or dignity of the profession.

The national council of the Order of Physicians is responsible for establishing the general principles and rules concerning the morality, honour, discretion, honesty, dignity and devotion indispensable to the practice of medicine. Together these principles and rules form the code of professional ethics. This code also stipulates rules concerning continuity of care, medical secrecy, handing over of medical data to colleagues and individual relations between physicians and their patients, colleagues, dentists, pharmacists and allied health professionals. The Order has its own disciplinary system that can impose various sanctions, such as warning, censure, reprimand and suspension of the right to practise medicine.

2.4 DECENTRALIZATION AND CENTRALIZATION

The devolved structure of regions and communities has developed as a result of several revisions to Belgium's Constitution since it was originally drafted in 1831. Important constitutional reforms were carried out in 1970, 1980, 1988 and 1993. The process of devolution has resulted in a shift in responsibilities from the national level to the communities and the regions. The federal state is now responsible for foreign affairs, national defence, justice, fiscal policy, social security, and a share of public health and domestic affairs. The three regions are responsible for territorial matters, such as policy on the economy, energy, agriculture, environment, urban planning, subordinate authorities, employment, housing, public works and public transport (Belgium Federal Portal 2009). The three communities are responsible for so-called person-related matters, such as education, cultural affairs, language, and health and welfare, insofar as they are not part of the social security system.

Since the Institutional Reform Act of 1980, in which person-related matters were transferred to the communities, health care policy has been a responsibility of both the federal state and the communities. The Institutional Reform Act defines the person-related matters in the sphere of health care policy as intramural and extramural curative health care and policy regarding health education, health promotion and preventive health care. Concerning the competences for intramural and extramural health care, the law provides important exceptions, as a result of which the federal government has kept the most important powers.

In the field of health care, the federal authorities determine the general legislative framework for the health system by issuing laws and by drawing up the annual budget. They are responsible for the regulation of the compulsory health insurance; the determination of the overall budget for health care; the determination of norms and standards for granting accreditation to hospitals, nursing homes and heavy medical equipment units (which allow them to be reimbursed by the health insurance); the financing regulations concerning operating costs of hospitals and nursing homes; the planning and financing regulation of the health care infrastructure and of heavy medical equipment units; the granting of university hospital status; the legislation covering professional qualifications and remuneration; the control of health care technology; the regulation of pharmaceuticals and their price control; and the management of urgent medical assistance. In the field of preventive health care, the federal state also remains responsible for compulsory polio vaccinations and the protection of the population against ionizing radiation.

The most specific health competences of the communities lie in the domains of health promotion, health education and preventive health care. This includes mandatory notification of infectious diseases; outbreak investigation and control of infectious and non-infectious diseases; management of the free (childhood) vaccination programme; complaints and incident management in environmental public health; environmental licence procedures; different kinds of information and awareness campaigns; data collection, such as on mortality and natality; the organization of medical screening; and control activities, such as medical school surveillance, medical sports inspections and occupational health control.

Most of the budget is nevertheless invested in inpatient and ambulatory care policy. The communities are responsible for: defining priorities related to investments in construction and heavy medical equipment; granting permission and subsidies for the establishment, conversion and equipping of services as well as for heavy medical equipment; the inspection and closure of medical facilities (hospitals, homes for the elderly and nursing homes, mental health services) as well as their internal organization and reception, to the extent that this does not affect operating expenses. The communities are responsible for the determination and implementation of accreditation standards for homes for the elderly and mental health services, and for the implementation of the accreditation standards determined at the federal level for hospitals and nursing homes. For the latter (hospitals and nursing homes), the communities can set additional accreditation standards if they do not have any effect on the finances supported at the federal level. With regard to mental health services, the communities are also fully responsible for the funding of the centres for mental health care. Regarding outpatient care policy, the communities are responsible for coordinating and setting accreditation standards for home care services and for cooperation initiatives in primary health care and palliative care.

It should be noted that the French community exercises its health competence partly throughout the French community (prevention, health promotion, collection of data in several areas) and throughout the Walloon region for the other matters (homes for the elderly, mental health, health infrastructures, front-line health services and care) except for the German-speaking area.

The health care responsibilities of the provinces and municipalities are limited. Each of the ten provinces has a provincial health officer, who represents the federal Minister of Public Health in the field of public hygiene and whose responsibilities include taking necessary actions in cases of acute communicable diseases and the administration of the provincial medical commissions. These commissions have a general advisory function and they may take any measure necessary to deal with contagious diseases. Moreover, provincial medical commissions are responsible for: controlling the authenticity of the diplomas of physicians, pharmacists, dentists, physiotherapists, nurses and paramedics; supervising the practice of medicine, nursing and paramedics; and determining the need for organizing on-call duties for physicians during nights and weekends. Municipalities are responsible for organizing social support for low-income groups, the organization of emergency care and public hospitals.

As shown in Section 3.2 *Sources of revenue and financial flows,* expenditures of the federal, federated (communities and regions) and local authorities accounted in 2006 for 68%, 1.5% and 2% of total health expenditures respectively.

2.5 HEALTH INFORMATION MANAGEMENT

2.5.1 HTA

A number of initiatives have been undertaken in the field of HTA to improve the scientific support of health care policy.

In 1992, a Scientific Council was set up within the Health Care Department of the NIHDI. The Scientific Council has been required to research the scientific aspects of health insurance and to examine the quality of health care. It has two departments: the committee for the evaluation of medical practice concerning pharmaceuticals and the committee for recommendations concerning health care with respect to chronic and specific disorders.

In 2002, the KCE was established with HTA as one of its core activities. Its overall objective is to support health policy decisions which offer value for money and so contribute to an efficient allocation of scare health care resources. The specific methodological approach used by the KCE was inspired by the approach adopted by foreign centres of expertise, including the National Institute for Health and Clinical Excellence (NICE) in the United Kingdom and the Swedish Council on Technology Assessment in Health Care (SBU) in Sweden.

The KCE works to ensure the quality and transparency of studies. It aims to achieve this by imposing the definition of a precise research questions, a rigid schedule and rigorous scientific procedures based on international standards and using external expert reviewers (so-called validators), while paying attention to potential conflicts of interest. When a report is rejected during the review process, it must be reworked. Each report is then submitted for approval to the board of directors, which is composed of representatives of the different health care stakeholders. Recommendations are made to health-policy makers at the end of each report. The KCE is involved in neither the policy decisions nor their implementation. The reports are published on the KCE web site,[g] where they can be consulted and downloaded free of charge. Between 2004 and the beginning of 2010, 124 reports have been approved and published, including 46 HTA reports. At the end of 2009, the KCE employed 42 full-time equivalent (FTE) workers, including 27 experts.

g See: http://www.kce.fgov.be

2.5.2 Information systems

2.5.2.1 Data collection and dissemination

In Belgium, a great deal of detailed data is collected on health and health care. However, significant challenges remain which make it difficult to report reliable data internationally, including a lack of reporting data in the correct manner, and the need to use international classifications and concepts in data collection. Furthermore, additional challenges remain, including: a lack of a unique patient identification between all available databases; a lack of data concerning voluntary health insurance (VHI); difficulties with diagnosis and treatment data as far as validity is concerned, in particular for co-morbidity and complications; a lack of data concerning extramural health care; only moderately useful data concerning psychiatry and very limited data concerning homes for the elderly and nursing homes; a lack of data concerning technology used in health care; and a lack of data concerning non-reimbursed payments (Van de Sande et al. 2006).

In 2009, 131 databases containing different types of health-related information were found in Belgium. The actors involved in collecting these data, as well as obligations to provide information, vary from one database to another. An overview of the existing databases according to the main actors involved in collecting information is presented below.[h]

FPS Health, Food Chain Safety and Environment

The FPS Health, Food Chain Safety and Environment collects, reports and analyses data provided by hospitals. The most important data sets developed for hospital policy since the 1980s are: Minimal Clinical Data (MCD-MKG-RCM), Minimal Nursing Data (MND-MVG-RIM), Minimal Psychiatric Data (MPD-MPG-RPM), Hospital Billing Data (HBD-SHA-AZV) and Mobile Urgency Group Data (MUG-SMUR). These data are mainly collected as tools for the measurement of hospital needs for public financing, and evaluation of the effectiveness and quality of hospital care (FPS Health, Food Chain Safety and Environment 2009c). Other objectives include the possibility of using the data for internal management and to determine population needs through epidemiological studies (Roger France and Mertens 2001). In 2007, an integrated system for data collection, the Minimum Hospital Data Set (MHD-MZG-RHM) was launched, covering the MCD, MND and MUG data (FPS Health, Food Chain Safety and Environment 2009c). It is mandatory for all hospitals to provide data for these data sets.

MCD registration for hospitalized patients was developed in the 1980s and recording this data for all patients became compulsory in 1990. The information in the MCD includes relevant clinical data (e.g. primary and secondary diagnosis) and demographic characteristics of patients. Records are pseudonymized, thus patients cannot be directly identified in the data set.[i] The MCD are used to group hospitalized patients in DRGs. In 1995, All Patient DRGs (AP-DRGs) were chosen as the grouping method to establish hospital comparisons for financial purposes. In 2002, AP-DRGs were replaced by APR-DRGs (All Patient Refined DRGs, 3M HIS version 15.0) in order to pay more attention to the severity of illness (FPS Health, Food Chain Safety and Environment 2009c).

The MND registration includes information on a whole series of nursing activities, including the numbers of nurses per care unit, their qualifications and some diagnostic elements. The recording of MND has been mandatory since 1988 and is mainly used for hospital financing and nurse staffing allocation. Since 2000, day hospitalizations as well as in-hospital stays of neonates who are not in the room of their mothers are recorded, in addition to conventional stays. In 2007, the original MND registration was replaced by a renewed data set based on the Nursing Intervention Classification (2nd edition) to take into account changes in nursing practice, the international development of nursing classification languages and changes in health care management.

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h This list is not exhaustive. For a complete list of available databases see Vlayen et al. (2009).

i It should be noted that in very particular cases, even without the presence of direct identification information, the information in the MCD can be so unique that an analyst with sufficient background information could contextually identify the person involved (indirect identification).

Nursing data and the MCD were integrated into one overall health care management system (Sermeus et al. 2005).

The MPD contains socioeconomic characteristics of the patient, diagnosis and pre-admission problems, treatment data, and diagnosis and residual problems at discharge. Psychiatric hospitals (and psychiatric departments of acute care hospitals), and psychiatric nursing homes and initiatives for sheltered living have recorded psychiatric data since 1996 and 1998 respectively.

The HBD are based on the billing data for hospitalized patients sent by hospitals to the health insurance companies for NIHDI reimbursement. By linking the financial data with the clinical data it became possible to compare the cost per DRG between hospitals. These linked data were used to reform the financing of laboratories in hospitals, and pharmaceuticals for hospitalized patients (see Section 5.6 *Pharmaceutical care* and Chapter 6).

The MUG registration contains information on mobile emergency services. The MUG is a fast intervention vehicle with an emergency physician, who is specialized in the treatment of emergencies, but does not transport the patient (see Section 5.5 *Emergency care*). The aim is to monitor the activities of the MUG on a daily (real-time) basis (FPS Health, Food Chain Safety and Environment 2009c).

Scientific Institute of Public Health (IPH)

The overall responsibility for collecting and analysing databases for epidemiological surveillance lies with the IPH. The objectives of the IPH are to collect, analyse and report on the distribution and development of health and diseases, and their causes, in different population groups within Belgium (IPH 2010b).

Information on incidence of specific diseases is collected in collaboration with two surveillance networks. The first consists of a group of sentinel laboratories that carry out surveillance of infectious diseases. Participation of laboratories is voluntary and accounts for 58% of all laboratories in Belgium. The second network consists of a group of sentinel GPs and provides data on specific health problems on a weekly basis. Around 200 GPs are included, participation is voluntary and patients' information is anonymized. Surveillance and monitoring of new cases of HIV infections and AIDS is carried out by the IPH. In accordance with the Ministry of Social Affairs, Public Health and the Environment guidelines, registration of seropositives diagnosis is carried out by AIDS reference laboratories.

The National Surveillance of Health Care-Associated Infections and Antimicrobial Resistance in Belgian hospital (NSIH) aims to decrease hospital infection rates through surveillance, confidential feedback system and self-assessment. Participating hospitals are able to monitor local infection and antibiotic resistance rates. These results can be compared with those of other Belgian hospitals (Suetens et al. 2007). Data are available for several infections, such as nosocomial bloodstream infections, *Clostridium difficile* associated disease, and antibiotic resistance and use.

The IPH also coordinates the most important health survey in Belgium. The HIS includes a vast amount of information on different health outcomes for the general population, such as health status, lifestyle, use of health services and cancer screening. Four waves of the survey have been carried out in 1997, 2001, 2004 and 2008. Complete results for 2008 survey are expected by the end of 2010.

Other initiatives on health monitoring and data collection include the Initiative for Quality Promotion and Epidemiology in Diabetes Care (IQED-IKED-IPQED). As required by the NIHDI, every centre for the treatment of diabetes reports to the IPH data on 10% of their patients who receive at least two daily injections of insulin. This initiative aims at improving the quality of treatment of diabetes in specialized centres.

The National Institute for Health and Disability Insurance (NIHDI)

The NIHDI receives information either directly from sickness funds or through intermediate organizations on different health care expenses. Sickness funds provide official documents on health expenses (aggregated data, e.g. physician visits) and information that is used for administrative purposes (documents C and N). The Common Sickness Funds Agency (IMA-AIM) also provides information on hospitalizations (document H),[i] use of pharmaceutical products in hospitals (document PH) as well as hospitalization fees not included in document H, such as lump sums for day hospitalizations (document FH). Provision of data is compulsory and was established in the Royal Decree of 1996 (Prevoyance sociale: santé publique et environnement 1996). A large database containing longitudinal information on the use of health care services is also available at the NIHDI. The Permanent Sample (*Echantillon Permanent – permanente steekproef*) contains information at the individual level for 300 000 people (1 in 20 of the population). The database combines information on demographic and socioeconomic characteristics of patients, the use of pharmaceutical products (data comes from Pharmanet – see next section) and the use of other health services (e.g. physician visits). The database is managed by the IMA. Waves of the sample exist on an annual basis from 2002. In general, data from each wave is available on December of the following year.

Moreover, the NIHDI, in partnership with sickness funds and health care professionals, is in the process of establishing a non-profit-making organization eCare. The aim of this organization is to collect and analyse data on specific reimbursed treatments as well as to register the incidence and treatment of specific illnesses. The most recent initiatives within the eCare project include the Shared Arthritis File for Electronic Use (SAFE), Orthopaedic Prosthesis Identification Data (Orthopride), Quality Electronic Registration of Medical Implants and Devices (QERMID) and the Ambulatory Care Health Information Lab (Achil).

Pharmanet

In 1996, Pharmanet was created to inform physicians about their prescription behaviour and to allow them to compare their own prescription habits with those of their colleagues. With Pharmanet, data are collected per prescribing physician and per patient. The data registered relates to the supply of reimbursed pharmaceuticals (prescription drugs, magistral preparations and related products, sterile insulin syringes, medical foods, medical devices and lump sums which are reimbursable for patients with cystic fibrosis) that are delivered by public pharmacies. The collection of the data is carried out via pharmacies, the pharmacists' fee-setting services and the sickness funds. The latter transfer the data to the NIHDI, which is assisted by the Committee for the Evaluation of Medical Practices for Drugs. One of this Committee's tasks is to organize regularly – at least twice a year – consensus meetings that are meant to evaluate medical practice concerning pharmaceuticals in a certain sector and to formulate recommendations for all prescribing physicians. In addition, information campaigns based on Pharmanet data and intended for prescribing physicians are run on a regular basis (e.g. on the use of non-steroidal anti-inflammatory drugs) (NIHDI 2007a; NIHDI 2009f).

The Common Sickness Funds Agency (IMA-AIM)

In 2002, the sickness funds created a common health data centre, IMA-AIM, entrusted with the task of analysing health data gathered by the health insurance bodies within the framework of their public mission and drawing policy information from them. More specifically, IMA-AIM develops surveys and sample studies based on patient panels, analysing disease-related expenditure and consumption (IMA-AIM 2009).

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i With some exceptions such as lump sums for day hospitalizations which are included in the document FH.

The Belgian Cancer Registry Foundation

Since June 2005, the Belgian Cancer Registry Foundation has been in charge of collecting, registering and analysing information on new cancer cases for Belgium (Belgian Cancer Registry 2008). It is mandatory for physicians as well as for laboratories to register data on new cancer diagnoses.

Data collected by federated authorities

Data are also available and collected by the regions and communities in relation to health promotion and health prevention (including immunization, cancer screening, schoolchildren's health) and to services provided under responsibilities of regions or communities (including data about infectious diseases). Communities are also responsible for collecting natality and mortality data.

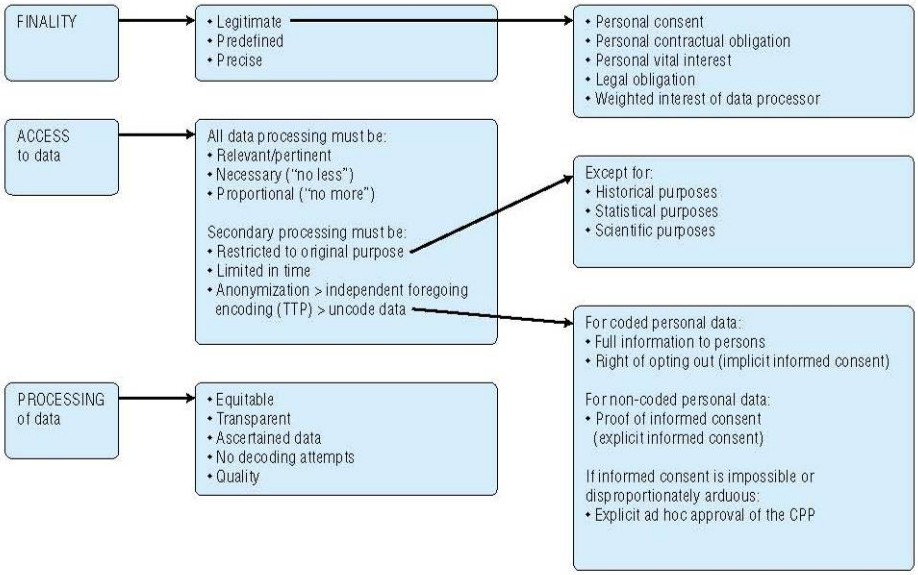
For instance, data on the health of children and pregnant women is collected by three institutions: the ONE, the K&G and the *Dienst for Kind und Familie* agency for the French, Flemish and German communities, respectively. The surveillance and monitoring of tuberculosis is divided between FARES (*Registre de la Tubercolose*) for the French and German communities and VRGT (*Vlaamse Vereniging voor Respiratoire Gezondheidzorg en Tuberculosebestrijding*) for the Flemish community.

2.5.2.2 Legislation on freedom of information

The processing of personal data is regulated by the Act of 8 December 1992 on the protection of privacy with regard to the processing of personal data, modified by the Act of 11 December 1998, and by the Act of 26 February 2003. General conditions for personal data processing are summarized in Fig. 2.5. Because data relating to health are sensitive, specific regulations have been defined. As a general rule, health data can only be processed after written consent of the person concerned. This requirement is however revoked if such an approach has been proved impossible or extremely difficult. The invoking of impossibility or disproportionate effort to inform the people involved must be justified to the Commission for the Protection of Privacy (CPP-CPVP-CBPL), and more specifically to the Sectoral Committee of the Social Security and Health (SCSS&H) (CPP 2007). It is only after approval by the latter that processing is officially authorized, and these decisions are published online.[k] Before granting any authorization, the SCSS&H asks the Crossroads Bank to provide juridical and technical advice. This Sectoral Committee is also responsible for ensuring compliance with laws and standards on data protection (CPP 2009).

[k] See: http://www.privacycommission.be/en/decisions/

Fig. 2.5: General conditions for personal data processing



Source: Van de Sande et al. 2010.

Personal health data can only be processed under specific conditions as outlined in Fig. 2.6. Moreover, additional safeguards must be met by the person responsible for the data processing. They must:

- designate the people who have access to the data and accurately describe their functions in relation to data processing – this does not require the designation of people by name, but rather the establishment of access profiles (e.g. doctors and nurses of the hospital);
- include the basic legal or regulatory ground(s) permitting the person to process the data during information collection;
- notify to the patient of the reasons for which these data are processed and must provide the profiles of persons having access to data during the written consent process;
- take technical and organizational measures to ensure data security and prevent unauthorized access or accidental destruction; and
- take all reasonable steps to correct or delete inaccurate or incomplete data.

The processing of personal health data should be made under the supervision and responsibility of a health care professional. Furthermore, personal data should not be kept in a form that identifies individuals longer than is necessary in relation to the objective pursued. Data should then be deleted or sufficiently aggregated to the level of anonymity, such that direct or indirect identification is made possible. Failing to do this can lead to a fine from €550 to €550 000 (CPP 2007). Everyone has the right to refuse the processing of his personal data. However, the right of opposition is not allowed for the processing of data necessary to the conclusion or execution of a contract, or if the processing of a person's data is an obligation imposed by the law. The data processed must be accurate and, if necessary, updated.

The transfer of personal data is free between EU Member States. A person established in Belgium can freely send personal data to another EU country if the transfer is legal according to Belgian law. Outside the European Economic Area (EEA), personal data can only be transferred to countries guaranteeing protection of data corresponding to the level of protection provided in the EEA (CPP 2007).

Fig. 2.6: Belgian Privacy Law conditions for processing personal health data

Processing forbidden unless:
• written informed consent
• labour law rights
• social security law rights
• public health care interest/population screening
• legally entitled public interest
• personal vital interest
• crime prevention
• publicized by person involved
• personal defence in court
• personal health interest
• scientific interest
Data collection:
• direct data collection from persons involved unless impossible justification in declaration to the CPP
Special conditions for processing:
• "full information" to persons involved unless impossible or disproportionately arduous
• right of opting out
• formal declaration at CPP and foregoing approval by CPP (SCSS&H)
• explicit and limited list of involved data analysers
• contractual confidentiality clauses
• ICT security plan
• medical supervisor required (unless otherwise agreed in written informed consent)

Source: Van de Sande et al. 2010.

2.6 REGULATION

Three political and administrative levels operate in the Belgian health system: the federal government, the federated governments and the local governments (provinces and municipalities). All levels play important roles, but the federal level is mainly responsible for social security, compulsory health insurance, pharmaceutical policy and hospital legislation. A typical characteristic of the Belgian health system is the participation of several stakeholders in the management of the system. Besides extensive regulation by the federal and federated governments, an important part of the health system is regulated by national collective agreements made between representatives of health care providers and sickness funds.

The basic right to health care has been set out in the Constitution. Article 23(2) of the Belgian Constitution recognizes the right to social security, protection of health and medical assistance. This constitutional right has been further developed in several laws and decrees.

2.6.1 Regulation of third-party payers

Compulsory health insurance is solely administered by sickness funds, which are non-profit-making, non-commercial organizations.

All individuals entitled to health insurance must join or register with a sickness fund. The choice is free, except for railway workers (1.1% of the insured in the general system in 2009), who are automatically covered by the health insurance fund of the Belgian railway company. Sickness funds are mainly organized according to religious or political affiliations into five national alliances: the National Alliance of Christian Mutualities (NACM), the National Union of Neutral Mutualities (NUNM), the National Union of Socialist Mutualities (NUSM), the National Union of Liberal Mutualities (NULM) and the National Union of the Free and Professional Mutualities (NUFPM). In 2009, the NACM and the NUSM together had the largest share of the general system, covering about 42.0% and 28.1% of the population, respectively. The Auxiliary Fund is an additional neutral public body intended for those patients who do not want to affiliate themselves with any of these groups. It accounts for not more than 0.7% of the insured (see Fig. 2.7) (NIHDI 2008c).

By means of the Sickness Funds Act, sickness funds are entrusted with a central position in the compulsory health insurance system. They have to control health care expenditure and ensure it conforms with the legal regulations. Some services are only reimbursed if there has been a prior approval by the so-called advisory physicians of the sickness funds. These advisory physicians can question the prescription of expensive pharmaceuticals, the length of hospital stays and the ascription of patients to the various classes of the Katz-scale in long-term care financing (see Section 5.8 *Long-term care for the elderly*).

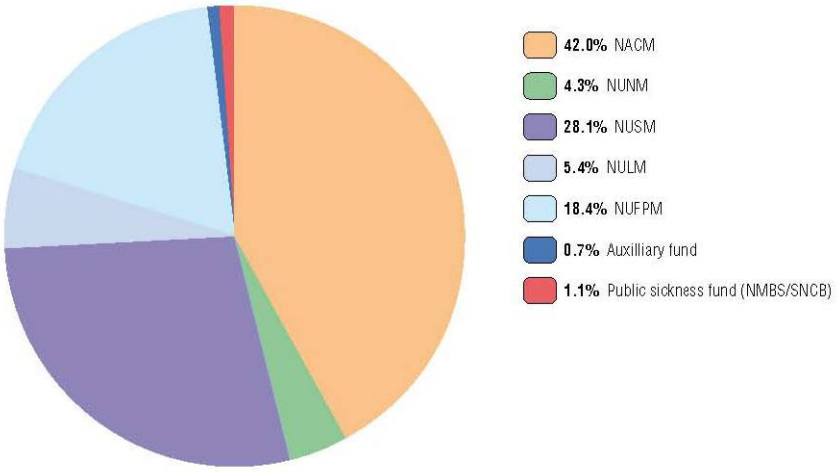
Sickness funds act collectively in their negotiations with health care providers. To evaluate and to avoid abuse of their members, they have medical examiners. Moreover, since 1995, Belgian sickness funds have been made more financially accountable for the expenditure of their insured members (see Section 3.3.3 *Pooling of funds*).

For their role in the compulsory health insurance system, as well as in the administration of the incapacity and disability insurance, sickness funds receive subsidies from the NIHDI to cover their administrative costs. This subsidy is based on the number and social characteristics of their members, with some corrections for efficiency in the management of the system.

The Sickness Funds Act also allows sickness funds to develop services and activities outside mandatory social security so long as they are related to the health and well-being of their members. In the field of VHI, they compete with commercial insurance companies. Unlike the latter, sickness funds are not allowed to operate risk selection.

Competition among sickness funds concentrates mainly on their service to members and the complementary activities and services they offer. Legally, sickness fund members have the opportunity to change their sickness fund each quarter if they have been enrolled for a period of at least one year. With only about 1% of all members switching each year, insurance mobility has been low (Schokkaert and Van De Voorde 2003).

Fig. 2.7: Distribution of members, 2009



Source: NIHDI 2009j

2.6.2 Regulation of providers

Providers fall into two groups: (1) health institutions such as hospitals, homes for the elderly and nursing homes, day centres, laboratories and outpatient clinics; and (2) health professionals, such as physicians, dentists, physiotherapists, pharmacists, nursing practitioners and nursing auxiliaries, midwives and paramedical practitioners, who are generally organized as self-employed professionals (except nurses and midwives). Both groups are discussed further in the following subsections.

2.6.2.1 *Health institutions*

The government plans global hospital capacity by requiring that hospitals obtain accreditation from the regional ministries of public health to operate a certain number of beds for each service category (e.g. acute care, surgery, maternity). Accreditation is granted only if a proposal for hospital opening, extension or alteration respects national planning. Planning usually takes the form of target figures (e.g. 2.9 beds per 1000 inhabitants for general inpatient services; 32 beds per 1000 births for maternity services).

There is a variety of accreditation norms for hospitals. Organizational norms relate to staff requirements (e.g. qualification levels, ratio between qualified personnel and auxiliaries) and responsibilities (e.g. hygiene, ethical requirements); architectural criteria (e.g. the number, size, comfort and hygiene standard of hospital rooms); functional standards (e.g. convenience, accessibility); additional norms relating to minimum activity (e.g. they stipulate that hospitals should have no less than 150 beds; diagnosis/surgical units no fewer than 30 beds; intensive neonatal units no fewer than 15 beds), setting minimum facility standards; and expected staff numbers. Accreditation criteria are developed at the federal level and are implemented and controlled at the community level.

There are also specific accreditation norms for services involving heavy medical equipment (e.g. radiology with CT and MRI, radiotherapy, renal dialysis, nuclear medicine, non-urgent patient transport, centres for human heredity) and for certain hospital functions (e.g. hospital pharmacy, local neonatal care, perinatal care, palliative care, surgical day hospitalization, initial relief of emergency cases, specialized emergency care, intensive care, mobile urgency groups and psychiatric family nursing). Since 1999, the regulation and accreditation of medical hospital services and functions have also gradually been replaced by the accreditation of "care programmes" (see Section 2.6.3 *Mechanisms to ensure the quality of care*).

The communities are responsible for authorizing hospital building, while capital subsidies are shared by the communities and the federal government. Only the investments listed in the building programme can be paid for from the hospital budget provided by the federal government. The federal government managed to reach an agreement with the communities for a building programme just as the merging of hospitals threatened to greatly multiply the level of federal expenditure for hospital building. Hospitals were obliged to merge to work on a larger scale to improve their productivity.

Regulations of other health institutions, such as homes for the elderly and nursing homes, are described in Chapter 5.

2.6.2.2 *Health professionals*

The practice of most health care professionals is regulated by the Practice of Health Care Professions Act. This law regulates access to professions such as physicians, dentists, physiotherapists, pharmacists, nurses, midwives and practitioners of a paramedical profession (see also Section 4.2.2 *Registration/licensing and planning of health care personnel*).

In 1996, the federal government set up the Committee for Medical Supply Planning. The original remit of this Committee was to ascertain medical supply needs with regard to physicians and dentists, and to take account of the evolving needs of medical care, the quality of care provision, and the demographic and sociological development of the professions concerned. Later, the remit of this committee was extended to cover physiotherapists (1997), nurses, midwives and logopaedists (1999) as well (see also Section 4.2.2 *Registration/licensing and planning of health care personnel*).

2.6.3 Mechanisms to ensure the quality of care

2.6.3.1 Health institutions

Hospital regulations

The Hospital Act contains several provisions promoting quality of care. Architectural, organizational and functional accreditation standards aim to guarantee a minimal level of quality for inpatient care. However, because of their static character, accreditation standards can guarantee quality only to a limited extent (Callens and Peers 2003).

Besides accreditation standards, the Hospital Act contains several requirements which can promote quality of care, such as those concerning the organization of medical and nursing activity, the description of the tasks of the medical manager, the obligation to maintain a medical file, the tasks of the Medical Council, the establishment of an ethical committee, a committee for hospital hygiene, a medical pharmaceutical committee, a committee for medical material, a committee for blood transfusions, as well as other specialized committees.

Since 1999, the medical manager of each hospital must compile a report concerning the internal evaluation of the quality of the medical activity. This report must be sent to the colleges of physicians, established at the FPS Public Health. The objective of these colleges is to promote quality of care by consensually developing indicators of quality and ways of evaluating good medical practice; recording and reporting activities; giving information to the multipartite consultation structure for hospital policy; and giving feedback to the hospitals and physicians concerned. These colleges of physicians were established in several fields: cardiac pathology, specialized emergency care, intensive care, renal dialysis, mother and neonate, radiology and nuclear medicine, radiotherapy, reproductive medicine and oncology. The appointment of the members of the colleges is generally based on the advice of the scientific associations of the respective disciplines.

Since 1999, the regulation and accreditation of medical hospital services and functions have also gradually been replaced by the accreditation of "care programmes". A care programme is the collection of several hospital activities which are organized around certain pathologies or patient groups (e.g. paediatric patients). For each care programme, legal criteria are set related to the target group, nature and content of care, minimum activity level, necessary infrastructure, required medical and nonmedical staff and their required expertise, standards concerning quality and quality monitoring, economic standards and geographical accessibility criteria. At present, there are care programmes for reproductive medicine, cardiac pathology, oncology, and geriatric and paediatric activities (see also Section 5.4 *Secondary care*).

The quality requirements for nursing staff were also upgraded and the hospital nursing department was defined. To improve the functioning of nurses, a nursing record was designed and recommendations were formulated for an electronic record, which fits with the new registration of the nursing activity in hospitals. Furthermore, a new statute for midwives was established, as well as for nursing assistants in hospitals, in nursing and homes for the elderly and in home care.

Furthermore, with regard to the organization of hospital hygiene, the integration of the hygienist physician and nurse team has been emphasized. Additional measures are in place to improve staff compliance and to generalize registration with an obligation to register methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*. Special attention has been given to hand hygiene through three national campaigns (in 2005, 2006 and 2009).

In addition, a committee for antibiotherapy was set up in the hospitals in order to promote a better use of antibiotics and to reduce resistance (Royal Decree of 12 February 2008).

In 2007, the first contract for the coordination of quality and patient safety in Belgian hospitals was approved. An annual budget of €6.8 million was allocated for this project and a total of 164 hospitals (80% of all hospitals) agreed to participate (including acute psychiatric and long-term care hospitals) (Borgermans et al. 2009). The hospitals had to provide information on the six different parts of the contract including: (1) hospital mission and objectives with regard to quality and patient safety; (2) overview of existing structures regarding quality and safety of care; (3) organizing a survey on patient safety culture; (4) reporting and analysing incidents and near incidents; (5) introducing "quality" projects concerning three out of four topics (i.e. economic performance, capacity and innovation, clinical performance and patient safety); and (6) selecting indicators from the "multidimensional feedback" (only for acute hospitals) and answering specific questions with regard to the selected indicators. These multidimensional indicators are based on administrative data and were used as benchmarking measures among acute care hospitals.

The first contract allowed hospitals to formulate recommendations concerning (among others) information and ICT needs, financial support and harmonization of policies at the federal and federated level. Between 2008 and 2012, hospitals must follow a pluri-annual plan focused on three pillars including: (1) structure: development of safety management systems; (2) process: analysis of processes; and (3) results: the development of multidimensional set of indicators. For psychiatric hospitals, specific settings on quality and safety were established. Indeed, the pillar-process mentions that internal transfers as well as vigilance regarding aggression are important issues for these institutions (FPS Health, Food Chain Safety and Environment 2008c). The participation of hospitals has increased constantly and reached 90% for the 2009–2010 contract, which is a clear indicator for the success of the pluri-annual programme.

Integration of care and multidisciplinary collaboration

Since 2000, the reform and modernization of hospital services have been tackled again. The new objectives of policy-makers were to integrate care between organizations by improving multidisciplinary collaboration between health professionals and facilities in order to rationalize supply and improve quality of care. Incentives were created for hospitals within the hospital financing system to rationalize supply, to create complementarities between different hospital sites or to reduce their number of beds. Hospitals were encouraged to adhere to "care areas", which could lead to more complementarities within a region. At the same time, powerful incentives were created to modernize hospital infrastructure by covering, within the hospital financing system, a greater part of the construction cost, by increasing the tariffs of construction ceilings and by facilitating renovations. Additional measures to foster quality of care were through the increased interest in clinical pathways (see Section 5.2 *Patient pathways*). In particular, for certain disease groups, such as diabetes and renal failure, quality of care could be improved through better coordination of multidisciplinary teams and a tool for establishing more integrated care, also linking the hospital with the primary care level.

Feedback and reference amounts

Also hospitals receive feedback on the activities of their practising physicians, compared with other hospitals. Systems of peer review were set up to compare practices and outcomes between physicians in Belgium and against internationally accepted standards. Feedback on pre-operative examinations (2005) and on prenatal care (2007) was also provided (see also the following section).

In order to address significant differences in medical practice between hospitals which can not be explained medically, a system of reference amounts for standard interventions was introduced. This recuperation system has been applied to admissions since 1 October 2002. For standard interventions, a significantly divergent consumption profile is compared to a national reference amount (the average of national expenditures increased by 10%). This recuperation system is only applied for 34 APR-DRGs (see Table 2.2), two severity levels of the disorder (levels 1 and 2), and three services groups (see below). Severity should be taken into account because average consumption per patient increases systematically with the degree of severity.

Recuperation will only be applied for severity classes 1 and 2. The number of cases that fall under severity classes 3 and 4 is limited for most pathology groups. It may for example involve a (rare) serious complication or a patient with significant co-morbidity.

In the selection of APR-DRGs, the starting point was that medically homogeneous and simple pathologies that occur frequently had to be included. Table 2.2 shows the APR-DRGs that were ultimately included in the system of reference amounts, and that qualify for recuperation.

Table 2.2: APR-DRGs in the system of reference amounts

APR-DRG	Description
024	Extracranial vascular procedures
045	CVA with infarct
046	Non-specific CVA and precerebral occlusion without infarct
047	Transient ischaemia
072	Extraocular procedures except orbit
073	Lens procedures with or without vitrectomy
097	Tonsillectomy and adenoidectomy procedures
134	Pulmonary embolism
136	Respiratory malignancy
139	Simple pneumonia
171	Permanent cardiac pacemaker implant without AMI, heart failure or shock
176	Cardiac pacemaker and defibrillator device replacement
179	Vein ligation and stripping
190	Circulatory disorders with AMI
202	Angina pectoris
204	Syncope and collapse
225	Appendectomy
228	Inguinal and femoral hernia procedures
244	Diverticulitis and diverticulosis
263	Laparoscopic cholecystectomy
302a	Major joint and limb reattachment procedure of lower extreme except for trauma if nomenclature code 289085 – arthroplasty of the hip with total prosthesis (acetabulum and femur head) were charged
302b	Major joint and limb reattachment procedure of lower extreme except for trauma if nomenclature code 290286 – femorotibial arthroplasty with sectional prosthesis was charged
313	Knee and lower leg procedures except foot if nomenclature code 300344 – therapeutic arthroscopy (partial or total menisectomy) was charged
318	Removal of internal fixation device
445	Minor bladder procedures
464	Urinary stones with ESW lithotripsy
465	Urinary stones without ESW lithotripsy

482	Transurethral prostatectomy
513a	Uterine and adnexa procedures for ca in situ and nonmalignancy if nomenclature code 431281 – total hysterectomy by abdominal route was charged
513b	Uterine and adnexa procedures for ca in situ and nonmalignancy if nomenclature code 431325 – total hysterectomy by vaginal route including posterior colpoperineorrhaphy was charged
516	Laparoscopy and tubal interruption
517	Dilation, curettage and conization
540	Caesarean delivery
560	Vaginal delivery

Notes: CVA: Cerebrovascular accident; AMI: Acute myocardial infarction.

Moreover, only the following groups of services are taken into account:

- clinical biology, with the exception of lump sum payments;
- medical imaging, with the exception of lump sum payments and nuclear MRI; and
- internal medicine, physiotherapy and various technical medical services.

The first stage of the system consists of identifying hospitals which should be taken into account for reimbursement. For this, the difference between the real expenditure of the hospital and the expenditure of the reference (= number of stays concerned in the hospital × reference amount) are calculated for each selected APR-DRG (after the elimination of outliers), severity levels and services groups (i.e. 204 differences: 34 × 2 × 3). These differences are then added and only hospitals with a positive result are selected. In 2009 (based on 2006 data), 34 of the 125 hospitals were selected (NIHDI 2009i).

The second stage consists of the determination of the amount that should be reimbursed. For this, the difference between the real expenditure of the hospital and the median national expenditure is calculated for each selected APR-DRG (after the elimination of outliers), severity levels and services groups. Then, all positive differences are added. If this total amount is greater than €1000, this amount must be reimbursed by the hospital. In 2009 (based on 2006 data), a total of €5 982 577 had to be reimbursed (NIHDI 2009i) (see Table 2.3).

Table 2.3: Amounts to be reimbursed in 2009 (based on 2006 data)

	Total expenditures €	**Amounts to be reimbursed €**	**%**
Medical imaging	15 336 099	1 908 862	12.4
Clinical biology	6 289 410	780 569	12.4
Technical medical services	23 197 377	3 293 146	14.2
Total	**44 822 886**	**5 982 577**	**13.3**

Source: NIHDI 2009i

The first reference amounts were for 2003, but the system was abrogated for the years 2003–2005 by the Health Law (Act of 31 December 2008). The first reference amounts were then determined for 2006 with a new methodology based on recommendations from a KCE report (Van de Sande et al. 2005). Then, a new methodology was applied for hospital stays ending after 31 December 2008. This 2009 methodology provides reference amounts in advance in order to allow hospitals to adapt their behaviour accordingly and to use mechanisms in order to avoid a downward spiral of the average national amounts. More details on these methodologies can be found on the NIHDI website (NIHDI 2009i).

Quality policy and plan in Flanders

Initiatives have also been taken by the Flemish community. In 1997, the Flemish community created a framework to improve quality of care in health care institutions. The decree concerning quality of health and welfare stipulated that the aim of the health care system is to supply health care to each patient without distinction with regard to age or gender, ideological, philosophical or religious conviction, race or nature and financial situation of the person concerned. When developing an integrated quality policy, attention must be given to justified care which meets the requirements of effectiveness, efficiency, continuity, social acceptability and user orientation.

Each health care institution in Flanders (general hospital, psychiatric hospital, home for the elderly, nursing home and centre for mental health care) must implement a quality policy by means of a quality manual and quality plan. The quality manual describes the vision and the objective of the internal quality policy. This manual is translated into a quality plan that includes a description of the existing situation and the operational objectives concerning specific fields imposed by the government. Every care institution is expected to set up improvement schemes and to evaluate them periodically. The imposed topics by the government are:

- clinical performance concerning hospital mortality, unplanned readmissions, obstetric care, average length of stay, day care and transfusion reactions;
- operational performance defined as a permanent monitoring and improving the general organization;
- satisfaction of patients;
- satisfaction of employees.

The quality plan also provides details concerning timing and evaluation. Also, a quality coordinator is selected to carry out the policy. Care institutions can only obtain, preserve and extend their accreditation if they fulfil the requirements of the quality decree.

Along with the implementation of quality legislation, Flemish health care institutions began to address the issue of quality in a more structured way. A dialogue began between the health care institutions themselves and between the government and the health care institutions. From this dialogue, the focus on quality took the direction of specific, systematic and integrated bottom-up quality control (Valepyn 2005).

2.6.3.2 *Health professionals*

Several measures to increase the quality of the health system were undertaken for health professionals, including establishing an accreditation system, strengthening primary care and making health care providers more accountable. The measures undertaken after 2007 are described in Chapter 6.

Accreditation of physicians

To further increase quality of care, a system of physician accreditation has been developed. Two national laws define the conditions of accreditation in Belgium. The law of 14 July 1994 (*Moniteur Belge* 1994) describes the accreditation scheme for GPs that refers to the certification of doctors who fulfil specific criteria. There are four domains: medical practice criteria (especially the minimal threshold of patient contacts), continuing medical education (learning activities with accumulation of a minimum number of points), an evaluation of medical practice (participation in meetings with a local quality evaluation group (LOK-GLEM)) and rational prescribing. Accreditation is not mandatory, but it is encouraged through financial incentives for accredited physicians: increased consultation fees and an annual contractual indemnity (Van der Brempt 2007).

All physicians have to keep medical records of their patients, collect at least 20 credits of continuing medical education per year, have at least 1250 patient encounters per year, and not have an outlier prescription profile. GPs should attend LOK-GLEM meetings at least twice a year. Each LOK-GLEM strives for consensus about subjects chosen by the group concerning medical strategies, evaluates prescribing profiles and develops an annual evaluation report.

Increasing accountability

In 2001, the Belgian government felt that insufficient progress had been made towards the efficient use of health care resources. Significant differences were noted in the practice of physicians, without medical explanations for these differences. For the same problem or the same group of patients, considerable differences were observed in the choice of pharmaceuticals, treatments, and techniques of medical imaging and clinical biology.

The government therefore asked physicians, sickness funds and managers of hospitals to: (1) formulate proposals for reducing individual differences in practice to an acceptable level of variation with respect to scientifically based objective standards; and (2) develop techniques as a result of which prescribers and providers would be held individually accountable for the resources they use and the costs they generate.

Drawing from the consultation conclusions, the government devised a policy to make providers more accountable, from 2003 onwards, upon the following principles:

- promoting quality by encouraging good medical practice on the basis of recommendations and feedback that gives physicians the opportunity to compare their medical practice with respect to other physicians; and
- preventing and (if necessary) sanctioning divergences from good medical practice and the correct application of the stipulations provided for in the compulsory health insurance system.

The National Council for Quality Promotion, set up in 2002, is responsible for quality promotion. It is composed of representatives of the physicians, the universities, the scientific medical associations, the sickness funds and the Minister of Social Affairs and Public Health. Data on prescribing behaviour, together with recommendations on good medical practice, are first checked for their relevance in a limited number of local quality evaluation groups (LOK-GLEM). After this evaluation and any modification, all physicians (GPs and specialists) receive feedback. Then, in Local Medical Evaluation Groups, physicians test their own individual behaviour against that of their colleagues with the aim of improving quality of care. Reviews are not compulsory.

The recommendations on good medical practice are provided to offer physicians a frame of reference. Health providers or health care institutions have received feedback on the following areas: antibiotics (2001, 2003, 2007, 2010), hypertensive prescriptions (2002, 2003), pre-operative examinations (2005), extreme outliers (amoxiclav, quinolones, sartan, 2005), the prescription of a minimum percentage of cheap medicines (2006, 2007, 2008, 2009), prenatal care (2007) and breast cancer screening (2002, 2004, 2005, 2006, 2007, 2009) (see also Chapter 6).

The Department for Medical Control of the NIHDI was reformed in 2003 to tackle the issue of divergences with respect to good medical practice. Since 1989, this office already had the task of controlling the misuse of diagnostic and therapeutic freedom, related in particular to over-consumption. However, the existing legislation for combating over-consumption was considered inadequate due to unrealistic penalties, legal uncertainty and the unwieldy structure. As a result of the reforms introduced to make health care providers more individually accountable, the Department for Medical Control became the Department for Medical Evaluation and Inspection (DGEC-SECM) and received two new assignments:

- evaluating the reimbursement of medical care consumption in light of the measures taken to prevent and detect misuse; and
- providing information to health care providers, such as recommendations on good medical practice and indicators of over-consumption.

As a logical result of the recommendations of good medical practice, the National Council for Quality Promotion was given the task of establishing indicators of divergence with respect to normal medical practice. The Commission for the Reimbursement of Pharmaceuticals (CRP-CTG-CRM) formulates recommendations in connection with the prescribing behaviour of certain proprietary pharmaceuticals. The DGEC-SECM can also submit a proposal of indicators to the National Council for Quality Promotion or the Committee for the Evaluation of Medical Practices for Drugs on the basis of a scientifically underpinned dossier.

As soon as an indicator of divergence is definitely established, the DGEC-SECM provides information, on an individual anonymous basis, about the relevant services. Any divergences are reported to the Committee of the DGEC-SECM. Subsequently, all health care providers that score more than the set indicator value are requested to account for their behaviour and to justify the divergence in medical practice. If it appears after investigation that the explanation received is a satisfactory clarification for their divergence from the norm, this is communicated to the care provider in question. If the explanation is unsatisfactory or the request for additional information was not complied with, the care provider is placed under monitoring for six months.

During the monitoring period, the provider's entire practice and/or prescribing behaviour is evaluated for a minimum of six months on the basis of all useful indicators with variation from the normal medical practice or, in their absence, on the basis of a comparison with the practice of a normally prudent and diligent care provider in similar circumstances. After the monitoring period, the practice is re-evaluated. If it appears that the care providers in question have not modified their behaviour to normal medical practice, they are requested to provide a written explanation. This explanation is either accepted or considered unsatisfactory. If unsatisfactory, the case will be heard by two members of the Committee of the DGEC-SECM. A decision will then be taken and a sanction may be imposed.

Through the reform, it is possible to sanction all establishments or people that organize health care provision, such as hospitals and their managers, for carrying out or having carried out unnecessarily costly or unnecessary services, at the expense of the statutory medical insurance, with the sole aim of increasing their incomes.

Prior to the reform of 2003, the sanctions against over-consumption consisted of suspension of both the third-party payer arrangement and the reimbursement of unnecessary or unnecessarily expensive services. The problem with the suspension of the third-party payer arrangement was that it affected not only the physician but also the patient, since the latter had to change physician or pay the full fee. Furthermore, such a sanction was discriminatory. The third-party payer arrangement is mainly applicable in the case of specialists and only for a limited proportion of GP activities.

Consequently, sanctions now consist of administrative fines and withdrawal of accreditation of the care provider in question. However, the first aim of this reform remains to prevent divergent behaviour by providing information and by monitoring medical practice. If these measures are not successful in bringing the provider's medical practice in line with the guidelines, then fines are imposed. After a first evaluation of this reform at the end of 2006, some changes were introduced to clarify and improve the procedure and the rights of the prescribers. Divergent prescription profiles are not examined case by case, and they are to be evaluated in the light of the doctor's overall practice.

Strengthening primary care

Although GPs do not have a gatekeeping role in Belgium, a number of decisions were taken in past years to reassess and strengthen primary care, as well as to reappraise and promote the profession. The most important of these are listed below.

In 1999, the Global Medical File (GMD) was established to increase the availability of medical, social and administrative patient information and access to such information. This measure was introduced with the aim of optimizing the quality of primary care provided and avoiding unnecessary or duplicated care and contradictory prescriptions.

The GP holds the GMD with the patient's consent and shares relevant information with other providers responsible for the patient. The GMD was initially only implemented for those 60 years old and over, from 1999 to 2000. Its use was eventually extended for those over 50 on 1 May 2001 and, finally, since 1 May 2002, the entire population was eligible. Only one GP can hold the patient's file. GPs charge a fixed amount per year, fully reimbursed by compulsory health insurance, to keep the patient's GMD. Consequently, for each consultation in that year with the GP holding the GMD, co-insurance by the patient is reduced by 30%. Similar patient contribution reductions for home visits apply to vulnerable groups, such as the chronically ill or patients over 75 years old.

An additional incentive for patients to use their GP as a preferential entry point is the increased reimbursement (up to the preferential reimbursement rate) for the first visit to a specialist if referred by a GP.

To discourage ambulatory patients with problems that can be solved by the front-line system from directly accessing the accident and emergency (A&E) services in hospitals, different measures have been tested. First, as of 1 March 2003, hospitals were allowed to charge patients a fixed amount of €12.50 for using a hospital A&E unit (no co-payment for some exceptions). On 1 July 2005, this user charge had become compulsory for all hospitals and had been reduced to €9.50 (€4.75 for patients who are beneficiaries of preferential treatment). The list of co-payment exceptions has also been enlarged. Since 1 July 2007, fixed co-payments have been replaced by modulated ones. The amount of co-payment depends on the status of the patients, and is reduced if patients are brought to the A&E unit via emergency medical aid or if they are referred by a physician.

From 2003, GP circles were established. Within a GP circle, local GPs work in collaboration to reach an agreement with local authorities to organize out-of-hours shifts, improve emergency care, arrange locums for GPs who are ill or on holiday, take measures for GP safety, conclude agreements with domiciliary care providers, inform the population and set up local care programmes in the context of preventive medicine. Funding for GP circles is mainly based on the number of inhabitants in the GP area where the circle operates. Additional funds support GP circles with the organization and operation of a central telephone line for out-of-hours calls.

Another more recent initiative taken to promote the use of front-line medical assistance is the creation of *primary care outposts,* which are permanently organized on-call services for GPs, with the necessary infrastructure to treat minor urgencies. These new primary care outposts are established under the form of pilot projects.

Because of the varied geographical distribution of GPs, an impulse fund was created in 2006 to grant interest-free loans and subsidies to doctors starting a GP practice in an area with a shortage of GPs (see also Chapter 6).

With the increase of chronic conditions, the primary care level will be required to play an increasingly important role in guiding patients through the health system and coordinating and managing home care. Along with the GP, who is a vital link in this context, Integrated Services for Home Care (ISHC-GDT-SISD) have been created and funded since 2003 by compulsory health insurance to support a multidisciplinary approach within primary care (see also Section 5.8 *Long-term care for the elderly*). These ISHC-GDT-SISDs are to support in a care zone the practical organization and coordination of home care provided by professionals of various disciplines. In particular, the role of the ISHC-GDT-SISD is to evaluate the autonomy of the patient, draw up and follow up on a care plan, divide the tasks between the different care providers and organize a multidisciplinary consultation, which, since 1 January 2006, is reimbursed for patients at home or institutionalized patients who will be returning home.

2.7 PATIENT EMPOWERMENT

2.7.1 Patient information

Patients in Belgium have the right to receive all information necessary to gain insight into their state of health from their care provider. This information should be supplied in clear language and, in principle, verbally. Patients have the right to refuse to be informed. Despite the right not to know, health care professionals can still decide to inform the patient if there is a risk of serious detriment to the health of a patient or third parties. The health care professional can also decide not to inform the patient if the communication may cause obvious damage to the patient's health and if another health care professional has been consulted. If the health care professional decides not to inform the patient, he or she must note the professional reasons for this choice in the patient's record and notify the potential confidant of the patient.

The right to give informed consent establishes that the prior consent of patients is required for every intervention by health care professionals. The patient should at least be given information on the aim of the intervention (e.g. diagnostic or therapeutic), nature of the intervention (e.g. painful or not), degree of urgency, duration, frequency, contra-indications relevant for the patient, side-effects and risks, after-care, possible alternatives, financial consequences and possible consequences in the case of refusal or withdrawal of consent.

Patients also have the right to a patient file that is carefully maintained and secure. Patients are entitled to inspect their patient file and must be offered the possibility to do so. Information exclusions apply to information on a third party; and to the personal notes of the health care professional (unless the patient is assisted by another health care professional appointed by the patient as a confidant). Maximum amounts are in place that patients can be charged for a copy of his/her medical file: €0.10 per text page, €5 per figure and €10 per CD-ROM, with a maximum total of €25 (FPS Health, Food Chain Safety and Environment 2009b).

A study performed by the *Vlaams Patiëntenplatform* (VPP) showed that most physicians informed their patients about the aim and nature of the intervention, and the degree of urgency. However, less attention was paid to providing information on potential alternatives and consequences in case of refusal or withdrawal of consent. Moreover, information on the related cost for the patient was not mentioned by a quarter of the interviewed doctors. This study also highlighted information difficulties for specific patient groups, that is, foreign patients, patients with mental disorders, patients with a low qualification levels and patients unable to give informed consent. Patients have the right to obtain information in easily understood language and the VPP highlighted that more attention for this aspect is needed (Schoonacker and Louckx 2006).

An assessment by the Socialist Sickness Fund on patients' rights also showed that 65% of the hospitalized patients received insufficient information on the expected cost of the stay and one in four patients was not sufficiently informed beforehand about their treatment by the physician. Moreover, the study showed that lower-income people were less informed beforehand about their treatment than higher-income people and that the elderly patients (≥ 71 years old) were less informed than younger patients (≤ 50 years old) (Socialistische Mutualiteiten 2008).

Nurses are also involved in providing information to patients. As defined in the Nursing Minimum datasets (see Section 2.5.2 *Information systems*), patient education is considered as a nursing activity.

Patients can also obtain relevant information from official organizations. Most sickness funds run a health promotion and patient education service to produce information folders and to organize information meetings, with a focus on primary prevention, health promotion and general health topics. They also provide information to health care providers, mostly by means of periodicals.

However, a study performed by the Socialist Sickness Fund highlighted that few patients (63%) were aware of the possibility of receiving information from their sickness funds and that more than three out of four respondents (79%) had not requested information from their sickness fund prior to hospitalization (Socialistische Mutualiteiten 2008).

Information on tariffs, reimbursed acts and consultations as well as reimbursement of pharmaceuticals can also be found on the NIHDI web site. Some federal organizations such as the KCE, the IPH and the Belgian Centre for Evidence-based Medicine (CEBAM) are other potential sources of information but are more focused on health professionals.

Patient associations are also important sources of information. The French federation, *Ligue des Usagers des Services de Santé* (LUSS), and the Flemish federation VPP have 200 and 82 patient associations, respectively. There is also the federation *Patiënten Rat & Treff* for the German community and *Radiorg* for rare diseases. The consumer organization Test-Achats is also a potential source of information and provides advice and evaluations of practices related to health care in a specific magazine called *Test-Santé*.

Concerning initiatives to increase access to information for disabled people, the labelling of pharmaceutical products in Braille has become mandatory since May 2006. The instructions must also be made available by companies in a format suitable for blind and visually impaired people upon the request of patient organizations.

2.7.2 Patient choice

Belgium promotes freedom of patient choice and competition between providers. Patients have free choice of health care professionals and health care institutions (e.g. hospitals). Patients also have free choice of sickness funds and the sickness funds cannot refuse a patient. Conversely, according to the medical code of ethics and except in case of emergency or of failing in his duty of humanity, a physician has the possibility to refuse to treat a patient for professional or personal reasons. In this case, the physician must inform the patient or his/her relatives, continuity of care must be maintained and any useful information must be passed to the successor physician (Ordre des médecins 2009).

The right to free choice of health care professional gives patients the choice to contact several different health care professionals before choosing one. Patients can always choose to consult with another health care professional and may change their choice of health care professional (right to a second opinion) (FPS Health, Food Chain Safety and Environment 2009b).

According to the Itinerat Institute, too little information about the quality of care is available to the patients to help them in their choice (Daue and Crainich 2008). Moreover, in hospitals, the choice is limited by supply and, in some specialties and/or hospitals, the choice can be limited (Schoonacker and Louckx 2006).

2.7.3 Patients' rights

The rights and obligations of the population have been stated since 1997 in "the Charter of the socially insured". The main purpose of the charter is to "protect the population through a whole set of rules to be respected by all social security institutions" (FPS Social Security, 2009c). The basic principles of the Charter can be summarized as follows: (1) information and answers to questions on population rights must be provided by the social security institution; (2) the institution must grant any particular benefit if the person seems to be entitled to it; (3) benefits must be granted in a rapidly and without exceeding a four-month delay; (4) if exceeding such a delay the institution must pay interest to the entitled; (5) reasons as well as other resources (appeal procedures, reference number, etc.) relating to any decision must be provided to the socially insured; and (6) the socially insured can appeal any decision of the social security institution within three months.

In August 2002, Belgium introduced legislation on patients' rights. The purpose of the Patients' Rights Act is to strengthen the legal status of the patient. Prior to this Act, patients' rights could be inferred from general legal principles, international treaties and constitutional and criminal stipulations. The Patients' Rights Act regulates the rights of patients with regard to health care professionals, including physicians, dentists, pharmacists, nurses, midwives, physiotherapists and paramedics. Every health care professional must comply with the patients' rights legislation. Hospitals are also obligated to comply with the stipulations of the law on patients' rights with regard to the medical, nursing and other health care professional aspects of the legal relationship with patients. Two national campaigns were organized to raise awareness and make patients' rights better known to the public.

The following rights are established by law:

- right to quality of service provision
- right to free choice of health care professional
- right to patient health state information
- right to give informed consent
- right to inspect and to have a copy of the patient file
- right to protection of privacy
- right to submit a complaint to the competent ombudsperson
- right to palliative care and pain relief.

Each patient has the right to health care that best corresponds to their needs according to the medical knowledge and technology available, and health care must be provided with respect for human dignity and the patient's autonomy, without any discrimination.

Moreover, patients are entitled to respect of their privacy for every intervention provided by the health care professional. Other people may be present only if it is required for professional reasons (FPS Health, Food Chain Safety and Environment 2009b). Patients' rights concerning patient information and patient choice are described above, and those regarding complaints are described in the next sections.

The Socialist Sickness Fund interviewed 7000 members to assess respect of patients' rights. They found that less than a half were aware of their rights as patients. Also, around half were not aware of the possibility to submit a complaint to an ombudsperson and to have access to their medical file (Socialistische Mutualiteiten 2008).

2.7.4 Patients and cross-border care

In Belgium, cross-border care and care for foreigners are mainly funded on the basis of the European Council Regulation on the coordination of social security schemes (883/2004 and 987/2009)[1] and of the rulings of the Court of Justice of the European Communities (ECJ). However, regulations 1408/71 and 574/72 will for the time being remain in force for relations between the EU27 and Iceland, Liechtenstein, Norway and Switzerland if Regulation 858/2003 (third-country nationals) is not replaced by a new regulation.

If a Belgian travels in a country of the EEA or in Switzerland and if he or she must receive unforeseen medical treatment which becomes medically necessary during his or her stay, taking into account the nature of the benefits in kind and the expected length of stay, his or her medical expenses will be covered according to the legislation in the host country upon presentation of his or her European Health Insurance Card (EHIC). Depending on the country, medical care will be totally or partially reimbursed on the spot or soon after returning home. The EHIC is not valid for private hospitals or treatments, is individual (each family member must have his or her own EHIC), is limited to temporary stays and is reserved for unplanned care (Belgium Federal Portal 2009).

For planned treatment in another country of the EEA or in Switzerland, medical costs can be covered by the Belgian sickness funds using the E112 form or under the rulings of the ECJ. To be covered, this medical care must be among the benefits reimbursed in Belgium.

For hospital care, a prior authorization from the sickness fund is required but not for non-hospital care, unless the treatment requires the use of highly specialized and cost-intensive medical infrastructure or medical equipment, which is normally only to be found in a hospital environment and which does not require an overnight stay. However, the distinction between non-hospital and hospital treatment is not clearly defined and it is highly recommended that patients seek advice from the sickness funds. In Switzerland, reimbursement according to the rulings of the ECJ is possible (applicable since 1 July 2008) (Coheur 2009; Mutualité professionnelle et libre de la région wallonne 2009).

In the case of planned non-hospital care (beyond the exceptions already mentioned), the reimbursement of the costs of cross-border health care is not subject to a prior authorization (E112) under the so-called "Kohll and Decker procedure". The insured person is entitled to reimbursement of the costs incurred within the limits of and under the conditions of the Belgian reimbursement rates.

[1] Since May 2010 in the EU27.

The standard procedure for obtaining the E112 form is to apply for a prior authorization to the medical examiner of the sickness fund. The insured must submit a medical report prepared by a Belgian physician containing a description of the treatment and/or intervention; a clarification of why the treatment cannot be provided within a reasonable period, taking into account the state of health and the probable cause of the illness of the insured person and, if necessary, an explanation of why the treatment can take place in better medical conditions abroad;[m] and contact details of the place where the treatment can be carried out. If the treatment is not among the benefits provided for by the Belgian legislation, no authorization will be given. If the treatment can be provided in Belgium at the same quality level and within a reasonable period, again, no authorization will be given. With the E112 form, the treatment cost will be covered at the treating country's coverage rate. If the Belgian reimbursement amount is higher than in the treating country, the patient, upon request, will be entitled to an additional reimbursement by his sickness fund; however, the reimbursed sum may not exceed the costs actually incurred by the patient and the sickness fund does not have to reimburse more than the sum it would have to pay if the same treatment had been provided in Belgium (Coheur 2009; Mutualité professionnelle et libre de la région wallonne 2009).

Most, if not all, private hospitals refuse the E112 form. In this case, instead of the E112 form, it is possible to apply Article 294 (§1, 2°) of the Royal Decree of 3 July 1996. This concerns medical treatment for which the patient has received a prior authorization from the medical examiner of his sickness fund in case treatment can be provided under better medical conditions in a hospital abroad. According to this Article, the patient will pay the treatment cost and can then ask for reimbursement from his sickness fund within the limits of and under the conditions of the Belgian reimbursement rates. When an international convention cannot be applied or does not exist, Belgian insured persons must refer to this section of the Royal Decree which concerns hospitalizations only (Coheur 2009; Mutualité professionnelle et libre de la région wallonne 2009).

A proposal for a new directive on patient mobility from the European Commission is in progress. This directive should clarify procedures for citizens seeking health care abroad. The major principles of this directive are to improve legal security for the patient seeking cross-border health care, common principles in European health care systems, and more collaboration between Member States.

Moreover in 2007, a bill regarding patient mobility was passed in Belgium. This law will come into force on a date determined by ministerial decree, which is expected to be in July 2010. The law aims to deal with the bottlenecks in hospital financing caused by patient mobility, and guarantees for Belgian patients are provided. The law also creates an Observatory for Patient Mobility at the NIHDI and the FPS Health, Food Chain Safety and Environment (*BS–MB* 2007).

Beyond this, more and more cross-border cooperation has been developed. In Belgium, residents of specific border regions have access to medical care in specific areas on the other side of the border through a more flexible procedure of issuing the specific E112 form. This system applies to people living within 15 km of the border and wanting to be treated in a facility up to 25 km on the other side of the border; people living in Eupen, Malmedy, Sint-Vith, Arlon, Messancy, Bouillon, Chimay, Couvin and Gedinne; people living in the administrative districts of Virton and Bastogne; or people living in Mellier, Léglise, Ebly, Juseret, Vitry and Anlier. The E112 "border" form is issued without providing any medical motivation or justification. However, only specific care is concerned (mainly hospitals and dialysis care) (Mutualité professionnelle et libre de la région wallonne 2009).

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[m] The issuing of an E112 is based on the criteria mentioned in the regulation. The condition of "better medical conditions" is not part of the regulation but rather a condition mentioned in the Belgian national legislation.

Moreover, residents of the Euregio Meuse-Rhine can use the form EMR E112+ to simplify the authorization process further. The geographical area of the Euregio Meuse-Rhine includes the provinces of Liège and Limburg in Belgium; the province of North Brabant and Limburg in the Netherlands; Aix-la-Chapelle and the districts of Bitburg, Prüm and Daun in Germany. The form EMR E112+ provides access to outpatient specialist medical care (and subsequent hospital treatment as well as the prescription of pharmaceuticals and medical devices) and is issued without medical report or agreement of the medical examiner of the sickness fund. However the use of prior authorization can be maintained for specific services (Mutualité professionnelle et libre de la région wallonne 2009).

Several cooperation agreements between French and Belgian hospitals have also been set up to improve access and quality of care, and allow patients to overcome the requirement of a prior authorization for medical care across the border. Each convention has its own specificities regarding the hospitals' partners, the medical fields covered and the people involved (Belgian patient in France or vice versa). Four Organized Cross-border Areas for Access to Care (ZOAST) have also been created between France and Belgium. These ZOAST ensure continuity of care through the free movement of patients between France and Belgium. In these areas, Belgian patients can receive hospital and/or ambulatory care in specific French hospitals on the basis of a specific E112 form (e.g. E112 MRTW or E112 ARLWY), which is issued by their sickness fund without providing any medical motivation or justification. Cooperation agreements on cross-border urgent medical transport have also been developed in border area between France and Belgium.

Moreover, in 2005, a framework agreement has been set up to offer a global legislative framework to all the inter-hospital conventions and agreements between France and Belgium. This agreement has already been ratified by the parliament of France and was in the process of being ratified by the Belgian and competent regional parliaments at the time of writing (De Cock 2009).

Other initiatives with Germany, Luxembourg and the Netherlands are under way. A Benelux decision on cross-border urgent medical transport was approved in 2008 (Secrétariat Général Benelux, Van Haver and Boon 2008).

To reduce waiting lists, Dutch and English health care purchasers have concluded direct contracts with Belgian hospitals. For example, people living in the Dutch region Zeeuws-Vlaanderen and in Noord Brabant have the possibility of receiving specialized treatment in specific Belgian hospitals. The OZ and CZ Dutch sickness funds estimated that the number of affiliates treated in Belgian contracted hospitals was 2203 in 2000 and 7267 in 2004.

In 2003, the English National Health Service (NHS) also concluded contracts with seven Belgian hospitals, and five of them were extended until 31 March 2007. All these five contracts concerned knee and hip replacements. Between May 2003 and November 2004, a total of 432 NHS patients with hip and knee problems have been treated in one of these five hospitals. However, since September 2004, the flow of English patients to Belgium has been reduced because of an increase of capacity in England and the end of the "London Patient Choices" project and its budget for overseas treatment (Glinos, Baeten and Boffin 2006).

The aim of cross-border cooperation is to improve access and quality of care. Nevertheless, if the increase of cross-border care is not embedded in properly balanced regulations, it may carry the risk of eroding Belgian public health care funding and thus diminishing current overall health standards for a given public budget. The financial and non-financial (waiting lists, distributional equity across hospitals, quality of care) consequences linked to these flows need to be studied. The KCE will study these issues in a future report (programmed in 2010–2011). This report will also try to give a general overview of foreign patients undergoing elective surgery in Belgium (ambulatory and inpatient). Even if data on E112 procedures are available, private interventions or data regarding contracts between different parties such as hospitals or health insurers are lacking.

The number of E112 forms for the treatment of foreign patients in Belgium (including both ambulatory and inpatient care) was estimated to be 10 773 in 1998 and 19 378 in 2008. Patients coming from the Netherlands represent around 66% of non-Belgian patients (Glinos, Baeten and Boffin 2006).

2.7.5 Complaints procedures (mediation, claims)

The law on patients' rights also grants the right to a complaints procedure. Patients can submit their complaint to an ombudsperson. The ombudsperson should in the first instance, support communication between the patient and the health care professional. If the patient and health care professional do not reach a solution, the ombudsperson has to proceed to mediation. If the ombudsperson's mediation does not lead to a solution, the ombudsperson has to inform patients about other alternatives for taking the complaint forward. On the basis of the information obtained as a mediator, the ombudsperson makes recommendations to prevent similar complaints in future. Under the hospital legislation, and following the set standards, every hospital must appoint an ombudsperson.

In ambulatory care, any conflict between a patient and a health care professional is managed by a federal ombuds service. The federal ombuds service has been established in the FPS Public Health, Food Chain Safety and Environment. Complaints are treated by the federal ombuds service if there is no competent local ombudsperson. These may be about, for example, GPs, dentists, pharmacists, independent nurses and physiotherapists. The federal ombuds service also has to deal with complaints concerning the way in which conciliation by the local ombudsperson has been carried out. However, the federal ombuds service is not a substantive profession agency for complaints, which should be treated in the first instance by the local ombudsperson where available.

In the mental care sector, mediation is exercised either by an external ombuds service (external mediation) or by the hospital ombudsman (Cobbaut et al. 2009).

In 2008, the federal ombuds service received 482 complaints and 290 requests for information (Gryson, Verhaegen and Debreyne 2008). Moreover, an assessment by the Socialist Sickness Fund of patients' rights showed that 49% of the 7000 interviewed patients were unaware of the existence of a mediation service in the hospital where they were treated (Socialistische Mutualiteiten 2008).

2.7.6 Patient safety and compensation

The professional liability of a physician, except for disciplinary liability, is not governed by special laws. This means that both the civil liability and the criminal liability of the physician for damage or injury caused by improper performance of the duties entailed in the discharge of his or her professional functions are governed by the general rules of civil and criminal law (Nys 1997).

Obtaining professional liability insurance for health care professionals was advised but was not mandatory. A bill to oblige every individual or institutional health care provider to have liability insurance is still in progress (Act of 15 May 2007).

A patient is entitled to recover damages in respect of negligent medical treatment only if he or she has actually suffered damage. In principle, all the damage, moral damage included, has to be compensated.

Fault is the main basis of a claim for malpractice. Deviation from the professional standard is to be considered as a fault in the practice of medicine. Patients who have been the victim of a medical fault are faced with many obstacles in recovering damages. Long legal procedures are often necessary while results are uncertain. Patients who experience damage after a medical intervention or treatment can only receive compensation if they themselves can prove that damage has been caused by a fault. The plaintiff must prove not only that the defendant physician was negligent, but also that the defendant's negligence was the cause of the damage sustained. Damage that is not caused by a fault is therefore not compensated.

Therefore, a bill based on the French system has been developed in Belgium to compensate, under certain conditions, damage resulting from health care that does not involve the responsibility of the caregiver. Under this new system, damage resulting from an act of care, prevention or diagnosis that does not involve the responsibility of the caregiver, that shows a certain degree of seriousness and that is abnormal in relation to the patient's health and to the state of science will be compensated for without the patient having to prove the medical fault. In these cases, the condition for indemnity will therefore no longer be the existence of fault and the causal link between damage and fault. The payment for these damages will be entrusted to a fund to be established with this aim.

For several years now a patient safety policy within the hospitals has been developed through pilot projects on issues including incident reporting in the case of medication mistakes and the development of patient safety indicators based upon the MCD. In 2007, committees for quality and patient safety were created in the hospitals involving a coordinator who sets up and follows the incident reporting in order to create a "no shame, no blame" culture within the institution.

2.7.7 Patient participation/involvement and patient satisfaction

In Belgium, the question of patient participation in the health care system is linked to the role of sickness funds. Sickness funds in Belgium are more than simple insurers; their role is also to represent the patients and to make their voices heard in the health care policy-making process. However, because of their multiple tasks, their positioning is complex and they are more focused on the representation of the whole insured population's interests rather than the representation of specific interests of individuals (Tegenbos et al. 2008; Leys et al. 2007).

Patients' associations also represent patients' interests. With the increase of patients' associations, French, Flemish and German federations have been created: the LUSS, the VPP, the *Patiënten Rat & Treff* and *Radiorg*. These federations receive public subsidies from federal and federated authorities and have representatives in the Federal Commission of Patients' Rights. The aim of the Federal Commission of Patients' Rights is to collect and treat information, to formulate notices to the Minister of Social Affairs and Public Health, to assess the application of patients' rights, to assess mediations processes and to treat claims related to mediations processes (Tegenbos et al. 2008; Leys et al. 2007).

In order to increase patients' participation in the health care system, different initiatives have been undertaken and some organizations have included representatives of patients' associations in their management processes. For example, the Walloon Institute for Mental Health (IWSM) has included representatives of patients' associations in their administrative board and the Flemish Association for Mental Health (VVGG) involves representatives of patients' associations in their management. Representatives of patients' associations for disabled people and their relatives are also involved in the management of the AWIPH and the VAPH. Subsidized homes for the elderly must also have a resident council included in their management (Tegenbos et al. 2008, Leys et al. 2007).

According to the Eurobarometer report of 2002 on the public's satisfaction with the health care system, a clear majority (65.1%) of the Belgian population is satisfied with the present organization of health care. The system runs well according to 23.8% of Belgians (compared to 13.2% in the EU15). However, 41.3% of Belgians said that minor changes are needed (30.7% in the EU15), 22.7% felt that fundamental changes are needed (38.2% in the EU15) and 5.2% want to rebuild the health care system completely (13.5% in the EU15) (OECD 2009a). According to the Eurobarometer report of 2007 on health and long-term care in the EU, the quality of care and the availability and accessibility of health care were positively perceived by the Belgian population compared to European perceptions (see Table 2.4) (Eurobarometer, 2007).

Table 2.4: Perception of the health care system

Type of health care	Belgium	EU27
Hospitals		
Fairly good to very good quality	93%	71%
Fairly easy to very easy access and availability	87%	76%
Dental care		
Fairly good to very good quality	95%	74%
Fairly easy to very easy access and availability	87%	74%
Medical or surgical specialist services		
Fairly good to very good quality	93%	74%
Fairly easy to very easy access and availability	75%	62%
Family doctor services		
Fairly good to very good quality	95%	84%
Fairly easy to very easy access and availability	97%	88%
Care services for dependent people		
Fairly good to very good quality	77%	42%
Fairly easy to very easy access and availability	74%	41%
Nursing home services		
Fairly good to very good quality	75%	41%
Fairly easy to very easy access and availability	61%	39%

Source: Eurobarometer 2007.

2.7.8 Physical access

According to the United Nations Convention on the Rights of Persons with Disabilities of 13 December 2006, disabled people have the right to live independently and participate fully in all aspects of life. States must take appropriate measures to ensure, on an equal basis with others, access to the physical environment, to transports, to information and communication, and to other facilities and services open or provided to the public, both in urban and rural areas. These measures, which include the identification and elimination of obstacles and barriers to accessibility, apply to buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces; and to information services, communications services and other services, including electronic services and emergency services (Conseil d'État 2009). This Convention was transposed into Belgian legislation by the Act of 13 May 2009.

Moreover, according to the Act of 23 October 1964 on the setting of standards for hospitals, specific services, such as geriatric and rehabilitation services, must allow easy access adapted to the disabilities of patients. Any barriers to access, such as steps, stairs and other obstacles, should be avoided and any risk of slipping must be prevented. The environment for patients must be facilitated by the installation of railings and handrails. Sanitary facilities must also be adapted, and wheelchairs in sufficient numbers must be provided in the corridors. Numerous regional regulations to improve the access and integrity of disabled people have also been developed.

3 FINANCING[n]

3.1 HEALTH EXPENDITURE

In 2007 (latest available year), total health expenditure as a percentage of GDP in Belgium was 10.2% (see Table 3.1 and Fig. 3.1). At this percentage of GDP, Belgium ranked third among the EU Member States, including those acceding to the EU in May 2004 and January 2007 (EU27) (see Fig. 3.2). Between 1982 and 1994, the evolution of health expenditure as a percentage of GDP in Belgium was in line with the evolution of the EU15 average (Member States belonging to the EU before May 2004) (Corens 2007). Since 1994, Belgium's total health expenditure as a proportion of GDP has been slightly above the EU27 average (see Fig. 3.1).

The growth in health expenditure in Belgium is similar to that in other western European countries and can be explained by several factors, such as the increasing number of elderly people, higher expectations, growth in real GDP and increasing implementation of new technology in the health care sector.

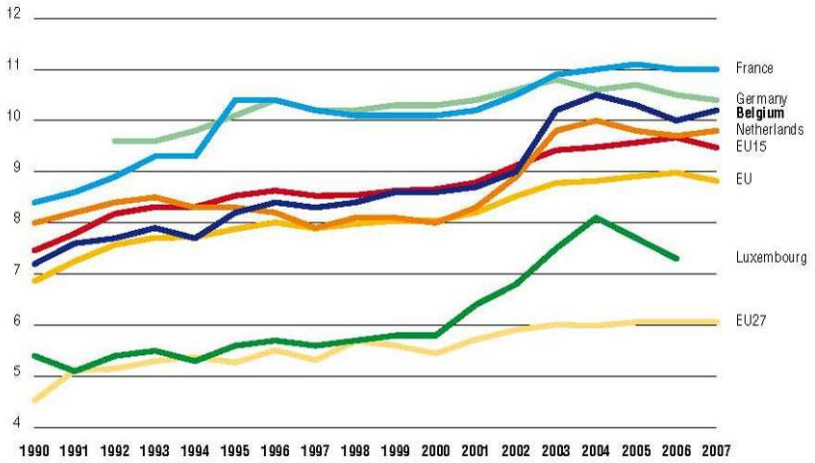
Belgium has the sixth highest health expenditure per capita measured in PPP US$ among EU27 countries (see Fig. 3.3).

Table 3.1: Trends in health expenditure in Belgium, 1990–2007 (selected years)

	1990	**2000**	**2005**	**2007**
Total health expenditure per capita [1]	1 479	2 121	2 681	2 761
Total health expenditure as % of GDP	7.2	8.6	10.3	10.2
	1980–1990	**1990–2000**	**–**	**2000–2007**
Mean annual real growth rate in total health expenditure [1]	3.5	4.0	–	4.4
Mean annual real growth rate in GDP [1]	2.0	2.1	–	2.0

Source: OECD 2009a.
Note: [1] in € at 2000 GDP price level. Data before 2003 are based on national accounts estimates and 2003–2007 data are based on the joint OECD-Eurostat-WHO System of Health Accounts (SHA) collection.

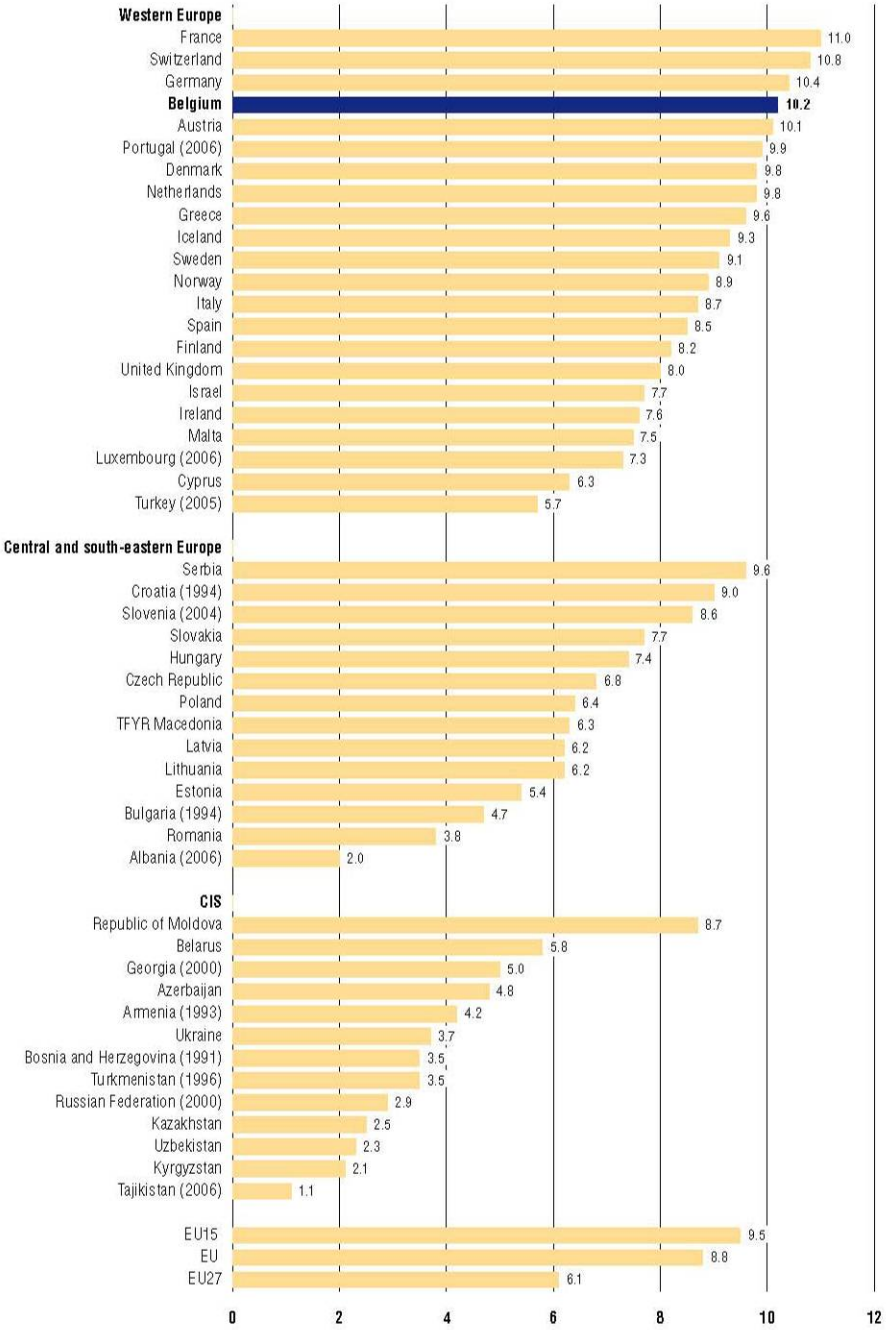
Fig. 3.1: Trends in health expenditure as a share (%) of GDP, Belgium and neighbouring countries, 1990–2007



Source: WHO Regional Office for Europe 2010.
Note: Because of the introduction of SHA, a series rupture between 2002 and 2003 can be observed. Growth rate estimates should therefore be treated with caution

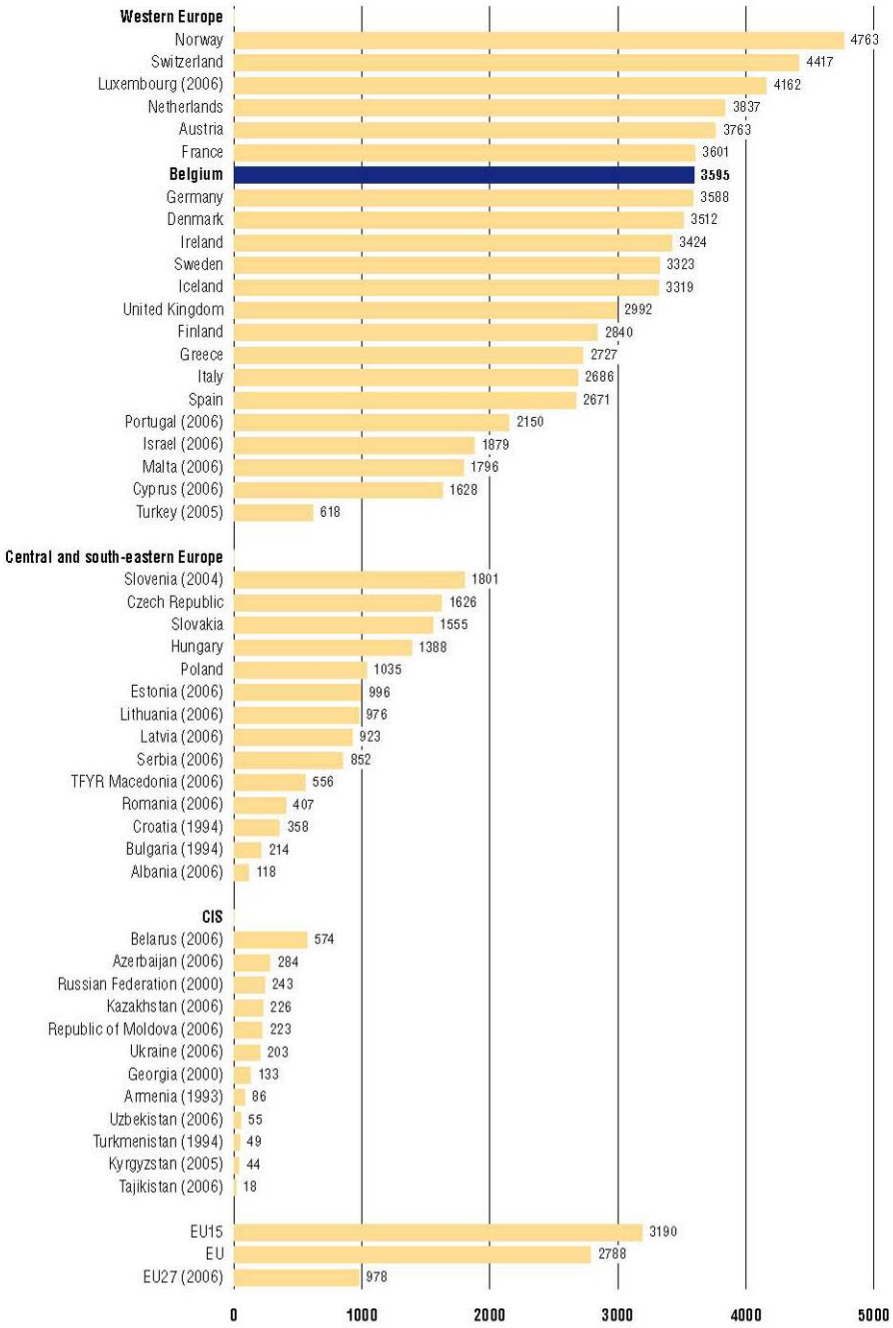
[n] This chapter was written by Sophie Gerkens, Carine Van de Voorde, Anja Desomer and Christian Léonard.

Fig. 3.2: Health expenditure as a share (%) of GDP in the WHO European Region, 2007 or latest available year



Source: WHO Regional Office for Europe 2010.
Note: Not all of these countries apply the SHA methodology. Comparisons should thus be done with caution

Fig. 3.3: Health expenditure in US$ PPP per capita in the WHO European Region, 2007 or latest available year



Source: WHO Regional Office for Europe 2010.
Note: Not all of these countries apply the SHA methodology. Comparisons should thus be done with caution.

As Table 3.2 indicates, curative care services represent almost half (46.5%) of total health expenditure, while prevention and public health services represent around 4% of total health expenditure (in 2007).

Table 3.2: Health expenditure by service programme (% of total health expenditure), 2007

	Total as % of total current expenditure on health	Public as % of total public expenditure on health
Services of curative care	46.5	45.0
Services of rehabilitative care	4.1	3.4
Services of long-term nursing care	16.9	20.3
Ancillary services to health care	2.4	2.4
Medical goods dispensed to outpatients	17.6	13.4
Prevention and public health services	4.1	5.4
Health administration and health insurance	8.5	10.0

Source: OECD 2009b.
Note: The SHA methodology was used to estimate these data.

3.2 SOURCES OF REVENUE AND FINANCIAL FLOWS

Belgium has a compulsory system of health insurance with a very broad benefits package that covers almost the entire population. Health insurance is one of the six sectors of the social security system, which also include old age and survivors pensions, unemployment, insurance for accidents at work, work-related health and occupational diseases, family allowances, health and disability insurance.

Social security contributions and subsidies from the federal government are the main funding sources for the compulsory health insurance system. In 2009, social contributions accounted for 66%, state subsidies for 10%, alternative financing (mainly from indirect tax revenues) for 14%, and allocated and diverse receipts (special contributions of social security, solidarity contributions and contributions by employers for early retirement) for 10% of the compulsory health insurance. Social security contributions are related to income (rates set by law) and are independent of risk.

The compulsory health insurance is managed by the NIHDI which gives a prospective budget to the sickness funds to finance the health care costs of their members. In the past, sickness funds' expenditures were systematically reimbursed; but since 1995, they have been held financially accountable for a proportion of any discrepancy between their actual spending and their normative risk-adjusted health expenditures.

Payment mechanisms are mainly characterized by fee-for-service payment. There are two systems of payments: (1) a direct payment, where the patient pays for the full cost of the service and then obtains a refund from the sickness fund for part of the expense; and (2) a third-party payer system, where the sickness fund pays the provider directly and the patient is only responsible for paying any co-payments, supplements or non-reimbursed services. Reimbursement depends on the type of service provided as well as the patient's status.

Financial flows are presented in Fig. 2.1 (see p.17) and Fig. 3.4. Generally, the direct payment system applies to ambulatory care and the third-party payer system applies to inpatient care and pharmaceuticals. However, the third-party payer system can apply to ambulatory care in some special cases and an extension of this method is currently under discussion.

Fig. 3.4: Schema of health expenditures by sources of revenue

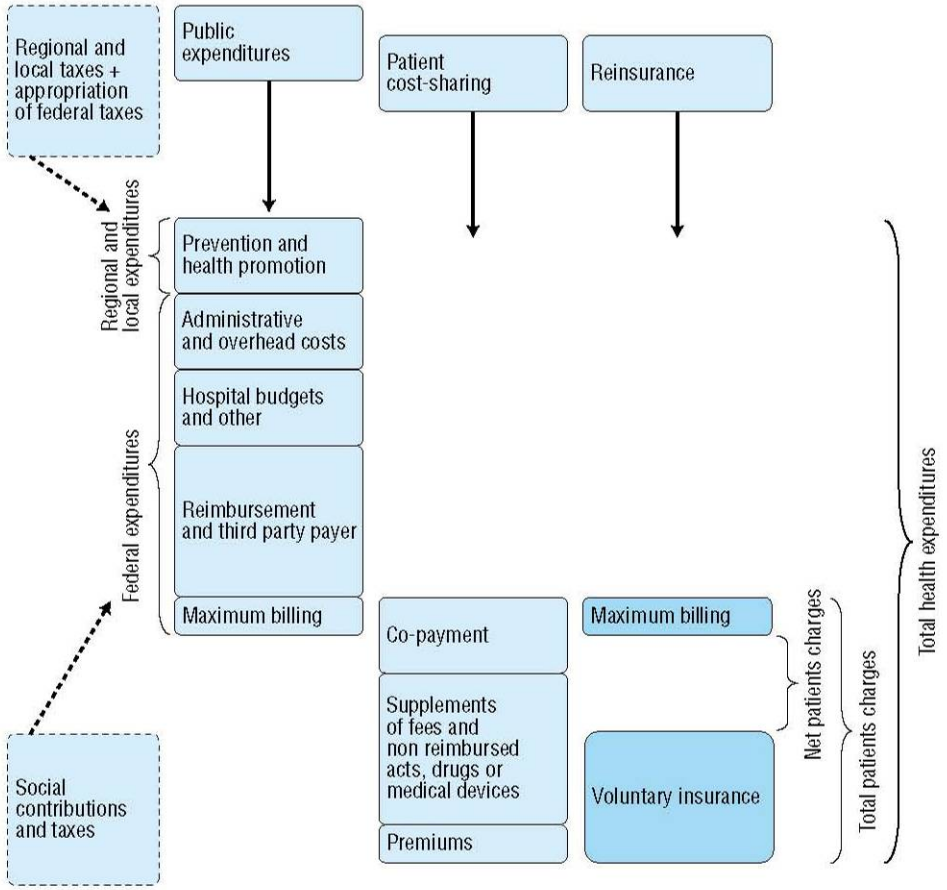


Table 3.3 and Fig. 3.5 present an overview of the most important components of health expenditure by source of revenue. The main share of total health expenditure (71.3% in 2006) is publicly funded (by taxes and social security contributions), mostly through reimbursement taking place within the compulsory health insurance (67.3%). Federated and local governments represent a modest share in health spending with 1.5% and 2.0%, respectively. Out-of-pocket payments and VHI represent 23.3% and 5.1%, respectively (in 2006). Among out-of-pocket payments, official co-payments were estimated to be around €1771 billion in 2006, that is, around 5.7% of total health expenditure.

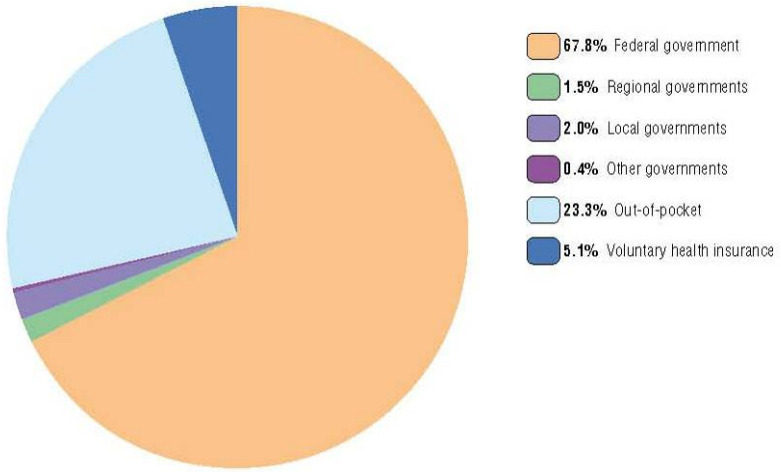
Table 3.3: Total and public health expenditures (in million €), 2000–2006 (selected years)

	2000	%	2002	%	2004	%	2006	%
Total public expenditures (1) = (2) + (3) + (4)	16 113	72	17 626	71	20 669	72	21 997	71
Federal government (2)	15 394	69	16 837	68	19 678	69	20 915	68
NIHDI	14 128	63	15 477	63	19 518	68	20 766	67
Health insurance	12 845	57	14 189	58	16 594	58	17 446	57
Social maximum billing (MAB)	179	0.6	232	0.8	–	–	–	–
Fiscal maximum billing (MAB)	51	0.2	57	0.2	–	–	–	–
Hospital budget (22.7% of day price)	1 183	4.1	1 354	4.4	–	–	–	–
Administration costs RIZIV-INAMI	318	1.4	218	0.9	252	0.9	319	1
Administration costs sickness funds	586	2.6	641	2.6	701	2.5	765	2.5
Other	379	1.7	430	1.7	559	2	593	1.9
FPS Health, Food Chain Safety and Environment*	1 102	4.9	1 194	4.8	0	–	–	–
Other	165	0.7	166	0.7	160	0.6	149	0.5
Federated governments (3)	259	1.2	283	1.1	426	1.5	451	1.5
Local governments (4)	461	2	507	2.1	564	2	631	2
Total self-financing (5)	6 259	28	6 964	28	7 786	27	8 752	28
Out-of-pocket payments	5 295	24	5 891	24	6 533	23	7 178	23
VHI	964	4.3	1 074	4.3	1 253	4.4	1 575	5.1
Sickness funds	588	2.6	625	2.5	708	2.5	894	2.9
Commercial insurance companies	375	1.7	449	1.8	545	1.9	681	2.2
Total work injuries (6)	97	0.4	101	0.4	103	0.4	110	0.4
Total health expenditures (7) = (1) + (5) + (6)	22 469	100	24 692	100	28 558	100	30 859	100
Reinsurance (8)	1 025	4.6	1 233	5	1 601	5.6	1 892	6.1
Sickness funds and commercial insurance companies	982	4.4	1 152	4.7	1 371	4.8	1 603	5.2
Maximum billing (MAB)	43	0.2	81	0.3	230	0.8	289	0.9
Total net health expenditures (9) = (7)–(8)	21 444	95	23 458	95	26 957	94	28 967	94
Net cost for the patients (10) = (5)–(8)	5 234	23	5 731	23	6 185	22	6 861	22
Total health expenditure as a percentage of the GDP (9)/GDP	–	8.9	–	9.2	–	9.9	–	9.7
Total net health expenditure as a percentage of the GDP (9)/GDP	–	8.5	–	8.8	–	9.3	–	9.1
Net cost for the patients as a percentage of the GDP (10)/GDP	–	2.1	–	2.1	–	2.1	–	2.2

Public spending as a percentage of the GDP (1)/GDP	–	6.4	–	6.6	–	7.1	–	6.9

Source: National Bank of Belgium, National Institute of Statistics, NIHDI-RIZIV-INAMI, Mutual Health Fund Control Office, Insurance Control Office, National Accounts, household budget surveys, ANMC data and own calculations based on a methodology developed by Avalosse 2009.
Note: *Until 2003, the FPS Health, Food Chain Safety and Environment partially funded the per diem charges for hospitalizations. From 2004, the operating hospitals' budgets are fully funded by the NIHDI.

Fig. 3.5: Percentage of total expenditure on health according to source of revenue, 2006



Because of a different method compared to the System of Health Accounts (SHA), total health expenditures as a percentage of the GDP presented in Table 3.3 differ from those in Table 3.1.

3.3 POPULATION COVERAGE AND BASIS FOR ENTITLEMENT

3.3.1 Coverage

3.3.1.1 Breadth: who is covered?

Almost 99% of the population is covered by the compulsory health insurance. There are two main schemes: (1) the general scheme for the whole population except for the self-employed, and (2) the scheme for the self-employed. The general scheme covers a large but limited number of categories of people such as employees, employees in incapacity, the unemployed, retired people, widows, orphans, students, residents and so on. Residents are defined as people who are registered in the Belgian National Registry.

Since 1 January 2008, both major and minor risks are covered by both schemes.° Major risks include hospital care, delivery of babies, major surgery, dialysis functional rehabilitation care, implantable medical devices and specialist care, among others. Minor risks include physicians' visits, dental care, minor surgery, home care and pharmaceuticals for outpatient care, among others.

The basic principle for health insurance coverage is that people benefit in accordance with their actual or past professional activity. Both active and non-active people, as well as their dependants are covered. The main insured members are entitled to health insurance on the basis of their current or previous profession. Dependants are covered based on their relationship with the main entitled person, that is, a member of the family of the entitled person living in the same main place of residence. In 2008, over 9.4 million people (88.5%) were insured under the general scheme and over 1 million (9.7%) under the scheme for the self-employed (NIHDI 2008a).

° In the past, both major and minor risks were covered for people in the general scheme and only major risks were covered for the self-employed.

To be covered, each individual must join or register with a sickness fund. The choice is free except for railway workers.[P] Before 1998, health insurance status was evaluated each quarter. There used to be a waiting period for enrolment in the health insurance system of six months between being affiliated and qualifying for health insurance benefits. In 1998, insurability rules were changed and the principle of an annual entitlement was introduced. The waiting period was abolished.

3.3.1.2 Scope: what is covered?

The services that are covered by compulsory health insurance are described in the nationally established fee schedule (called the nomenclature), which is extremely detailed and lists more than 8000 services. For each service, an identification number, contractual fee and reimbursement rate are specified. Services not included in the fee schedule are not reimbursable. Sickness funds are legally bound to reimburse any claim from their insured members for care delivered by any recognized health care provider (see Chapter 4) at the agreed fee levels. The fee schedule is negotiated yearly or biennially between representatives of the sickness funds and of the health care professionals. Recommendations can be made by the KCE, but the KCE is not involved in the policy decisions themselves nor in their implementation (see Section 2.5.1 *HTA*).

Within the NIHDI there are conventions and agreements for most groups of care providers and institutions: physicians, dentists, physiotherapists, nurses, prosthetists, orthopaedists, hospitals, homes for the elderly and nursing homes, and initiatives for sheltered living for psychiatric patients (see Section 3.6 *Payment mechanisms*). These conventions and agreements regulate the financial and administrative relationships between the insured, represented by their sickness funds, and health care providers. In addition to fees and reimbursement tariffs, the conventions and agreements also contain a huge array of conditions related to content, quality and quantity of care. Examples of decisions that have been agreed for physicians are: accreditation, quality control and the GMD-DMG (to optimize the quality of primary care provided, and avoid unnecessary or duplicated care and contradictory prescriptions) (see Subsection *Strengthening primary care* in Section 6.1.2. *Assuring health care quality*). An arrangement or agreement is only possible if it falls within the budget provided for the sector involved and has been subject to advice from the Commission for Budgetary Control.

At regular intervals, new treatments are introduced into the benefits package and treatments that have become obsolete are removed. The fee schedule has been criticized as adapting too slowly to change. Another disadvantage of the fee schedule is that it consists mainly of administrative prices with no or little relation to real production costs.

Plastic surgery, spectacles and orthodontics are only reimbursable under certain conditions. Moreover, certain types of health care are not covered by the compulsory health insurance. For example, alternative therapies such as acupuncture, homeopathy and osteopathy are excluded but may be partially covered by complementary insurance. Some preventive health care costs are co-financed by the federal government and the communities, and are provided free to patients (e.g. vaccinations for children and breast cancer screening).

3.3.1.3 Depth: how much of benefit cost is covered?

User charges in Belgium apply for outpatient care, inpatient care and pharmaceuticals. They can be official and provided by law or supplements charged on top of official user charges. Co-payments are the same for everyone except for people with preferential reimbursement status (see Section 3.4 *Out-of-pocket payments*). As shown in Table 3.2 (see p.80), patients' total charges, including out-of-pocket payments (official co-payments, supplements and non-reimbursed acts, drugs or medical devices) and premiums for sickness funds and commercial insurance companies, represent 28.4% of total health expenditure. By taking into account reinsurance (MAB and voluntary insurance), net charges for patients represent 22.2% of total health expenditure.

P This is due to the fact that in the past, the national railway company insured its active and retired personnel. This scheme is now integrated in the general scheme (Royal Decree of 20 February 1991) and the railway company operates as a sickness fund for its employees.

3.3.2 Collection

The public financing of social security is composed of social contributions, subsidies from the state, alternative financing (mainly value added taxes), and allocated and diverse receipts (special contributions of social security, solidarity contributions and contributions of employers for early retirement). The federal government subsidizes the difference between social security contributions and the a priori determined budget with general taxation revenue (see Section 3.3.3 *Pooling of funds*). The alternative financing aims to limit government subsidies and to reduce employers' contributions. Instead of taxing labour, the government seeks alternative means to finance the whole of social security (value added tax, taxes on tobacco, etc.) (FPS Social Security 2009f).

One part of the public financing of social security is directly related to the health system (so-called "own receipt" of the health system), while the other part is related to a "global management of the financing system" for all social security sectors: health and disability insurance, old age and survivors pensions, unemployment, insurance for accidents at work, work-related health and occupational diseases, and family allowances.

For the Belgian health system, public funding for the year 2009 (budgetary data) is presented in Table 3.4. Public funding of the Belgian health system is composed of "own receipts" (€4.8 million; 17.9%) and transfers from the "global management of the financing system" for the general scheme (€19.8 million; 74.4%) and for the self-employed scheme (€1.9 million; 7.7%).

Table 3.4: Public financing of the health system (budgetary data), 2009

Composition	**in million €**	**%**
Own receipts	4 754.6	17.9
Social contributions	825.6	3.1
Subsidies	0.0	0.0
Alternative financing	2 499.0	9.4
Allocated receipts	1 098.6	4.1
Diverse receipts	331.5	1.2
Transfer from the "global management" system	21 839.0	82.1
General scheme	19 793.1	74.4
Self-employed scheme	2 045.9	7.7
Total public financing of the health system	26 593.6	100.0
Total public financing of social security	69 714.3	–
Public health care funding in % of GDP	7.7	–
Public health care funding in % of social security funding	38.1	–
Social security funding in % of GDP	–	20.2

Source : Budgetary data from the vade mecum of social security in Belgium (FPS Social Security 2009f).

Because of the "global management" of the financing system, the composition of the Belgian health system has to be estimated. Only the share of alternative financing is known. For other sources of funding, it was assumed that the distribution of the resources in the global management of the financing system for the general scheme and the self-employed scheme was respected (see Table 3.5).

Table 3.5: Estimated composition of the public financing of the Belgian health system, 2009 (in million €)

	Own receipts	Transfers from general scheme	Transfers from self-employed	Total
Social contributions	825.6	15 430.1	1 380.3	17 635.9 (66.3%)
Subsidies	0.0	2 252.3	525.3	2 777.6 (10.4%)
Alternative financing	2 499.0	1 048.8	102.2	3 650.0 (13.7%)
Allocated receipts	1 098.6	447.6	6.8	1 553.0 (5.8%)
Diverse receipts	331.5	614.2	31.4	977.1 (3.7%)
Total	**4 754.6**	**19 793.1**	**2 045.9**	**26 593.6 (100%)**

Source: Budgetary data from the vade mecum of social security in Belgium (FPS Social Security 2009f) and own calculations

Table 3.6 :Social contribution rates for self-employed, applied in July 2009

Net professional income	Contributions
Up to €11 824.39	€650.34 per trimester
Between €11 824.39 and €51 059.94	22.00% of the net professional income (5.5% per trimester)
Between €51 059.94 and €75 246.19	14.16% of the net professional income (3.54% per trimester)
Above €75 246.19	€0

Source: FPS Social Security 2009b.

The public funding of the Belgian health system is thus estimated to be composed of social contributions (66% of the total), subsidies of the state (10% of the total), alternative financing (14% of the total), and allocated and diverse receipts (10% of the total).

Both in the general system and in the system for the self-employed, social security contributions are related to income and independent of risk. Contribution rates are fixed by law as a percentage of income. Social contributions collection is organized differently in the two systems.

In the employed workers' scheme, there is an employee's contribution (13.07% of gross income) and an employer's contribution (24.77% of gross income without the social contributions paid for annual holidays), which are paid to the NSSO-RSZ-ONSS. The social contributions are calculated on the entire gross income. Since 1982, no ceiling is applied to calculate the amount to be paid (FPS Social Security 2009a).

The self-employed pay their own social insurance contributions to the social insurance fund to which they are affiliated, which in turn forwards the funds to the NSSO for the self-employed. The contribution is calculated on the self-employed person's net professional labour income in a reference year. The reference year is the third calendar year preceding the year during which the contributions were paid. Contributions, paid per trimester, are only due on the income below a ceiling (i.e. in 2009, €75 246.19 for revenues of 2006) (see Table 3.6) (FPS Social Security 2009b).

Table 3.7: Co-payments for outpatient pharmaceuticals on 1 January 2009

Reimbursement category	Non-preferential treatment	Preferential treatment
A–vital drugs (e.g. insulin for diabetics, cancer drugs, antiretrovirals)	100% reimbursement, no co-payment	100% reimbursement, no co-payment
B–therapeutically significant drugs for non-life-threatening diseases (e.g. antibiotics, antiasthmatics, antihypertensives)	75% reimbursement, co-payment: 25% with a maximum of €10.80 (€16.10 when there are generics/copies)	85% reimbursement, co-payment: 15% with a maximum of €7.20 (€10.80 when there are generics/copies)
B large package size–therapeutically significant drugs for non-life-threatening diseases (e.g. antibiotics, antiasthmatics, antihypertensives)	75% reimbursement, co-payment: 25% with a maximum of €13.50 (€24.20 when there are generics/copies)	85% reimbursement, co-payment: 15% with a maximum of €8.90 (€16.10 when there are generics/copies)
C–therapeutically less significant drugs for systematic treatment (e.g. antiemetics, spasmolytics)	50% reimbursement, co-payment: 50% with a maximum of €13.50 (€24.20 when there are generics/copies)	50% reimbursement, co-payment: 50% with a maximum of €8.90 (€16.10 when there are generics/copies)
Cs–drugs used in certain chronic illnesses (e.g. drugs used in coronary heart disease), antihistamines and vaccines	40% reimbursement, co-payment: 60% without maximum	40% reimbursement, co-payment: 60% without maximum
Cx–contraceptives and antispasmodics	20% reimbursement, co-payment: 80% without maximum	20% reimbursement, co-payment: 80% without maximum
D–non-reimbursable drugs	0% reimbursement, co-payment: 100%	0% reimbursement, co-payment: 100%

Source: NIHDI 2009c

3.3.3 Pooling of funds

The budget for the health system is determined on an annual basis using a six-step procedure: (1) determining needs; (2) carrying out technical estimates; (3) identifying potential economy measures; (4) suggesting the global budget objective and partial objectives; (5) determining the budget; and (6) negotiating conventions and agreements. These steps are described in turn below. Furthermore, Fig. 3.6 details the process for determining the global budgetary objective and its breakdown into partial budgetary objectives in terms of the structures involved and the missions achieved.

(1) Determining needs. The conventions and agreements commissions make an inventory of the changes which are necessary for financing their branch of industry, based upon the expenses level (on the assumption of unchanged legislation) as established by the Health Care Department of the NIHDI. The inventory of needs is centralized by the Health Care Department and submitted to the different management boards (Insurance Committee, General Management Committee). This takes place from April to June of the year preceding the financial year.

(2) Carrying out technical estimates. The Health Care Department of the NIHDI sends its technical estimates to the Insurance Committee, the General Management Committee, the Budget Control Committee and the Ministers of Social Affairs and Budget no later than 30 June of the year preceding the financial year. These technical estimates are the result of the extrapolation of the expenses of the last four to five years. Two weeks before the first Monday in October, the Health Care Department sends the reviewed technical estimates. The expenses of the first five months of the year preceding the financial year are taken into account. In other words, the technical estimates carried out on 30 June are now checked against more recent information.

(3) Identifying potential economy measures. The Budget Control Committee presents some saving measures to the Insurance Committee, the General Management Committee and the Ministers of Social Affairs and Budget no later than 15 September of the year preceding the financial year. These measures are based upon the permanent audit reports and must be applied in several sectors in order to establish the global budgetary projection in compliance with the growth rate and the increase of the health care index. The Budget Control Committee also sends these saving measures to the conventions and agreements commissions concerned.

(4) Suggesting the global budget objective and partial objectives. The Insurance Committee sends to the General Management Committee and the Budget Control Committee a global proposition in compliance with the growth rate and the increase of the health care index. This must be sent no later than the first Monday in October of the year preceding the financial year. In order to establish the partial budgetary projections of that global proposition, the Insurance Committee mentions for the sectors concerned, in proportion to the technical estimates and according to the case, either the amount to be saved (and the concrete corresponding saving measures, with the date at which they will take effect), or the amounts corresponding to positive measures (and a description of these measures, with the date at which they will take effect). If there is no proposition on the first Monday of October, the General Management Committee is empowered to establish the partial projections.

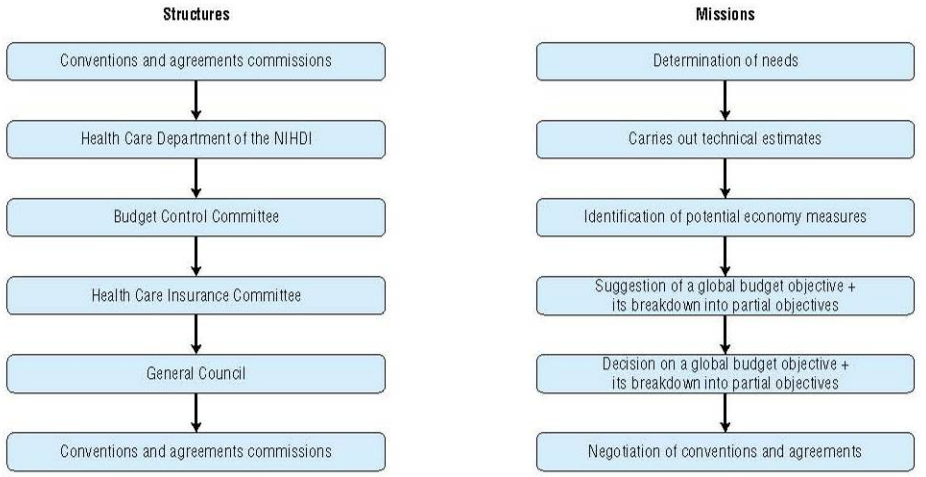
(5) Determining the budget. Considering the global proposition of the Insurance Committee and the savings measures suggested by the Budget Control Commission, the General Management Committee approves the annual global budgetary projection of the health insurance as well as the annual partial budgetary projections of the conventions and agreements committees. This occurs no later than the third Monday in October of the year preceding the financial year. To approve the global budgetary projection, the General Management Committee must take into consideration the real growth rate (4.5% since 2004), the health care index and the influence of the algebraic differences.

The General Management Committee also approves the structural savings (content of the measures, annual amount and date when the measures will take effect) which are necessary to comply with the growth rate and the increase of the health care index. The Committee suggests the global budgetary envelopes (called the budgets of financial means) for some services (or groups of services) to which that envelope applies (e.g. the envelope for pharmaceuticals).

If the budgetary projection is not approved, the General Management Committee informs the Minister of Social Affairs. In that case, the Council of Ministers fixes, on the proposal of the Minister, the amount of the annual budgetary projection of the health insurance, the partial projections and the global budgets of financial means for the provisions (or group of provisions) to which that system applies.

(6) Negotiating conventions and agreements. After approving the global budgetary objective and its breakdown into partial budgetary objectives, this decision is notified to the Insurance Committee and the various conventions and agreement commissions. That is when the negotiations start in the various conventions and agreement commissions in order to conclude new conventions/agreements or to adapt existing conventions/agreements. This process has to be terminated before the start of the new budgetary year. (See also Section 3.6.2 *Paying health care professionals.*)

Fig. 3.6: The budgetary process



3.3.3.1 *Controlling expenses*

An important instrument in the budgetary process towards controlling the expenses is the so-called audit reports. The audit allows for systematic reporting of the evolution of expenditure for each sector, irrespective of any budget overrun. The audit gives information on: the difference between the fixed budget and the evolution of expenditure; savings measures; the initiatives of the government and the conventions and agreements commissions; and the evolution of the most important areas of activity within a health care sector.

Another important instrument in controlling expenses is the competence of the Minister of Social Affairs as well as the General Board (possibly at the suggestion of the Commission for Budget Control) to suggest economy measures at any time in order to observe the partial budgetary provisions. The conventions and agreements commissions concerned have 30 days, starting from the notification of these measures, to make comments and to forward them either to the Minister of Social Affairs or to the General Board, depending on the case.

3.3.3.2 *Financial accountability of sickness funds*

Since 1995, Belgian sickness funds have been made more financially accountable for the expenditure of their insured members while being compensated for differences in risk structure. They receive a prospective budget to finance the health care costs of their members and are held financially responsible for a proportion of any discrepancy between their actual spending and their so-called normative, that is, risk-adjusted health expenditures. This risk-adjustment system is based on the results of a regression analysis with demographic and socioeconomic variables, such as insurance status (pensioners, disabled, widows), age, sex, household composition, unemployment rate, income, mortality rate, degree of urbanization, morbidity criteria and work disability status. Furthermore, the model has shifted from a more aggregated level to a more individual level. The main proclaimed purpose of this system is to increase cost-effectiveness through a more active role of competing sickness funds while guaranteeing a level playing field.

This reform has been introduced gradually because none of the important players in the system wanted to question the crucial importance of equity and equal access for all citizens. The gradual process of giving the sickness funds financial responsibility began in 1995 with the implementation of a risk-based capitation formula as a partial basis of funding for the sickness funds. In the years 1995–1997, 10% of the funds' total budget was allocated on a prospective basis, rising to 20% in 1998–1999 and 30% since 2000. The remaining proportion of the budget is retrospectively allocated on the basis of the share of expenditure of each sickness fund. The proportion of any discrepancy between received budget and actual spending for which funds were to be held responsible was limited to 15% in 1995–1997, 20% in 1998–1999 and 25% since 2000. However, their financial accountability for the deficit can never exceed 2% of the total budget.

Sickness funds are not to be held responsible for any deficits caused by external factors such as wage increases granted to health care personnel.

In order to cover for potential deficits, social insured members are obliged to pay a nominal premium to the reserve fund, amounting to at least €4.46 per policyholder (Act of 14 July 1994). If a sickness fund has incurred a surplus, its individual share is automatically paid into this reserve fund.

3.3.4 Purchasing and purchaser–provider relations

In Belgium, purchaser–provider relations are based on "indemnity insurance". In this case, no contractual arrangements exist between insurers and providers (Colombo 2004). Although no direct price controls for the remuneration of providers exist, fees are established between the sickness funds and the representatives of the physicians (for more information see Section 3.6.2 *Paying health care professionals*). Physicians who do not agree with this convention (non-conventioned physicians) can set fees freely. In 2009, almost 80% of physicians accepted and implemented the fees established in the agreement (NIHDI 2010b). For conventioned physicians who do not respect the established fees, financial sanctions can be enforced (Moniteur Belge 1994). However, there is little information on the extent to which these sanctions are actually put into practice.

3.4 OUT-OF-POCKET PAYMENTS

3.4.1 Cost-sharing (user charges)

For outpatient care, patients are in principle required to pay upfront the full fee and then claim reimbursement from their sickness fund. For inpatient care and medicines purchased in pharmacies, the third-party payer system applies and patients only pay user charges. User charges can be either official and provided by law, or supplements charged on top of official user charges, which are allowed under certain conditions (see in particular Subsection *Patient contributions* at the end of Section 3.6.1 *Paying for health services*).

Co-payments vary from service to service but are equal for everyone, with the exception of patients with preferential reimbursement who pay reduced co-payments. Co-payment rates are about 25% for GP consultations, 35% for GP home visits and 40% for specialist consultations, physiotherapy, speech therapy, podology and dietetics. The co-payment for preferential reimbursement rate beneficiaries depends on the type of service and amounts to about 10% for GP consultations, about 15% for specialist consultations, and about 20% for physiotherapy, speech therapy, podology and dietetics.

Before July 2007, in order to qualify for preferential reimbursement, a patient had to belong to a socioeconomically vulnerable group and earn less than a minimum income threshold. People and their dependants defined as socioeconomically vulnerable groups are: pensioners, widowers/widows, orphans, disabled people receiving a disability benefit, long-term unemployed aged 50 years and older with at least one year of full unemployment, civil servants who are made redundant because of illness or infirmity for at least one year, disabled children entitled to increased child allowance, and people entitled to one of the following allowances: integration or income replacement for disabled persons, income guarantee for the elderly, disability benefit, subsistence level income (leefloon-revenue d'intégration), support from the public municipal welfare centre (OCMW-CPAS) and allowance for assistance for the elderly.

On 1 July 2007, the system was extended (now called the OMNIO system) and the socioeconomic group criterion was abolished. In 2009, in order to qualify for preferential reimbursement the gross annual taxable income of the household (or isolated person) must not exceed €14 339.94 + €2654.70 per dependant (NIHDI 2009c).

Concerning medicines, about 2500 pharmaceuticals are reimbursable in Belgium. In the case of pharmaceuticals obtained from a pharmacy, the patient pays co-insurance (i.e. the patient pays a certain fixed proportion of the cost of a service and the third-party payer covers the remaining proportion).[q] The percentage is determined by the pharmaceutical category, which reflects the social importance of the pharmaceutical, pharmacotherapeutic criteria and price criteria. A distinction is made between category A (pharmaceuticals for serious and long-term illnesses), B (socially and medically useful pharmaceuticals), and C (socially and medically less useful pharmaceuticals). The different rates are given in Table 3.7.

Table 3.7: Co-payments for outpatient pharmaceuticals on 1 January 2009

Reimbursement category	Non-preferential treatment	Preferential treatment
A–vital drugs (e.g. insulin for diabetics, cancer drugs, antiretrovirals)	100% reimbursement, no co-payment	100% reimbursement, no co-payment
B–therapeutically significant drugs for non-life-threatening diseases (e.g. antibiotics, antiasthmatics, antihypertensives)	75% reimbursement, co-payment: 25% with a maximum of €10.80 (€16.10 when there are generics/copies)	85% reimbursement, co-payment: 15% with a maximum of €7.20 (€10.80 when there are generics/copies)
B large package size–therapeutically significant drugs for non-life-threatening diseases (e.g. antibiotics, antiasthmatics, antihypertensives)	75% reimbursement, co-payment: 25% with a maximum of €13.50 (€24.20 when there are generics/copies)	85% reimbursement, co-payment: 15% with a maximum of €8.90 (€16.10 when there are generics/copies)
C–therapeutically less significant drugs for systematic treatment (e.g. antiemetics, spasmolytics)	50% reimbursement, co-payment: 50% with a maximum of €13.50 (€24.20 when there are generics/copies)	50% reimbursement, co-payment: 50% with a maximum of €8.90 (€16.10 when there are generics/copies)
Cs–drugs used in certain chronic illnesses (e.g. drugs used in coronary heart disease), antihistamines and vaccines	40% reimbursement, co-payment: 60% without maximum	40% reimbursement, co-payment: 60% without maximum
Cx–contraceptives and antispasmodics	20% reimbursement, co-payment: 80% without maximum	20% reimbursement, co-payment: 80% without maximum
D–non-reimbursable drugs	0% reimbursement, co-payment: 100%	0% reimbursement, co-payment: 100%

Source: NIHDI 2009c.

Moreover, a system of reference reimbursement has been developed. With this system, the basis of reimbursement of an original pharmacological product for which there is a less expensive version (often a generic or a "copy") is decreased. From 1 July 2005, the decrease is 30%. This implies that the patient will pay a reference supplement when the more expensive medication is prescribed. From 1 January 2009, the basis of reimbursement for original pharmaceutical products which have been in the system of reference reimbursement for two years undergoes a further decrease of 2.5% (NIHDI 2009c).

[q] It should be noted that in the rest of this report, the term "co-payment" is used to refer to both co-payment and co-insurance. Both are cost-sharing arrangements which require the individual covered to pay part of the cost of care. A co-payment refers to a fixed fee (flat rate) per item or service and a co-insurance refers to a fixed proportion of the total cost.

For inpatient care, a patient's out-of-pocket payments consist of:

- a flat rate per day for hospitalization;
- a room supplement when the patient has requested a single or double room;
- the physician's fee supplements for non-conventioned physicians or for conventioned physicians (conventioned physicians can only ask for a fee supplement when the patient has requested a single room);
- costs of certain non-reimbursable medical products or pharmaceuticals; and
- a flat rate charge per day for pharmaceuticals (€0.62/day), and flat rate charges per inpatient stay for biological tests (€7.44/stay), for radiology (€6.20/stay) and for technical acts (€16.40/stay).

3.4.2 Maximum billing (MAB-MAF)

In 1993, within the context of the economic recession, it was decided that there should be a significant increase of the legal co-payments. Because of the increase in the financial burden for patients and the induced (short-term) volume decrease, especially for visits to and consultations with GPs, the government decided in 1994 to introduce a "social and fiscal exemption", in order to put a ceiling on the total amount of co-payments to be paid. However, although access has been improved, there were still certain categories of people for whom costs for health care remained a problem. The system did not meet the needs of two high-risk groups in society: people with chronic illnesses and people who belong to a family with a low or modest income and who do not belong to a specific social category with protective measures.

On 5 June 2002, MAB was therefore introduced alongside the existing preferential reimbursement levels. The MAB is set according to the family's net income, such that each household has an annual out-of-pocket maximum for all "necessary health care expenses" (see Table 3.8). As soon as expenses reach the set ceiling, any further health care costs are covered in full by the health insurance fund for the remaining part of the year. This measure therefore improved the out-of-pocket maximum, already introduced under the social and fiscal exemption mechanism for certain vulnerable categories, by extending the scheme to all households and to other types of user charges.

MAB covers the following health care costs:

- non-refundable health care expenses, up to the officially agreed fee, relating to physician consultations and visits, and those relating to all technical treatments by GPs and/or specialists, physiotherapists, nursing staff and paramedics;
- non-refundable health care expenses relating to necessary pharmaceuticals (i.e. categories A, B and C) and personal contributions towards costs for pharmaceuticals in hospitals;
- personal contributions towards the per diem rate paid for inpatient care, limited to the first year in a psychiatric hospital; and
- non-refundable medical expenses relating to certain types of expensive medical devices (NIHDI 2009c).

There are currently three types of MAB:

- social MAB: a threshold of €450 is applied at the household level for specific vulnerable groups; it is applicable to households with at least one individual with preferential reimbursement or who is entitled to an allowance for disabled persons; as soon as the limit of €450 is exceeded, the co-payments are reimbursed;
- MAB for children: a threshold of €650 is applied at the level of the child; all children under 19 years with total co-payments of €650 become individually entitled without taking into account family income; and
- income MAB: the principle of MAB is applied in a gradual way according to net family income (see Table 3.8).

Table 3.8: Means-tested annual out-of-pocket maximums, 2009

Net family income	Out-of-pocket maximum
Up to €16 114.10	€450
€16 114.11 – €24 772.41	€650
€24 772.42 – €33 430.75	€1 000
€33 430.76 – €41 728.30	€1 400
Above €41 728.31	€1 800

Source: NIHDI 2009c

3.4.3 Fixed payments to patients

In order to protect people who can be expected to have high medical expenditure, for example chronically ill patients, fixed payments systems have also been introduced by Royal Decree. These have included those for chronically ill patients (Royal Decree of 2 June 1998), for incontinence material (Royal Decree of 2 June 1998), for palliative treatment at home (Royal Decree of 2 December 1999) and for patients in a persistent vegetative state (Royal Decree of 18 November 2005). Additional measures taken after 2007 are described in Chapter 6.

3.4.4 Solidarity fund

From 1990, the Special Solidarity Fund was established at the NIHDI in order to grant additional reimbursement for patients with a rare illness or who need a very specific treatment. Additional reimbursement is possible for: (a) a rare indication or (b) rare disorder, (c) a rare disorder which needs continuous and complex care, (d) the application of innovative medical aids or treatments (excluding pharmaceuticals), (e) chronically ill children and (f) some treatments abroad (NIHDI 2006). For each case, specific conditions must be fulfilled and the total reimbursement is set according to the availability of funds.

3.5 VHI

VHI represents approximately 5% of total health expenditure (see also Section 3.2 *Sources of revenue and financial flows*). The sickness funds provide two kinds of additional insurance for their members beyond the compulsory health insurance – the so called "complementary" and "voluntary" insurance. VHI is also provided by private profit-making insurance companies.

The expenditures covered by complementary insurance are determined by each sickness fund. Depending on the sickness fund, a member can automatically be insured by the "complementary" insurance (mandatory membership) and thus has to pay the extra premium. The services covered include orthodontics, homeopathy, osteopathy and supplements for hospitalization in a double room among others. The market for complementary health insurance provided by sickness funds has grown steadily from €494 million in 1995 to €774 million in 2007, with an annual average increase of 3.6% (see Table 3.9) (Avalosse 2009).

Table 3.9: Evolution of expenditure covered by additional insurance of the sickness funds (in million €), 1995–2007 (selected years)

	1995	2000	2005	2006	2007
Complementary insurance	494	539	705	751	774
Voluntary hospitalization insurance	59	91	155	174	190

Source: Avalosse 2009

The second type of additional insurance provided by the sickness funds is "voluntary" insurance (which could be classified as supplementary insurance). Health care costs, such as hospital costs (not covered by the "complementary" insurance), are covered.

Sickness fund members take out this insurance mostly in order to cover the expenses for hospitalization in a single room. Some form of risk selection is possible, but it differs between the sickness funds. Expenditure covered by this voluntary hospitalization insurance has grown from €59 million in 1995 to €190 million in 2007 (see Table 3.9) (Avalosse 2009).

Since 2007, sickness funds are prohibited from refusing people under 65 years old and people with pre-existing diseases or disorders (Royal Decree of 11 May 2007). In addition since 2008, differential payments according to gender were abolished (law of 21 December 2007).

VHI is also provided by private profit-making insurance companies. Group hospitalization insurance policies are collectively organized and risk selection on this type of insurance is therefore difficult. They are set up annually, often as a result of negotiations between the social partners (employers and trade unions). Individual VHI is characterized by tariff segmentation and selection of risks.

Since 2007, sickness funds and private insurance companies are prohibited from refusing people under 65 years old with pre-existing diseases or disorders. Sickness funds are now allowed to reduce the benefits for pre-existing diseases or disorders to, for example, €12.50 per hospital day. Private profit-making insurance companies may exclude pre-existing diseases and disorders as a whole in conditions enumerated by the law (law of 20 July 2007 and law of 11 May 2007). In addition, since 2008, differential payments according to gender were abolished (law of 21 December 2007).

Private companies provide a variety of insurance with three main subdivisions related to health, including: guaranteed income, insurance for dependants and health insurance, of which 74.2% in 2008 was hospitalization insurance. This type of insurance can be clustered in an individual contract or in a collective contract (paid by employers) and mostly provides for the coverage of costs charged to patients during a hospital stay.

The compound annual growth rate of the number of people with a private individual or group VHI was 4.6% between 2001 and 2008. In 2008, there were 5.3 million affiliated members providing a turnover of €826.2 million (compared to €490.5 million in 2003) (Assuralia 2010). This large increase can be attributed to the fact that some employers provide this type of insurance as an added benefit for employees.

Expenditures covered by private VHI have grown from €134 million in 1995 to €609 million in 2008 (see Table 3.10). The insurance companies are supervised by the Banking, Finance and Insurance Commission (CBFA).

Table 3.10: Evolution of expenditure covered by private VHI (in million €), 1995–2008 (selected years)

	1995	2000	2005	2006	2007	2008
Costs covered by individual contracts	36	78	149	157	174	183
Costs covered by collective contracts	98	181	344	361	394	426
Total	**134**	**258**	**493**	**518**	**568**	**609**

Source: Avalosse 2009.

In September 2008, the European Commission told the Belgian government to adapt the complementary insurance system of the sickness funds so as to comply with European guidelines. This has resulted in a new regulation of the sickness funds' complementary insurance products.

3.6 PAYMENT MECHANISMS

This section describes payment mechanisms for health services and health care personnel. Payment mechanisms for pharmaceuticals are discussed in Section 3.4 *Out-of-pocket payments* and Section 5.6 *Pharmaceutical care*.

3.6.1 Paying for health services

3.6.1.1 Paying for hospitals

General structure of the Belgian hospital financing system

The basic feature of the Belgian hospital financing is its dual financing system according to the type of services provided.

- Services of accommodation (nursing units), emergency services (anaesthesia, sterilization, operating room, plaster room) and nursing activities in day hospitalizations are financed via a fixed prospective budget system based on so-called "justified activities".
- Medical and medico-technical services (consultations, laboratories, medical imaging and technical procedures) and paramedical activities (physiotherapy) are mainly paid via a fee-for-service system to the service provider.

Together, these two remuneration systems account for almost 80% of a hospital's revenue (see also Table 3.11).

Hospitals receive additional funding from:

- outpatient and inpatient sale of pharmaceutical products (financed per unit or pack);
- a prospective budget for pharmaceuticals for inpatient care;
- specific ambulatory activities, such as day care, dialysis and rehabilitation, which are mainly reimbursed per patient via lump sums;
- subsidies for investments from the federated authorities (communities);
- supplements charged to patients;
- non-hospital activities, such as commercial operations and homes for the elderly, nursing homes, cafeteria, newspaper shop, etc.; and
- private legacy or corporate grants.

An additional complexity of the system concerns the distinction made between so-called "net" and "all-in" fees. Net fees only cover activities performed by physicians. They are applicable to the provision of surgical, anaesthesia and emergency services. The remaining costs of nonmedical staff, consumables and infrastructure are paid in these services via the hospital budget. Therefore, among the services charged to the hospital budget, physicians are still paid via a fee-for-service system. For services other than surgical, anaesthesia and emergency services, the "all-in" or global fees cover all costs relating to the medical provision. This means that each additional provision again results in the integral financing of all costs.

Table 3.11: General hospitals' revenue distribution in % (2007, aggregated average)

Revenue	**100%**
Hospital budget	38.8%
Pharmaceutical products	15.3%
Physicians' fees	40.0%
Other	5.9%

Source: Dexia 2009.

The next sections will provide a description of the financing mechanism of nonmedical activities and of the other sources of hospital financing.

Financing of nonmedical activities

The current financing of nonmedical hospital activities is based on the reforms introduced in 2002. Between the Hospital Act of 23 December 1963, which was the first law to determine a per diem rate per hospital and per department, and the reform of 2002, hospital financing was characterized by a gradual move from a retrospective cost-based system towards prospective financing. During this period, the "per diem rate" and "day quota" (i.e. the number of days a hospital should provide given certain predefined parameters) were the central concepts in the financing system. Since 1994, pathology information has also been used to determine the hospital budget. Since 1986 an annual national budget is set for hospitals' operating costs. This closed-end budget is paid to the hospitals by the compulsory health insurance system via the sickness funds. Detailed information on the history of financing of hospital activities can be found in the previous edition of the HiT report on Belgium (Corens 2007) and in KCE report 121 (Van de Sande et al. 2010).

Since 1 July 2002, the concepts of per diem rate and day quota have disappeared and there has been a gradual switch to the notions of "justified activities" and "justified beds", with a focus on pathology-weighted length of stay (LoS). The new system places less emphasis on the structure of a hospital but focuses more on its activity as expressed in terms of treated pathologies and justified beds.

In order to determine a hospital's justified patient-days the case mix of each individual hospital is multiplied by the national average LoS per pathology group, called the "justified LoS". This LoS is defined by the federal government and is based on the hospital discharge dataset called MCD-MKG-RCM, which captures patient characteristics, diagnoses, interventions and hospital LoS. In order to have a stable LoS, a reference period of three years is used. For outliers, stays with a LoS above Q3 + 2 x (Q3–Q1), different financing rules are defined. Per department or group of departments, the number of justified patient-days is divided by 365 to translate the days into the "justified beds" and by the normative capacity utilization of a service (e.g. 70% for paediatrics and maternal wards; 90% for geriatric wards and 80% for surgical wards). This is the volume part of the hospital's budget.

COMPONENTS OF THE HOSPITAL BUDGET

The second part is the cost part of the hospital budget. The budget part is composed of three major parts (A, B and C), which are further divided into subparts. The share of each (sub-)part in the total budget is given in parentheses.

- Part A (capital costs) (8%) consists of investment charges (A1), short-term credit burdens (A2) and investment charges for some medico-technical services (A3), which are exclusively financed via the hospital budget (not via fees).
- Part B (operational costs) (more than 90% of the budget) mainly covers:
  - B1 common operational costs (administration, maintenance, laundry) (30%)
  - B2 clinical costs (personnel and medical equipment) (40–50%)
  - B3 medico-technical departments (radiotherapy, MRI and PET scans) (1%)
  - B4 some specific (mostly) lump sum costs (as a result of legal obligations), e.g. hospital hygiene, quality assessment, palliative care and recording of hospital data
  - B5 pharmacy costs (2%)
  - B6 costs for carrying out the social agreements for personnel not included in the budget of financial means (2%)
  - B7 extra costs for teaching hospitals or university function of the hospital (applied scientific research, the development of new technologies and the training of specialists) (3%)

  - B8 specific costs for patients with a weaker socioeconomic profile or social function of the hospital (0.5%)
  - B9 extra-legal financial benefits.
- Part C (corrective measures).

CALCULATION OF THE INDIVIDUAL HOSPITAL BUDGET

The distribution of the national hospital budget to the individual hospitals is based on a very multifaceted calculation. Each budget component has its own calculation method with its own determining parameters. Here we focus on the calculation of the budget for B2, since this is the main part of the hospital budget. The budget (B2) consists of two major parts: a basic part based on justified beds and a supplementary part based on activity and care profile. For the calculation of both parts a point system is used. The starting point for the basic part is the number of justified beds and the minimal nursing staff ratios that have been set in the past for various types of nursing departments (e.g. 0.58 FTE/justified bed for maternity and 2 FTE for intensive care). This basic financing is called the "functional" part of the budget. The annual global prospective budget for hospitals is divided by the total number of financial B2 points earned by all hospitals. This results in a financial value per point and allows the final budget calculation for each hospital. In 2009, the financial value of a B2-point was €22 519.

The supplementary part is developed for specific nursing departments (surgery and internal medicine, paediatrics). Each hospital earns supplementary points according to its relative position among all hospitals. All hospitals are ranked according to their nursing profile and according to their profile based on medical interventions. Hospitals are divided in deciles in accordance with their ranking and points are allocated. The number of supplementary points per justified bed that can be allocated varies from 0 points for the lowest decile to 0.34 points for the highest decile for surgery and internal medicine, or 0.38 points for paediatrics. This means that for hospitals in the highest decile the budget is augmented by an amount ranging from 34% to 38%. The supplementary part is called the "activity" part of the budget.

PAYMENT OF THE INDIVIDUAL HOSPITAL BUDGET

The payment of the budget of financial means of a hospital contains two parts: a fixed part and a variable part. The fixed part is paid by the sickness funds on the basis of monthly advances (the so-called provisional twelfths), depending on the share of each sickness fund in the total expenses of the hospital (in the most recent financial year). This part includes 80% of subparts B1 and B2, and 100% of all other parts. The variable part, including 20% of subparts B1 and B2, is paid according to the number of admissions (10% of the budget) and the number of nursing days (10% of the budget) for the general hospitals, and exclusively according to the number of days (20% of the budget) for the other hospitals, by an invoice. This invoice is submitted by the hospitals to the sickness funds for all patients enrolled in a sickness fund; for patients not enrolled in a sickness fund, the invoice (with the full day-price) is sent to the paying authorities (such as work accident insurance). The amounts per admission and per nursing day are hospital-specific and also depend on the type of hospital stay (e.g. acute care, palliative care). They are adapted twice a year.

Other sources of hospital financing

CAPITAL FINANCING

Hospital investments are included in the hospital budget (A1, A3 and C1). Subpart A1 contains investments in real property consisting of investments that increase the patrimony and replacement investments. Although the distinction between the two categories of investments is not always clear, it is important, since the first category can in principle be subsidized by the federated authorities while this is not the case for the second category.

Federated authorities are allowed to enact own rules concerning hospital financing. In the Flemish region these rules are summarized in the Flemish Infrastructure Fund for Personal Affairs (VIPA), the Brussels-Capital region has its own rules and in the Walloon region the federal rules apply since no new rules were enacted. Regional authorities can subsidize 60% of hospitals' capital investments. The remaining part is covered by federal authorities via the hospital budget (subpart A1) if the investment is mentioned on the building calendar (which determines the maximum budget at the federal level, the division of the budget at the regional level and the investments which will be subsidized per year and per hospital) and if the investment is subsidized by the regional authority.

MEDICO-TECHNICAL SERVICES

LABORATORY TESTING

To counter the increasing expenditures during the 1970s and 1980s, a fixed national budget for laboratory testing (1988) was introduced, with a differentiation between the inpatient sector and the ambulatory sector. A mixed financing system was introduced. Financing partly consists of fee-for-service payments and, for the greater part, of lump sum payments. The lump sum payments for hospitalized patients contain a daily rate and a lump sum per admission. Both rates are independent of the number of performed tests. For ambulatory patients the lump sum is related to the type and the number of performed tests and consists of a lump sum per day for prescriptions and a lump sum per admission for day care. The lump sum per day for hospitalized patients is hospital-specific and depends on the case mix of each hospital. It consists of pathology information (APR-DRG) (40%); mean national expenditure per type of hospital stay (multiplication of the number of nursing days per type of stay and the national average expenses of clinical biology per day per service group) (40%); number of intensive care beds in the hospital (10%); organization of a permanent duty service (24/7) of laboratory technicians (10%). Lump sums per admission consist of a basic lump sum and an additional lump sum related to the characteristics of the laboratory of the hospital (e.g. number of staff, emergency department).

MEDICAL IMAGING

The payment for medical imaging is similar to the payment for laboratory testing, with a fixed national budget and lump sum payments. Since April 2009, the lump sum per admission is determined by the case mix of the hospital (APR-DRGs and severity level) and by the national average expenses for medical imaging per hospital stay. Hospitalized patients pay a lump sum per admission and a lump sum consultancy fee, independent of the number of performed medical imaging services. Ambulatory patients and patients in day care pay a consultancy fee related to the number of medical imaging services used.

DAY CENTRES

DAY CARE

In this section only the financing of day care will be discussed; further explanation on day care can be found in Section 5.4.2 *Day care*. The agreement between the hospitals, sickness funds and the NIHDI defines a day hospital as "an organized and integrated function of day care under the supervision of a medical specialist with fixed procedures concerning selection of patients, safety, quality, continuity, reporting and cooperation with several medico-technical services".

Since 1988, day care has been financed by lump sums (mini, maxi, super, plaster room, A, B, C and D). The national agreement (1 July 2007) introduced some new lump sums, resulting in the following summary (amounts for 2009):

- Mini lump sum: is hospital-specific and can be charged in case of urgent admission or intravenous therapy for therapeutic reasons.
- Maxi lump sum: is hospital-specific and can be charged in case of general anaesthesia or the administering of chemotherapeutic agents.

- Day hospital lump sum: contains seven groups of lump sums (equivalent to a selection of nomenclature codes); payments vary between €140 and €247.
- Lump sum "chronic pain": contains three lump sums with corresponding nomenclature codes; payments vary between €72 and €196.
- Lump sum "plaster room": fixed amount of €26.10.
- Lump sum haemodialysis (further explained in the next section, on the NIHDI conventions).

DAY-SURGERY CENTRE

The financing of day-surgery centres is included in the hospital budget. The general costs are included in part B1 and costs specific to the day-surgery centre and its activity in the operating room are included in part B2. Two types of stays are defined as justified activities:

- stays in day care for which at least one surgical nomenclature code from a specified list (list A) was recorded; and
- stays in day care for which at least one nomenclature code from a specified list (list B) was recorded.

Unjustified inpatient stays meet all of the following criteria:

- one of the 32 selected APR-DRGs
- an inpatient stay
- a scheduled admission
- maximum length of stay of three days
- severity of illness rate of 1 (minor)
- no decease during the stay
- a risk of mortality rate of 1 (low)
- patient's age under 75 years.

NIHDI CONVENTIONS

HAEMODIALYSIS

Haemodialysis performed in a recognized centre for chronic dialysis (in a hospital) is financed by a lump sum with an additional fee of 20% of the hospital's per diem rate (defined on 30 June 2002) and by fee-for-service payments. The lump sum is a variable amount depending on the proportion of patients treated with alternative dialysis modalities. More detailed information about the financing of haemodialysis modalities in Belgium can be found in KCE report 124 (Cleemput et al. 2010).

REHABILITATION CONVENTIONS

The financing of rehabilitation conventions with hospitals or rehabilitation centres consists of lump sum payments. An explanation of the content of the rehabilitation conventions can be found in Section 5.7 *Rehabilitation care*.

PATIENT CONTRIBUTIONS

Inpatient care is covered by the third-party payer system. While the bulk of the cost of treatment is directly paid by the sickness fund to the hospitals, out of pocket payments of patients consist of two parts, co-payments and supplements.

A co-payment is defined as the difference between the convention tariff and the reimbursement by the NIHDI. Health care providers can charge a higher tariff than the official tariff (NIHDI reimbursement + co-payment), resulting in supplementary payments by patients. Hence, supplements are defined as the difference between the total payments and the convention tariff. In the case of services lacking a convention tariff (i.e. services not covered by the compulsory health insurance), the patient pays the full price out of pocket. Several supplements exist for hospitalized patients: fee supplements for (para)medical services, room supplements, material supplements, supplements for (para)pharmaceutical products (not included in the nomenclature code) and supplements for diverse items (e.g. telephone, television, refrigerator). Supplements have been regulated by the government. A detailed description of hospital supplements can be found in KCE report 50 (De Graeve et al. 2006).

The fee schedules for physicians are determined in agreements between representatives of the sickness funds and of the organizations of physicians. Physicians who accede to the agreements have to adhere to the fee schedule as determined in the nomenclature. For hospitalized patients staying in a shared room or a two-person room, physicians who have joined the agreement cannot charge fee supplements. Only in a single room are fee supplements allowed. Physicians who reject the agreement can charge supplements, irrespective of the choice of room of the patient, but patients have to be told about this and a maximum supplement has to be agreed. In addition, they have to respect agreed tariffs in two-person or shared rooms for specific vulnerable groups, such as beneficiaries of preferential reimbursement and patients who are eligible for the lump sum for chronic diseases. For patients staying in a single room, there is still a limitation on the fee supplements that can be charged. For physicians who have joined the agreement, fee supplements are not allowed when the medical condition of the patient, or the technical conditions for investigation, treatment or supervision necessitate a stay in a single room; when the necessities of the service or the unavailability of two-person or common rooms require a stay in a single room; when the patient is, beyond his or her control, admitted to an emergency unit or intensive care unit for the duration of the stay in such a unit; for children accompanied by a parent. For physicians who rejected the agreement, the rules applicable in a two-person or shared room apply in the above-mentioned cases.

Room supplements can only be charged if the patient asks to stay in a single room. There is no legally determined upper limit. Room supplements for a two-person room were abolished on 1 January 2010. Moreover, as specified in the previous paragraph, room supplements for single rooms are not allowed for physicians who joined the agreement under certain conditions (e.g. when the medical condition of the patient, or the technical conditions for investigation, treatment or supervision necessitate a stay in a single room, etc.).

3.6.2 Paying health care professionals

Tariffs and fees for services provided by health professionals within the context of compulsory health insurance are fixed collectively within the NIHDI between sickness funds and the representative organizations of health professionals. These price agreements (for physicians and dentists) and conventions (for other health care professionals) are embedded within a budgetary procedure (see Section 3.3.3 *Pooling of funds*).

3.6.2.1 Physicians

Delivery of health care in Belgium is mainly private. Physicians are self-employed, as are most dentists, pharmacists and physiotherapists. Most physicians, whether GPs or specialists, are paid on a fee-for-service basis. The patient pays the set fee for the consultation directly to the physician, and patients are then directly reimbursed by their sickness funds.

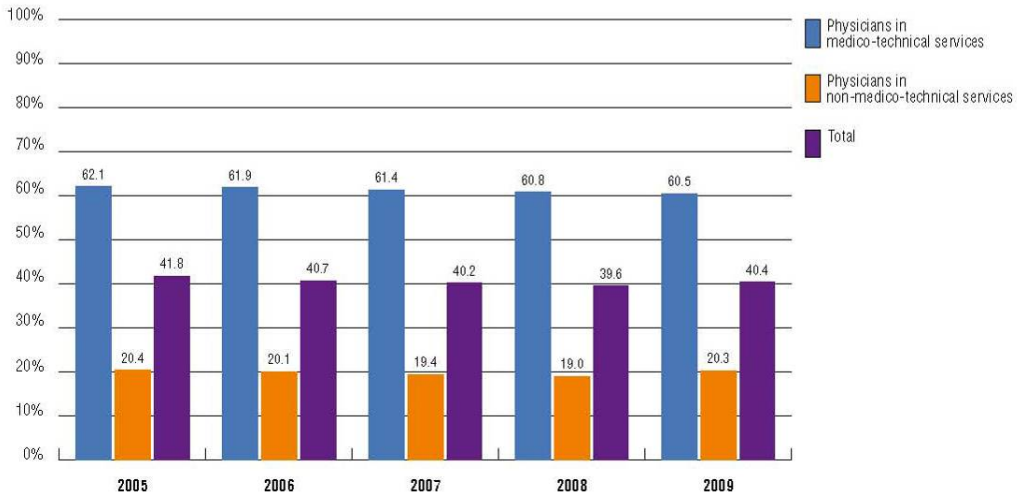
Less than 1% of physicians with a clinical practice are salaried. Most of these salaried physicians work in medical practices of integrated health care which are owned and managed by the physicians themselves, and where usually (though not always) the physicians are paid by the NIHDI according to a capitation payment. The rest of the salaried physicians provide other medical and social services such as preventive care, and may work in hospitals (mostly university hospitals).

Specialists working in hospitals are also paid on a fee-for-service basis. The fee-level for specialists working in hospitals is the same national negotiated fee-level as for office-based specialists. In theory, the fees are paid (by a combination of patients and sickness funds) directly to the physicians themselves. However, in practice, specialists sign an agreement with the hospital in which they work, allowing the hospital to retain a significant proportion of the fees as compensation for the space, equipment, staff and overhead services provided to the physician.

The extent of fee-sharing between the hospital and the specialist is variable and depends on elements such as relative scarcity/abundance of specialists in that specialty, extent of hospital facilities, the hospital's reputation, the specialist's reputation and experience. A system of pooled fees works in most hospitals too, that is, all fees received by all physicians working within the hospital are pooled and redistributed monthly. Medical fees cover all costs directly or indirectly linked to the performance of medical services (Article 154 of the Hospital Act, Coordinated Law of 10 July 2008). These include the cost of medical, nursing, paramedical, caring, technical, administrative, maintenance or other supportive staff, as well as the costs related to the use of rooms, the purchasing and maintenance of equipment, and materials not included in the budget of financial means (Van de Sande et al. 2010).

Based on a survey among hospitals, data could be retrieved on the contribution of physicians to hospitals (Dexia 2010). In 2009, the average contribution percentage of hospital physicians was around 40% (sample size = 70 hospitals). As shown in Fig. 3.7, physicians working in medico-technical services (e.g. radiology, laboratory or biology services) ceded on average around 60% of their fees to the hospital while physicians working in non medico-technical services (e.g. in surgery or obstetrics services) only ceded on average 20% of their fees to the hospital. This difference can mostly be explained by the higher operating and investment costs of a medico-technical service.

Fig. 3.7: Contribution percentage of hospital physicians (aggregated average), 2005–2009

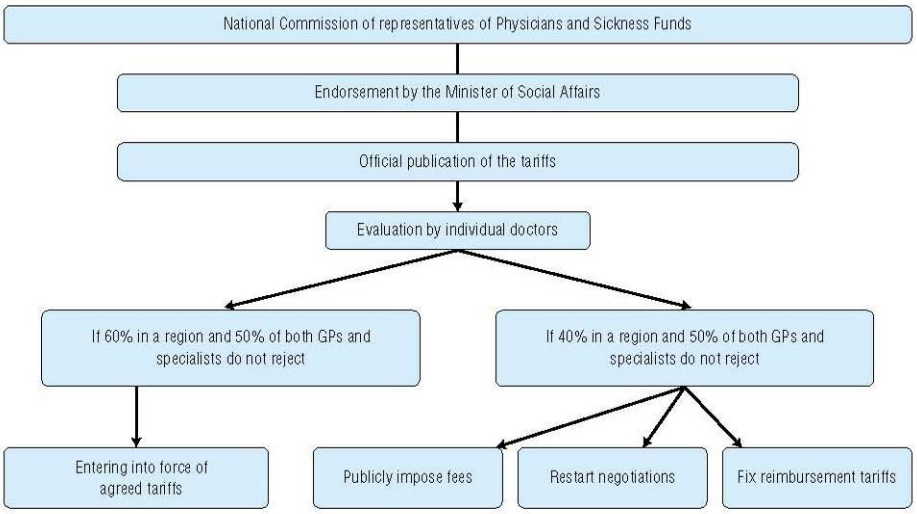


Source: Dexia 2010.

In university hospitals where physicians are salaried, physicians receive a monthly salary independent of their activity. Consequently, it is important to stimulate medical activity and financial awareness by other means, for example by linking a growth of medical staff to a sufficient growth of fees or activity (Van de Sande et al. 2010).

The fees for GPs, specialists in hospitals and office-based specialists are negotiated at the national level in the National Commission of Representatives of Physicians and Sickness Funds of the NIHDI (see Section 3.3.3 *Pooling of funds*). The resulting agreement needs the endorsement of the Minister of Social Affairs and is normally concluded for a two-year period. The agreement is then referred to all individual physicians for approval. The agreement enters into force unless more than 40% of all physicians within a region have notified their refusal to adhere to it, or if more than 50% of GPs and 50% of specialists have refused to adhere to it. If the agreement is rejected, the government has three options: to impose fees unilaterally for some or all services; to submit an alternative draft agreement; or to set the reimbursement levels, leaving physicians free to set their own fees (see Fig. 3.8). As an incentive for physicians to adhere to the conventional tariffs, the NIHDI contributes to a fund for granting additional old age or disability pensions to providers who respect the conventional tariffs.

Fig. 3.8: The collective contracting mechanism for physicians



Source: Palm and Robert 1995.

When the agreement comes into force, each physician who has accepted the agreement becomes a conventioned physician and is obliged to respect the set fees. Non-conventioned physicians can set their fees freely. However, the agreement will also set certain conditions under which even conventioned physicians can charge higher fees (e.g. time and place of consultation). Partial conventionment is also possible (e.g. where a physician works at a hospital as conventioned, and has a private practice as non-conventioned).

3.6.2.2 Dentists

Dentists' fees are determined by a committee composed of representatives of sickness funds and dentists, following the same procedure as that for physicians. This procedure applies to the fees for general dentists, orthodontists and periodontists.

3.6.2.3 Pharmacists

Since April 2010, a new system of remuneration for pharmacists has come into force (see also Chapter 6). The objective of this new system is to reinforce the intellectual role of the pharmacist and to partly disconnect the pharmacists' remuneration from the drug price. The remuneration is composed of a basic fee of €3.88 per reimbursed product (per box) and an economic margin of 6.04% of the ex-factory price (+ 2% for ex-factory prices above €60). A specific lump sum of €1.20 is also provided for each prescription under the International Nonproprietary Name (INN) of the active ingredient (Conseil des ministres 2010).

3.6.2.4 Nurses

Nurses working in hospitals are salaried, while those providing home care are either self-employed or salaried.

Different payment systems contribute to the financing of home nursing, most importantly lump sum payment and fee-for-service. There is additional financing for specific costs for home nursing organizations, and those related to information and communication technologies. Reduced social tax contributions play an additional role. Specific arrangements cover particular nursing activities (e.g. nursing assistance in haemodialysis and peritoneal dialysis at the patient's home).

A per diem lump sum system covers nursing interventions for patients with deficiencies in the activities of daily living (ADL). A patient's dependency is assessed using the Belgian Evaluation Scale for Activities of Daily Living (BESADL), which is adapted from the Katz scale. At the same time, the fee-for-service system covers technical nursing interventions. All technical nursing interventions, except hygienic care, require a doctor's prescription. In order to limit supply-induced care provision in the fee-for-service financing, a maximum day-limit was fixed, which equals the smallest lump sum, i.e. for the lowest level of dependency (level A). The payment for nursing home care is covered by the insurers, and patients only pay relevant user fees.

In the past, nurses have felt their pay low relative to their workload and have organized strikes, which have sometimes proved successful.

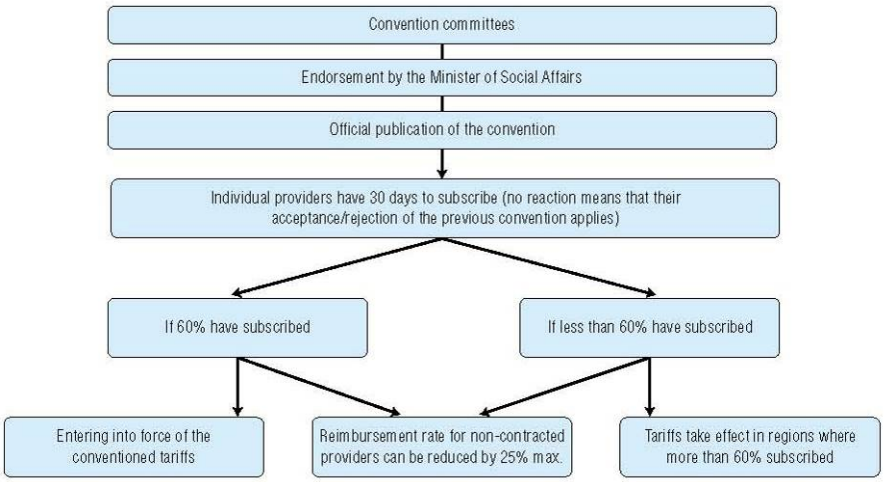
Previously, reimbursement and tariffs were generally not linked to the qualification level of the nurse. All nurses were authorized to perform most of the nursing interventions of the nomenclature. Since 2003, there is a growing trend to only reimburse some nursing interventions if they are performed by a nurse with higher professional qualifications. For example, self-management education of a diabetic patient is only reimbursed if performed by a nurse specialized in diabetes.

The nomenclature of nursing activities is regarded as obsolete, complex and lacking in integration, for example, much of technical home nursing activities regularly performed are not currently included and the rules avoiding cumulative reimbursement lack consistency.

3.6.2.5 *Other health care providers (paid by fee-for-service)*

For other health care providers, paid by fee-for-service (e.g. physiotherapists), fees are also determined by the conventions and agreements commissions within the NIHDI (see Section 3.3.3 *Pooling of funds*) following a similar procedure, except that some formalities about their convention and implementation differ from dentists' and physicians' agreements. As indicated in Fig. 3.9, the main differences are that in this case no regional counting of rejections of the convention is applied for all providers. Also, these other providers are required to actively report on their adherence to the conventions. Furthermore, the reimbursement of providers who do not adhere to the convention can be reduced by up to a maximum of 25%.

Fig. 3.9: Scheme of the collective contracting mechanism for other health care professionals



3.6.2.6 *Other health care providers (salaried)*

Salaries and career evolution for salaried employees (e.g. technical and administrative staff) in the health sector are negotiated through a series of collective agreements. Salaries are indexed with respect to the cost of living and are fixed according to length of service as well as level and field of expertise (CSC Public Sector 2007). Other aspects, such as age of retirement, are also negotiated through these agreements (Royal Decree of 13 March 2006). Negotiations can take place at the federal or federated level (e.g. depending on the hospital's ownership – private vs public).

4 PHYSICAL AND HUMAN RESOURCES[r]

4.1 PHYSICAL RESOURCES

4.1.1 Infrastructure

4.1.1.1 Hospitals

Until the early 1980s, the number of hospital beds in Belgium increased by an average of 1000 per year to a record number of 92 686 or 9.5 per 1000 inhabitants in 1981. Since then, the Belgian hospital sector has been restructured in order to respond to evolving needs, such as more geriatric provison, shorter stays, expansion of day hospitalization, admission of elderly people in need and alternative provisions in the psychiatric sector.

Among measures for restructuring the hospital sector, in 1982, beds in nursing homes were classified in a different category from acute and chronic hospital beds. As a consequence, different reimbursement mechanisms were established. In addition, a moratorium was established on the number of general hospital beds, limiting them to not more than those existing on 1 July 1982. This meant that creation of new beds must be compensated for by the closure of a bed somewhere else in the hospital system. Alongside the moratorium, a compensation scheme was introduced to cover hospitals for closures or non-use of beds. However, the total number of hospital beds did not decrease as desired by the government, which led to a new process of scaling down the capacity. In 1989, the minimum bed capacity was fixed at 150[s] beds for general hospitals, and mergers and closures were supported financially.

Changes in the number of hospitals have corresponded more to restructuring procedures (mergers) than an actual decrease. All these measures led to an overall decline in the total number of acute beds per 1000 persons and an increase in the average capacity of a Belgian hospital since the mid 1980s. Between 1980 and 2008, the number of hospitals decreased from 521 to 207 (see Section 4.1.2 *Capital stock and investments*), and the average capacity of a Belgian hospital rose from 177 to 339 beds. It should also be noted that since 2000, the number of beds in hospitals per 1000 persons has been almost constant (see Table 4.1).

Table 4.1: Mix of beds in inpatient care facilities, per 1 000 population, 1980–2008 (selected years)

	1980	1990	2000	2005	2008
Number of beds in hospitals	9.5	7.9	7.1	6.8	6.6
Acute care hospitals	5.5	5.6	5.2	5.0	4.8
Specialized and geriatric	1.5	0.4	0.3	0.3	0.3
Psychiatric	2.5	1.9	1.6	1.5	1.5
Number of beds in homes for the elderly and nursing homes	–	1.2	12.0	12.1	12.2

Source: Raw data provided by FPS Health, Food Chain Safety and Environment, own calculation

Since 1980, there has been a steady decrease in the average length of stay in acute hospitals (see Table 4.2). This can be attributed to (among other reasons) transfers of patients to other infrastructures (e.g. rehabilitation), higher incentives for day hospitalization and the inclusion of length of stay per DRG in hospital financing (Perelman and Closon 2007). Indeed, by including length of stay in hospital financing, there is some evidence that inpatient stays become shorter but more intensive, that is, more resource-consuming (Perelman and Closon 2007).

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s With the exception of hospital beds in the German community, where minimum capacity was fixed at 135 beds.

Table 4.2: Acute care hospitals utilization, 1980–2007 (selected years)

	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007
Average length of stay (days)	10.0	8.7	8.5	8.4	8.4	8.3	8.1	8.0	7.9	7.8
Occupancy rate (%)	77.7	81.9	67.3	68.3	67.9	65.9	70.5	67.6	66.6	66.6

Source: OECD 2009a

A slight decrease in admissions per 100 population for classic hospitalization and an increase in day hospitalization have taken place in acute care hospitals between 2000 and 2007 (see Table 4.3). This might also be due to the fact that hospitals have strong incentives to provide shorter hospital stays (Perelman and Closon 2007). Admissions per 100 population have slightly decreased in specialized and geriatric hospitals and slightly increased in psychiatric hospitals since 2000.

Table 4.3: Admissions per 100 population, 2000–2007

	2000	2001	2002	2003	2004	2005	2006	2007
Acute care hospitals								
Classic hospitalization	16.63	16.49	16.30	16.18	16.17	16.19	16.11	15.87
Day hospitalization	7.12	7.76	8.47	9.47	10.06	10.40	10.74	11.52
Proportion day hospitalization	30%	32%	34%	37%	38%	39%	40%	42%
Specialized and geriatric hospitals	0.20	0.19	0.19	0.19	0.19	0.19	0.18	0.18
Psychiatric hospitals	0.85	0.87	0.86	0.87	0.88	0.90	0.91	–

Source: Raw data provided by FPS Public Health, Food Chain Safety and Environment: Maxi Feedback 2000–2007, own calculation.

Table 4.4 indicates that for acute hospitals the average length of stay and the number of acute hospital beds per 1000 population are higher in Belgium than the EU15 and EU27 averages. The decrease in the number of beds in Belgium since 1990 follows a similar path to that of other European countries (see Fig. 4.1). Compared to most other European countries (except for Germany and Austria), the number of acute hospital beds per 1000 population is still much higher in Belgium. Compared to EU15 and EU27 averages, Belgium has lower admissions per 100 000 population, but a higher average length of stay. However, the latter must be interpreted with caution as average lengths of stay in Belgium include a diverse number of hospitalization types, and activities performed in hospitals differ between countries (different national definitions and concepts).

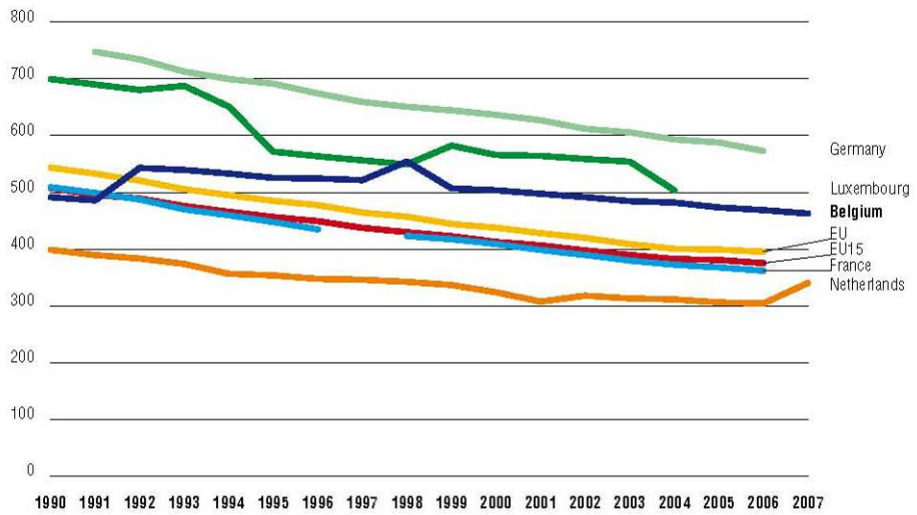
Table 4.4: Inpatient utilization and performance in acute hospitals in the WHO European Region, 2006 or latest available year

	Hospital beds per 100 000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Andorra	195.3	9.2	6.7 [g]	70.0 [g]
Austria	638.5	26.4	6.0	79.7
Belgium	468.7	16.0	7.9	66.6
Cyprus	350.8	7.8	5.8	78.8
Denmark	310.7 [c]	17.8 [f]	3.5 [b]	84.0 [f]
Finland	241.7	19.5	4.0	74.0 [k]
France	361.8	16.3	5.9	77.1 [c]
Germany	572.9	19.8	7.9	75.1
Greece	394.4	14.5 [h]	5.7 [c]	71.6 [c]
Iceland	368.2 [j]	16.5 [b]	3.5 [b]	70.3 [m]
Ireland	274.2	14.0	6.4	86.5
Israel	206.7	17.3	4.1	95.0
Italy	336.3	14.0 [b]	6.7 [b]	77.3 [b]
Luxembourg	503.61 [c]	18.4 [l]	7.7 [h]	74.3 [l]
Malta	284.9	11.3	5.3	89.6
Monaco	1553.6 [k]	–	–	–
Netherlands	304.1	10.5	6.6	68.1
Norway	297.6	17.6	5.0	88.4
Portugal	298.5 [b]	11.2 [b]	7.1 [b]	73.2 [b]
Spain	271.0	11.7	6.6	78.2
Sweden	282.3 [b]	15.2	6.0	77.5 [j]
Switzerland	364.8 [b]	16.4 [h]	8.2	86.9
Turkey	267.1	8.1 [d]	4.4 [a]	64.4
United Kingdom	241.6 [h]	21.4 [j]	5.0 [j]	80.8 [h]
Central and south-eastern Europe				
Albania	259.7	–	–	–
Bosnia and Herzegovina	327.5 [h]	7.2 [h]	9.8 [h]	62.6 [g]
Bulgaria	755.4 [j]	14.8 [j]	10.7 [j]	64.1 [j]
Croatia	360.3	15.0	7.6	86.6
Czech Republic	603.9	20.2	8.0	72.9
Estonia	393.5	16.8	5.9	70.9
Hungary	552.8	22.4	6.4	70.3
Latvia	527.4	20.3	–	–
Lithuania	510.1	20.7	6.9	76.1

	Hospital beds per 100 000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Montenegro	322.0	10.0	7.8	66.1
Poland	410.8	–	–	–
Romania	505.2	–	–	–
Serbia	–	9.4 [a]	7.8 [a]	67.1 [a]
Slovakia	601.6	18.0	8.0	68.2
Slovenia	383.4	17.1	5.8	71.6
The former Yugoslav Republic of Macedonia	326.4	9.2 [b]	7.2 [b]	55.5 [b]
EU average	395.3	17.0	6.5	76.3
EU15	375.2	16.7	6.5	76.4 [c]

Source: WHO Regional Office for Europe 2010 (January).
Notes: [a] 2007; [b] 2005; [c] 2004; [d] 2003; [e] 2002; [f] 2001; [g] 1999; [h] 1998; [i] 1997; [j] 1996; [k] 1995; [l] 1994; [m] 1989; Minor discrepancies may occur in national versus international data reporting. This is entirely consistent with norms and stems from differences in analytical classifications.

Fig. 4.1: Acute hospital beds per 100 000 population in Belgium and selected countries, 1990–2007



Source: WHO Regional Office for Europe 2009 (June).
Note: Minor discrepancies may occur in national versus international data reporting. This is entirely consistent with norms and stems from differences in analytical classifications.

4.1.1.2 *Long-term residential care*

Belgian long-term residential care comprises service-homes, homes for the elderly and nursing homes (Vander Stichele et al. 2007). Service-homes provide elderly individuals with the option of living independently and some services (such as meals, house-cleaning, etc.) can be provided upon request. Homes for the elderly and nursing homes are used by individuals having moderate to serious health conditions (Vander Stichele et al. 2007) (see also Section 5.8 *Long-term care for the elderly* for precise definitions).

The first nursing homes were created in 1982 with the explicit intention to create an intermediary structure between a home for the elderly and a hospital. However, in practice many residential institutions can be considered as both homes for the elderly and nursing homes. Homes for the elderly and nursing homes are mainly run by community social services, by private non-profit-making authorities and by private profit-making corporations.

The Federal Minister of Social Affairs and Public Health determines, in agreement with the communities and the regions, the budget and planning of beds for elderly persons. The federal government is in charge of setting quality standards as well the NIHDI's financial allocation mechanism for providing beds in residential institutions for the elderly. The accreditation criteria for residential institutions (beds) are mostly determined by the communities (Flemish, French and German communities). The only exception being institutions in the Brussels region, which receive accreditation by one of the following authorities: COCOF, GGC-COCOM or VGC. Since 1997, three protocol agreements (1997, 2003 and 2005) between the federal government and the communities have formulated common objectives of elderly care and fixed a moratorium programme on the number of beds. These agreements allow each authority to determine their common objectives autonomously according to local demographic needs (Declercq and Van Audenhove 2004). The global number of accredited beds amounted to 130 920 in March 2010, divided into 66 180 beds in homes for the elderly and 62 987 beds in nursing homes. Compared to the moratorium (of 132 237 beds), 1317 additional beds should be created.

Table 4.5: Moratorium for beds in homes for the elderly and nursing homes, 2010

Regions	Moratorium programme [a]	Number of accredited beds in homes for the elderly and nursing homes [b]
Flemish	68 138	67 433
Walloon	47 546	47 272
Brussels-Capital	15 703	15 474
German community	850	741
Total	**132 237**	**130 920**

Sources: [a] Van Audenhove et al. 2009; [b] NIHDI 2010j

4.1.2 Capital stock and investments

4.1.2.1 Current capital stock

In Belgium, hospitals can be classified into two categories: general and psychiatric. In 2008, there were 207 hospitals, of which 139 were general and 68 were psychiatric (see Table 4.6). The general hospital sector consists of acute (112), specialized (19) and geriatric hospitals (8). Geriatric hospitals are dedicated solely to elderly patients needing specialized care. Specialized hospitals concentrate on one or a few health care specialties such as cardiopulmonary diseases, locomotorial diseases, neurological disorders, palliative care, chronic diseases and psychogeriatric care. Psychogeriatric and neuropsychiatry care units can also be found in some acute hospitals (in particular for short-stay treatment).

Hospitals in Belgium are private non-profit-making (150, equal to 72%) or public institutions. Public hospitals are for the most part owned by a municipality, a province, a community or an inter-municipal association (which is a legal form of association that groups together local authorities, public welfare centres and in some cases the provincial government or private shareholders) (Van de Sande et al. 2010).

Financing mechanisms as well as legislation are common to all hospitals, the only exception being that, for public hospitals, internal management rules are more tightly defined and their deficits are covered, under certain conditions, by local authorities or inter-municipal associations.

Acute hospitals include seven university hospitals, which have special status owing to their teaching and research functions. The "university" label does not necessarily mean that a university owns the hospital; however, it does mean that a certain proportion of beds are registered as university beds.

Partly as a result of the lack of referral structure between different types of hospitals in Belgium (or a precise distinction between primary, secondary and tertiary care), the location of hospitals and hospital services is more the result of historical evolution than of geographical planning. The overall density of beds in general hospitals is the same in the Flemish region and the Walloon region (4.9 per 1000 inhabitants in 2008). However, there is a greater provision of psychiatric beds in the Flemish region (1.6 beds per 1000 inhabitants) than in the Walloon region (1.3 beds per 1000 inhabitants). In the Brussels region, the density of general hospital beds is very high (7.2 beds per 1000 inhabitants), partly because of the presence of three university hospitals. However, the density in Brussels of psychiatric beds is the lowest of all three regions, at 1.0 bed per 1000 inhabitants.

Table 4.6: Inpatient care facilities, 1980–2008 (selected years)

	1980	1990	2000	2005	2008
Number of hospitals	521	374	223	215	207
Acute care	285	254	123	116	112
Specialized and geriatric	159	48	31	30	27
Psychiatric	76	72	69	69	68
Number of beds in hospitals	92 436	79 346	72 304	70 795	70 084
Acute care	53 960	56 058	53 170	52 127	51 649
Specialized and geriatric	14 304	4 142	3 128	3 048	2 897
Psychiatric	24 172	19 146	16 006	15 620	15 538
Number of beds in homes for the elderly and nursing homes [a]	–	12 203	122 996	126 423	129 775

Sources: FPS Health, Food Chain Safety and Environment; [a] source from 1980 to 2000: WHO Regional Office for Europe 2009 (June); source from 2005 to 2008: NIHDI and FPS Public Health, Food Chain Safety and Environment.

4.1.2.2 *Investment funding*

The federal government finances 40% of the capital investments for hospital building, alterations and first establishment. Regions and communities decide – within the commonly fixed calendar on hospital construction – on the subsidizing of these investments, and may directly subsidize up to a maximum of 60% of the costs. The amortization costs of the other 40% are taken into account by the hospital budget, financed by the federal government and the national health insurance.

Since the infrastructure of most hospitals is more than 30 years old, their renewal has become a priority. A new agreement was concluded to meet the needs because the investment capacity of regions and communities was not sufficient and the federal capacities were underused. Since 2007, "priority" construction works have the possibility to benefit from a ratio of a maximum of 10% subsidy and 90% amortization.

Priority constructions mainly concern investments dedicated to the rationalizing supply, improving patients' comfort or complying with new standards.

Community social services are in charge of investment for residential elderly care infrastructure. However, they receive funds from federated authorities based on each community's projects and needs. The improvement of existing residential care institutions and the establishment of new ones must be in accordance with the protocol agreements. Three distinct authorities are in charge of allocating funds to community social services: VIPA for the Flemish region, GGC-COCOM for Brussels-Capital and the Walloon Government for the Walloon region. Estimates for the total cost of infrastructure investment corresponding to the planning of beds in homes for the elderly and in nursing homes (according to protocol 3) account for approximately €180 million (up to €250 million) in Flanders, €90 million in Brussels (up to €100 million) and €175 million in the Walloon region (Research Direction Dexia Bank 2007).

4.1.3 Medical equipment

In Belgium, the installation of heavy medical equipment requires approval from the minister of public health of the appropriate community. There are special accreditation norms and criteria for the installation and running of heavy medical equipment in hospitals. If a hospital fails to meet these criteria, the NIHDI can refuse to reimburse treatment provided with the equipment in question and the hospital can be penalized by a budget cut of up to 20%. The hospital can also be forced to restart the whole process of accreditation for the equipment. The areas covered by this legislation are: units for medical imaging with CT scanners; MRI units and PET units. Table 4.7 shows that the number of MRI, CT, radiotherapy and PET scanner units per million inhabitants has increased significantly since 1990.

Table 4.7: Medical technology per million inhabitants, 1990–2007 (selected years)

	1990	1995	2000	2005	2006	2007
MRI	2	3.3	6	7	7.1	7.5
CT	16.1	16.7 [c]	21.8	38.7 [e]	39.8	41.6
Radiotherapy	6.1 [a]	6.1	12.5	12.8	12.8	14.1
Lithotriptors	1.6 [b]	–	4.8	4.7	4.6	4.6
PET (approved)	–	–	0.3 [d]	1.2	1.2	1.2

Source: OECD 2009a (June).
Notes: [a] 1991; [b] 1992; [c] 1994; [d] 2001; [e] break in series.

Table 4.8: Medical technology activity, number of examinations per 1 000 population, 1995–2008 (selected years)

	1995	2000	2005	2006	2007	2008
CT	102.2	116.7	148.3	158.7	169.7	180.8
Ambulatory care	66.0	75.9	101.2	110.2	119.9	130.7
Inpatient care	36.3	40.8	47.1	48.5	49.7	50.1
MRI	–	23.7	44.6	46.4	48.5	54.1
Ambulatory care	–	19.9	38.1	39.8	42.0	47.4
Inpatient care	–	3.8	6.6	6.6	6.5	6.7
Ratio CT/IRM	–	4.9	3.3	3.4	3.5	3.3
PET	0.06	0.68	1.46	1.59	1.73	1.87
Ambulatory care	0.03	0.54	1.18	1.32	1.44	1.58
Inpatient care	0.04	0.14	0.28	0.27	0.29	0.29

Source: NIHDI (own calculation).

The number of official reimbursed PET scan examinations per 1000 population was 1.9 in 2008 (see Table 4.8). However, this number does not represent the real number of PET scan examinations performed in Belgium. In fact, since 2002, additional PET scan examinations can be reimbursed through the nomenclature code "scintigraphy double tomography". In its 2009 report, the KCE estimated that the number of additional PET scan examinations was around 20 000 (that is, +1.9 per 1000 population) (Cleemput et al. 2005; Vlayen et al. 2009). This study also showed that, in addition to the 13 approved PET scanners, a number of non-approved scanners seem to be operational (Cleemput et al. 2005; Vlayen et al. 2009).

Compared to other European countries, the Belgian supply of CT scanners per million inhabitants and the ratio of CT to MRI units are high (see Table 4.9). The number of examinations per 1000 population and the ratio of CT to MRI examinations are also high in Belgium (see Table 4.10). A recent KCE study showed that the supply of radiologists is high and that both for CT and MRI examinations, average waiting times in Belgium tend to be very short compared to some neighbouring countries (less than two weeks versus two months or more) (Demaerel et al. 2006).

Table 4.9: Medical technology in selected European countries per million inhabitants, 2007

	CT	MRI	Ratio of CT/MRI	PET
Austria	29.8	17.7	1.7	N/A
Belgium	41.6	7.5	5.5	1.2 a
Czech Republic	12.9	4.4	2.9	0.5
Denmark	13.9 [b]	10.5 [b]	1.3 [b]	3.7
Finland	16.4	15.3	1.1	N/A
France	10.3	5.7	1.8	1.0
Germany	16.3	8.2	2.0	1.0
Hungary	7.3	2.8	2.6	0.6
Ireland	14.3	8.5	1.7	1.4
Italy	30.3	18.6	1.6	0.6
Luxembourg	27.3	10.5	2.6	2.1
Poland	9.7	2.7	3.6	N/A
Portugal	26.0	8.9	2.9	N/A
Slovakia	13.7	5.7	2.4	0.6
Spain	14.6	9.3	1.6	0.7
Sweden	17.8 [b]	11.1 [b]	1.6 [b]	N/A

Sources: OECD 2009a (June); Demaerel et al. 2006; [a] NIHDI data; [b] year 2006.

Table 4.10: Medical technology activity, number of examinations per 1 000 population in selected European countries, 2007

	CT	MRI	CT/MRI
Belgium	167.7	48	3.5
Czech Republic	75.1	24.5	3.1
Denmark	33.9 a	17.4 a	1.9 a
France	45.1	21.8	2.1
Germany	42.0	14.5	2.9
Hungary	58.8	27.9	2.1
Luxembourg	176.9	63.3	2.8
Netherlands	41.3 a	25.0 a	1.7 a
Spain	57.0 a	21.4 a	2.7 a
Sweden	88.9 a	38.9 a	2.3 a
United Kingdom	59.1	28.8	2.1

Source: OECD 2009a (June).
Note: [a] year 2006, Demaerel et al. 2006

Compared to other European countries, Belgium has a high medical radiation exposure. Despite the publication of national guidelines about the referral for diagnostic imaging in 2004, the medical radiation exposure in Belgium rose from 2.15 to 2.42 mSv per capita between 2005 and 2008, mainly due to CT examinations that accounted for 52.6% of the medical radiation in 2005 and rising to 58.4% in 2008. The contribution of X-rays and scintigraphies is decreasing (Vlayen et al. 2010).

4.1.4 Information technology

In 2009, 67% of Belgian households had access to the Internet in their place of residence compared to 65% in the European population (EU27). Among people aged between 16 and 24 years, 77% used the Internet daily or almost every day (EU27: 73%). For people aged between 16 and 74 years, this percentage fell to 56% (EU27: 48%) (Eurostat 2009).

In 2007, Internet or other electronic data exchange networks were used by 73.5% of GPs to obtain results from laboratories (EU27: 39.8%), and by 13% of GPs to exchange medical data (EU27: 10.3%) or administrative data (EU27: 9.7%) (see Table 4.11). E-prescribing was only used by 2% of GP practices in 2007 (EU27: 6.3%) (Dobrev et al. 2008). The implementation of e-prescribing in Belgium is currently in progress, i.e. the Royal Decree of 7 June 2009 regulates the use of e-prescribing by physicians and dental practitioners in hospitals and a project on the use of e-prescribing for ambulatory care is in development.

In Belgium, every GP who uses approved software to manage the electronic medical files of his/her patients may ask to obtain an allowance paid by the NIHDI the following year. The physician has to complete a form and make a sworn statement about the fact that the software belongs to the list of approved software (Vlayen et al. 2010). In 2008, this allowance was €755.04. Among all GPs with at least 500 patient-contacts per year, those having received the allowance increased from 6012 (55%) in 2004 to 6985 (65%) in 2008. The rate of GPs with more than 2500 contacts who received the allowance in 2008 amounted to 74%. The rate was higher in the Flemish region. Importantly, not all GPs using software applied for the allowance (Vlayen et al. 2010).

Table 4.11: Percentage of GP practices using electronic patients' data exchange networks, by purpose, 2007

	Results from laboratories	Medical data to care providers/professionals	Administrative data to other care providers	Administrative data to reimbursers	Prescription to pharmacies	Medical data cross-border
EU27	39.8	10.3	9.7	15.1	6.3	0.7
Belgium	73.5	12.9	12.9	2.5	1.6	0.9

Source: Dobrev et al. 2008.

Several initiatives have been undertaken in Belgium in order to facilitate the administrative procedures and to increase the interoperability between health care actors.

The Crossroads Bank of Social Security (CBSS-BCSS-KSZ) was created by the Act of 15 January 1990 to organize and manage an electronic network which facilitates information exchange among agencies of Social Security and the National Register (CBSS 2009).

Since 1998, all beneficiaries of the social security system have a digital social identity card, the SIS card, permitting them to check insurability rights and allowing third-party payments (CBSS 2009).

In 1999, the Belgian Health Telematics Commission was set up to work on standards concerning the exchange of health information and to give advice on e-health to the government. They have working groups specific to data, hospitals, telemedicine and homologation of (para)medical software (FPS Health, Food Chain Safety and Environment 2009d).

In 2004, the "CareNet" project was implemented to facilitate administrative procedures between sickness funds and hospitals. A second project, the "MyCareNet" project, aims to expand the CareNet project to other health care professionals (e.g. pharmacists, physicians, nurses, etc.) and to more applications. This project currently focuses on home nursing (CareNet 2010).

After an experimental phase of three years, the FPS Public Health now supports decentralized operational health networks on a regional basis in the three regions of Belgium – Wallonia, Brussels and Flanders. These health networks were created to give quick access to patient health data and to avoid the duplication of data for repeated examinations and procedures. To enable a structured clinical information exchange, the summarized Electronic Health Record (Sumehr) was developed. This summarizes the minimal set of data a physician needs to quickly understand the medical status of his patient and to ensure continuity of care (FPS Health, Food Chain Safety and Environment 2009d).

With the Act of 21 August 2008, a Belgian eHealth digital platform has been set up to permit an electronic exchange of secured data between all health actors. This platform is a public institution of social security and provides digital access to all health information and applications through one portal site. The mission of the platform is to promote and support a well-organized exchange of electronic information among all actors in health, with the necessary guarantees regarding the patient's security, the protection of the patient's and caregiver's privacy and respect for medical confidentiality. The objectives are: to optimize quality and continuity of care; to optimize patient safety; to simplify administrative procedures; and to provide strong support to health care policy. The responsibilities of the Belgian Health Telematics Commission, such as the determination of standards and the homologation of (para)medial software, are now under the responsibility of the eHealth platform (eHealth 2008). Vesta, a system of electronic data exchange between the Flemish Agency for Care and Health and recognized home care services, also uses the eHealth platform.

In addition to this, Vaccinet is an online system for vaccinations in the Flemish and Brussels-Capital region. With this application, vaccinators can order vaccines at any time and adjust the delivery times, where appropriate.

4.2 HUMAN RESOURCES

4.2.1 Trends in health care personnel

4.2.1.1 Physicians

The overall number of practising physicians, defined as a physician having provided more than one medical act during the year, increased from 28 999 (2.83 per 1000 population) in 2000 to 31 281 (2.93 per 1000 population) in 2008[t] (see Table 4.12). In 2008, the total number of practising GPs and specialists was 12 273 (8360 FTE) and 18 566 (12 429 FTE), respectively (NIHDI 2010d). In addition to this, 311 FTE GPs work exclusively in collective infrastructures other than hospitals, for example, nursing homes. It should also be noted that for GPs, a minimum activity threshold of 500 contacts per year is usually considered to determine the number of practising GPs. In 2008, 10 877 GPs have reached this threshold (i.e. 1.02 per 1000 population).

Table 4.12: Practising physicians and dentists per 1 000 population, 2000–2008 (selected years)

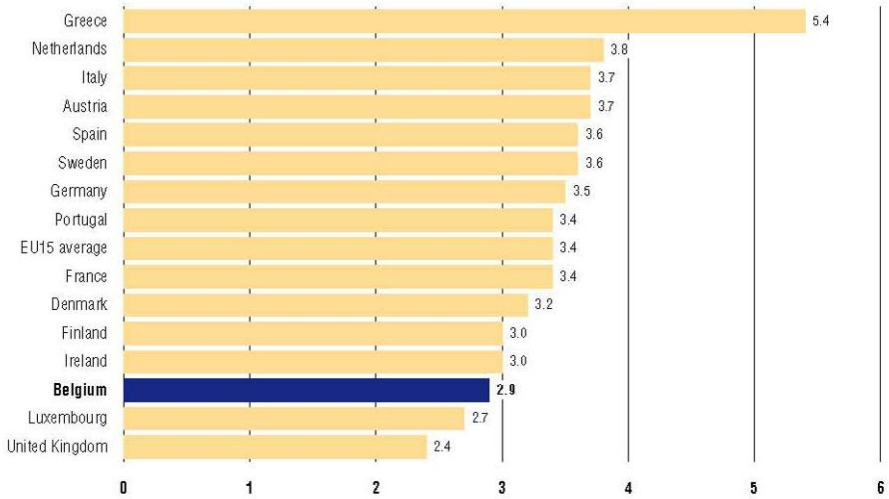
	2000	2005	2006	2007	2008	2008 (in FTE)
Total practising physicians	2.83	2.88	2.90	2.92	2.93	1.97
GPs	1.20	1.19	1.18	1.17	1.15	0.78
Specialists	1.53	1.64	1.67	1.71	1.74	1.17
Non-specialized physicians [a]	0.10	0.05	0.05	0.04	0.04	0.03
Dentists [b]	0.75	0.74	0.74	0.73	0.72	0.53

Source: NIHDI 2010d.
Notes: Definition: physicians having provided more than one medical act during the year; [a] e.g. non-recognized physicians; [b] includes specialists in stomatology with a recognition for dental stomatology.

These figures are now the common basis upon which to compute practising physician-to-population ratios, notably by international institutions such as the OECD. On the basis of these figures, in 2006, Belgium was ranked 13th in terms of practising physicians per 1000 population (with 2.9 practising physicians per 10 000 inhabitants). The EU15 average was 3.4 physicians per 1000 population (see Fig. 4.2). However, it is crucial to note that the definition of practising physicians among countries may vary. The number of registered physicians, including non-active physicians, is described in Table 4.13.

[t] Before 2000, data on health care personnel included both practising and non-practising physicians. Since 2000, a new calculation methodology has been used such that only practising personnel are counted.

Fig. 4.2: Practising physicians per 1 000 population in EU15, 2006



Source: OECD 2009a (June) (except for Belgium). For Belgium, data used corresponds to that provided by the NIHDI (physicians having provided more than one medical act during the year). Comparisons should thus be made with caution because definitions of practising physicians vary between countries. OECD health data were not used for Belgium because they represented the number of registered physicians and not the number of practising physicians.

Table 4.13: Registered health care personnel per 1 000 population, 1990–2008 (selected years)

	1990	1995	2000	2005	2006	2007	2008
Total registered physicians	3.3	3.6	3.9	4.1	4.1	4.0	4.1
GPs	1.9	2.0	2.1	2.1	2.1	2.0	2.0
Specialists	1.4	1.6	1.8	2.0	2.0	2.0	2.1
Dentists	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Pharmacists	1.2	0.9	1.0	1.1	1.2	1.2	1.2
Physiotherapists	1.8	2.3	2.6	2.4	2.4	2.4	2.4

Source: NIHDI 2008d

4.2.1.2 Nurses

Currently, there is no federal register for nurses in Belgium. The nurses register is in preparation and not yet up to date. Thus, no recent data are available on the number of practising nurses working in hospitals or nursing homes. The NIHDI only acquires data on registered nurses and midwives with an NIHDI number, including non-active nurses and midwives. NIHDI also publishes a profile, that is, the number of nurses and midwives with an NIHDI number and having performed at least one act in the year or in the two preceding years (see Table 4.14).

Table 4.14: Number of registered nurses and midwives in ambulatory care (with profiles), 2003–2008

Year	Number of nurses	Number of midwives	Number of profiles (nurses and midwives)
2003	60 088	4 920	20 610
2004	62 211 (+3.5%)	5 084 (+3.3%)	21 241 (+3.1%)
2005	64 191 (+3.2%)	5 300 (+4.2%)	22 071 (+3.9%)
2006	65 952 (+2.7%)	5 467 (+3.2%)	22 802 (+3.3%)
2007	62 700 (-4.9%)	5 505 (+0.7%)	23 622 (+3.6%)
2008	64 756 (+3.3%)	5 592 (+1.6%)	–

Source: NIHDI 2008d

4.2.1.3 Other health care personnel

Since 2000, the number of practising dentists has been stable at around 7600 (see Table 4.12, p.130). The number of physiotherapists has declined by almost 3% as a result of the introduction of a quota mechanism (see Section 4.2.2 *Registration/licensing and planning of health care personnel*). For physiotherapists, no official register is established at the NIHDI.

4.2.2 Registration/licensing and planning of health care personnel

4.2.2.1 Registration/licensing

The authenticity of diplomas in Belgium is verified by provincial medical committees of the FPS Public Health, Food Chain Safety and Environment. FPS Public Health registers all physicians, dentists, pharmacists, physiotherapists, nurses, midwives and other allied professionals with an authentic diploma. Anyone who is not properly registered is not allowed to practise. The licence is given for an unlimited time, that is, once health care professionals have been given the right to practise they do not have to reapply to keep that right. However, in cases of malpractice, licences can be withdrawn.

In order to practise medicine in Belgium, every physician must be recorded on the register of the Order of Physicians (see Section 2.3.4 *Nongovernmental bodies*). This mandatory registration applies to all physicians, even those coming from other EU Member States or foreign physicians who wish to establish themselves in Belgium. This registration has to be made in the province where the physician will have his/her main medical practice. The Order investigates illegal and unethical practices under its strict Code of Ethics and has the right to impose penalties and strike doctors off the register if necessary (Belgian Order of Physicians 2010).

Similar obligations apply to pharmacists, who must be recorded on the register of the Order of Pharmacists.

Since 2006, new rules clarifying the status and roles for nurse-aids have been established by law (Royal Decree of 12 January 2006 fixing register of nurse-aids; Royal Decree of 12 January 2006 fixing conditions needed for nurse-aids to perform nursing acts). These new regulations are aimed at improving working conditions for nurse-aids, as well as creating a clear legal framework to identify under what conditions they can perform nursing acts. Approximately 130 000 nurse-aids are expected to be registered at the NIHDI.

For pharmacy assistants, dieticians and occupational therapists, recognition procedures will be applied from 1 October 2010 (for pharmacy assistants and dieticians) and from 2011 for occupational therapists.

4.2.2.2 *Planning*

As is the case in other countries, the major goal of medical personnel supply planning in Belgium is to guarantee the availability of a sufficient health workforce to meet population health needs. Oversupply and undersupply of physicians may end in unmet needs, lower quality, unnecessary services or increased costs (Roberfroid et al. 2008).

In the late 1990s, Belgium was characterized by a physician/population ratio that was one of the highest in the industrialized countries (3.6 registered physicians per 1000 inhabitants in 1995). The assumption of a positive relationship between physician densities and health care utilization was a major argument in favour of medical supply restrictions. Moreover, important interregional variations (i.e. a higher ratio in the French-speaking southern community) were considered neither politically acceptable nor financially sustainable given the federal financing of health care (Léonard, Stordeur and Roberfroid 2009; Roberfroid et al. 2008).

Consequently, the federal government decided in 1997[u] on a numerus clausus to limit the number of medical practitioners in the health care sector. The numerus clausus became effective in 2004, that is, after all students who had enrolled before the government decision could complete their training. The objective was to limit the total number of physicians working in the curative sector and gradually to reduce the existing discrepancy in medical density between the communities. A supply-based model served to estimate the number of physicians who should be attributed a practice (Roberfroid, Léonard and Stordeur 2009). This model took into account: the current number of physicians under 74 years old; the annual inflow from Belgian universities; the annual inflow due to international migration; and the outflow due to mortality. Factors impacting on productivity were also considered: the feminization process; the ageing of the medical population; and the working time reduction that has been introduced over a long period of time. Such a model is useful for visualizing likely trends in medical workforce supply, and to produce scenarios, particularly regarding the impact of various levels of inflow on the future workforce (Roberfroid, Léonard and Stordeur 2009).

Practically, the restriction mechanism was applied immediately after the basic training (seven years) and limited the number of trainees allowed to specialize as GPs or specialists. The maximum number of medical graduates who will be accepted for further training leading to practising was set at 757 for the years 2008–2011, 890 for 2012, 975 for 2013, 1025 for 2014 and 1230 for the years 2015–2018 (in comparison to approximately 1200 recognitions in 1999). Furthermore, these numbers are to be shared between the Dutch-speaking (60%) and the French-speaking (40%) regions,[v] and between GPs (minimum 300 GPs for the years 2008–2014 and 360 for the years 2015–2018) and specialists (with a minimum of 20 specialists in child psychiatry, 10 specialists in acute medicine, and 5 specialists in emergency medicine; no minimum was defined for other specialties).

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[u] The federal government introduced the planning of the numbers of physicians and dentists in 1996, when the Committee for Medical Supply Planning was established to give advice on the numbers of physicians and dentists qualified to practise in Belgium. Later, the remit of this Committee was extended to cover physiotherapists, nurses, midwives and logopaedists. The Committee is responsible for formulating proposals to the Federal Minister of Social Affairs and Public Health on the annual number of candidates per community that are eligible for being granted the professional titles of physician, dentist or physiotherapist, after obtaining the relevant diploma. Furthermore, the Committee has to evaluate on an ongoing basis the impact of its proposals on training for these professionals. An annual report is drawn up on the relationship between needs, and the number of those currently studying and moving on to practical training with a view to obtain the special professional titles of physician, dentist or physiotherapist.

[v] In the area of education, the German community is included as part of the Walloon region.

The number of new licences for dentists was limited to 140 per year for the years 2002–2010, 150 for the years 2011–2013 and 160 for the years 2014–2015.

In order to achieve these objectives, the communities, which are in charge of education policy, have had to take measures to limit the number of medical and dental students. In 1997, the Flemish community introduced entrance examinations. The exam is organized on an inter-university basis by the Flemish Minister of Education and is common for both medicine and dentistry. It is an exam and not a competition: everyone who passes the exam is eligible to register for university training, without any number restriction. Each student can try to pass this exam more than once.

The French community adopted a system to limit the number of medical students after their third year of medical education on the basis of the first three years' results. The selection in the French community was introduced for the first time in the academic year 1997–1998 and was suppressed in 2003. Since 2006, the selection was re-initiated but, this time, after the first year (Community Decree of 26 June 2005). Whatever the selection system adopted, the global number of trainees exceeds the quotas in both communities.

In the Flemish community, the number of successful candidates after the entrance exam increased from 447 in 1998 to 1295 in 2009. In the French community, students who successfully ended their first year in medical faculties and were not authorized to pursue their training appealed, and the Belgian Court of Justice eventually acknowledged the illegality of that selection process. Consequently, in 2008, the Minister of Higher Education and Scientific Research in the French Community unilaterally decided to (temporarily) stop restricting student access to the full medical degree course. However, the restriction is still valid at the federal level and it is unclear how the additional students will legally practise.

Similarly, from 1998 the number of physiotherapists who are granted access to the professional title of physiotherapist and who obtain the right to practise within the compulsory health insurance system has been restricted to 450 for the years 2005–2015. Again, these numbers convert into 60% for the Dutch-speaking region and 40% for the French-speaking region. Since 2003, each year a national exam is organized by the federal government to select the physiotherapists who will receive a recognition (ICHD) number if the number of candidates in each community is higher than the quota.

4.2.3 Professional mobility of health workers

The "physicians directive", passed in 1993 (93/16/EEC), confers the right to professionals to establish themselves or to provide services anywhere in the EU. Since 2004, the number of foreign physicians licensed to practise in Belgium has sharply increased year after year. New visas granted to foreign medical doctors on an annual basis rose from 78 before 2004 to 430 in 2008. Before 2004, the inflow originated largely from neighbouring countries (France, the Netherlands and Germany) and to a lesser extent from Spain and Italy. Since 2004, the larger group of immigrant doctors are from the Eastern part of the EU (Poland and Romania). The same rule applies for students, and those originating from countries with a numerus clausus are keen to search for training opportunities in other countries. Foreigners specializing in Belgium as a GP or specialist have increased from 38 training plans submitted in 2004 to 78 in 2006, that is, 4.4% and 10.4% of all training plans submitted, respectively. Meanwhile, in 2007, around 400 doctors with a Belgian visa left the country just after obtaining their diploma (Roberfroid, Léonard and Stordeur 2009).

The enlargement of the EU since 2004, as well as the implementation of the internal market for services and the mutual recognition of professional qualifications between the Member States, contributed to the increase of foreign physicians. Another contributing factor has been the limitation of medical trainees in Belgium, resulting in a decrease of medical assistants and lower available staffing in hospitals (Roberfroid, Léonard and Stordeur 2009).

The same trend is observed for registered and specialized nurses. Hospitals in Brussels facing a current shortage in nurses and experiencing a higher competition for recruitment try with the support of international recruitment agencies to recruit nurses from Romania, Lebanon and, more recently, from Tunisia.

It should also be noted that the phenomenon is poorly documented so far. Only crude data are available, while important parameters such as the proportion of immigrants obtaining a practice licence for training reasons (specialization) who will stay in Belgium, turnover rates or activity profiles are poorly documented (Roberfroid, Léonard and Stordeur 2009).

4.2.4 Training of health care personnel

From 2011, medical training in Belgium will be a six-year university course.[w] Belgium has seven medical schools with a complete training scheme for physicians. Medical studies are divided into two cycles: the first covers basic scientific education (Bachelor's degree); the second cycle includes clinical studies and practical training in a hospital or a medical practice (Master's training). After these six years, students will receive their physician's diploma. For the last 15 years, the number of students receiving their physician's diploma has been around 1100 per year. Pharmacists and dentists follow a five-year university course.

However, to be able to practise, a physician needs a licence granted by the Federal Minister of Social Affairs and Public Health. Further training is needed to obtain this recognition. Students wishing to become specialists follow training from three to six years depending on the specialty. Their choice can be constrained by the small number of training posts available at teaching hospitals. Specialization is restricted to a limited number of candidates. To be eligible for specialization, students have to submit a training plan indicating the name of the supervisor with whom they want to specialize and the in-service department where they want to work. They also have to submit the agreement of the supervisor and the in-service department. The training plan has to be approved by the licensing commission for the specialty concerned. In 2008, there were 30 recognized specialties (including general medicine) (NIHDI 2008b). Those wishing to practise general medicine undergo three years of training.[x]

All nurses need to have one of the nursing qualifications that are recognized by Directive 2005/36/EC. In Belgium, two levels of nurses (bachelor-level [A1] and diploma-level [A2]) comply with the EC directive. Nursing assistant is a lower educational level of the nursing profession (obtained after two years of professional nursing education); this qualification level is fading out. Different nursing specialties are recognized in Belgium. All bachelor-level nurses can undertake specialized and complementary training in fields such as oncology, geriatrics, etc. For nurses working in home care, two specializations are recognized by the NIHDI for nurses of both qualification levels after completion of a postgraduate course: specialist nurse in diabetes and specialist nurse in wound care. Nurses with a bachelor-level can study at university to obtain a Master's level, then they can study to obtain a PhD level (Sermeus et al. 2010).

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[w] Seven years before 2011.

[x] With the seven-year university course (before 2011), GPs only underwent two years of specialization training.

4.2.5 Doctors' career paths

According to Lorant et al. (2008), an increasing percentage of GPs' inactivity in the curative sector was reported, up from 4% in 1995 to 12% in 2005. This phenomenon was observed among licensed GPs of all age groups, genders and communities. It also applies to small practices (Lorant et al. 2008). However, the level of inactivity seems to be most prevalent for those aged 30–49. This suggests a recruitment problem in general practice (adding postgraduates with an MD degree to the pool of practising GPs). A longitudinal follow-up confirms that inactivity among newly qualified GPs increased in the more recent cohorts compared with the older ones. Unfortunately, this lack of activity of newly registered GPs in the curative sector is not counterbalanced by GPs who come back to the curative sector after a period of inactivity.

The inactivity of specialists in the curative sector was less important four to six years after their specialist registration but slightly rose with time (from 1.4% in 1994 to 2% in 2005). In particular, the young female and male specialists aged 30 to 39 years were both more likely to be inactive in the curative sector in 2005 than their GP counterparts (Lorant et al. 2008).

4.2.6 Other health staff career paths

To increase the attractiveness of the health care professions, social agreements have been concluded including: end-of-career and other measures to improve the workload, status, organization and quality of the work, the balance between professional and private life, and remuneration. This section specifically focuses on measures taken for nurses.

Since 2000, concrete measures to improve the perception of the nursing profession were put into place. Two hundred public servants were offered the possibility to complete nursing studies (of three years) while receiving their total salaries ("Plan 600", in accordance with the Social Agreement of the 22 June 2000). This plan will be renewed in 2010–2011. In addition, nurses aged 45 years or older who were active in the health care sector (in hospitals, residential care for the elderly or for disabled individuals) could reduce the number of hours worked per week without any salary penalty (or work full-time and obtain a salary bonus). In 2008, an attraction plan was proposed, based on four specific actions (reducing work load; improving qualifications; improving salaries; and better social recognition) (AFIU 2008) (see Chapter 6).

For nurse-aids the biggest change with respect to their profession occurred with the recognition based on registration and the creation of a legal context allowing them to perform certain nursing acts.

In the Belgian sample of the nurses' early exit (NEXT) European study, performed between 2002 and 2005, researchers observed that nurses easily leave one health care institution for another without leaving the nursing profession (Hasselhorn, Müller and Tackenberg 2005). The demand for qualified nurses enables them to change frequently and easily. However, this turnover is a burden for health care institutions: it obliges human resources management departments to spend substantial amount of time and energy in recruitment procedures; it forces executives and head nurses to inform, train and socialize newcomers; it increases pressure on nurses who remain in their institutions; it also results in hidden costs and decreased standards of patient care.

The NEXT European study observed that nursing turnover was not uniform across Belgian health care organizations: from 0.6% to 13.1% in the hospital sector; from 0.8% to 22.6% in homes for the elderly; and from 3.6% to 21% in the home care sector. These remarkable differences in turnover rates between institutions led researchers to compare low-turnover institutions, defined as attractive, and high-turnover institutions, defined as conventional, in the Belgian sub-sample. If structural characteristics (size, ownership, past reorganizations, financial balance, etc.) did not help in differentiating attractive and conventional institutions, nurses' perceptions of management features and work environment made the difference. Globally positive features reported by nurses were: flat organizational structure, decentralized decision-making, flexibility in scheduling, positive nurse–physician relationships, opportunities for professional development, a good balance between effort and reward, a manageable workload, a good balance between work demands (foreseeable and flexible work schedules, limitation of last-minute changes in the timetable due to unforeseen recall) and personal life, and nursing leadership that supports investment in education for nurses and values their expertise. In addition to organizational factors that contribute to the working environment, nursing practice plays an important role in attractive institutions: high level of autonomy, opportunity to exercise control over one's professional practice, and sustainable demands both quantitatively and emotionally (Stordeur, D'Hoore and Next Study Group 2007).

These results, congruent with research findings in the "American Magnet hospitals",[y] emphasize the positive impact of a high level of job autonomy, nursing leadership, organizational support, and sustainable quantitative and emotional demands on nurses' retention. Nurses face difficulties in their work situations, but some hospitals are perceived as healthy organizations. The concept of attractive institutions could serve as a catalyst for improvement in nurses' work environments in Europe (Stordeur, D'Hoore and Next Study Group 2007).

y A Magnet hospital is a hospital that meets quantitative and qualitative standards developed by the American Nurses Credentialing Center (ANCC) and corresponds to a high quality of nursing practice and patient care.

5 PROVISION OF SERVICES[z]

5.1 PUBLIC HEALTH

Public health is "a social and political concept aimed at improving health, prolonging life and improving the quality of life among whole populations through health promotion, disease prevention and other forms of health intervention" (WHO 1998). These interventions can include promoting healthy behaviour, screening people appropriately for relevant disease, and reducing the number of individuals susceptible to infectious and chronic diseases. In all cases, public health policies and programmes are focused on the population as a whole in contrast to health care policies and programmes that tend to be focused on the individual.

5.1.1 Health promotion and preventive health care

In Belgium, the communities are responsible for health promotion and prevention of disease. However, a number of decisions directly related to public health are taken by the federal government. For instance, the level of taxes on cigarettes and alcohol, which are intended to reduce consumption, are determined by the federal authorities. On regular occasions, the federal government and the communities collaborate to coordinate and finance health policies (e.g. breast cancer screening, vaccinations against poliomyelitis and hepatitis B).

5.1.1.1 The Flemish community

The policy framework for the organization of preventive health care in the Flemish community was first described in the decree of 21 November 2003 (Vlaams Agentschap Zorg en Gezondheid 2004). This decree called for the establishment of initiatives concerning exogenous factors, endogenous factors and diseases in the initial phase. Initiatives concerning endogenous factors include: the detection of genetic factors and the prevention of specific diseases, such as cardiovascular diseases, cancer, mental illness, congenital diseases, developmental disorders and so on. Initiatives concerning diseases and exogenous factors are further described in the section on disease outbreaks and vaccinations (Section 5.1.5 *Mechanisms for notification and surveillance of disease outbreaks*).

Specific measurable health objectives were formulated in a health conference and approved by the Flemish Parliament, including:

- prevention of depression and suicide
- breast cancer screening
- promotion of healthy food and physical activity
- discouragement of smoking, drinking and using illegal drugs
- prevention of deadly accidents (private and traffic accidents)
- prevention of infectious diseases (in particular, by further increasing the vaccination rates for polio, pertussis, tetanus, diphtheria, measles, mumps and rubella).

Health conferences aim to define specific health objectives and consist of representatives of the Flemish government, experts, target groups and local health networks (LOGOs). For specific aspects, other representatives can be involved in a health conference, such as representatives of partner organizations, organizations in the field and so on.

Additionally, strategies for collaboration with other organizations are formulated so that they can work together to meet the health objectives. These organizations include: supportive working groups, the so-called partner organizations defined as centres of expertise in preventive health care, field organizations, individual health care workers, other governments and LOGOs.

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[z] This chapter was written by Anja Desomer, Maria Isabel Farfan, Maïté le Polain, Sabine Stordeur, Stefaan Van de Sande and Sophie Gerkens.

LOGOs are intended to lead health promotion work at the district level, covering a territory with 97 000–475 000 inhabitants. They are composed of local initiatives and structures already in existence, and are meant to include all health and welfare workers. Each LOGO is supported and coordinated by a multidisciplinary central team and has to facilitate the implementation of evidence-based actions, which aim to reach certain health targets, set by the government. In 2010, the number of LOGOs was reduced from 26 to 15, with each LOGO now concentrated around a regional city (*zorgregiodecreet*) (Vlaams Agentschap Zorg en Gezondheid 2010d). In a resolution of the Flemish government (29 May 2009), the objectives of the LOGOs were extended to the prevention of health problems due to environmental factors.

For support with health promotional activities, the Flemish government appeals to the Flemish Institute of Health Promotion and Sickness Prevention (VIGeZ). VIGeZ is a centre of expertise that delivers a strategic vision, quality recommendations and training for professionals in health promotion. VIGeZ focuses on topics such as tobacco, healthy eating, promotion of physical activity and accident prevention. VIGeZ aims at intermediate target groups such as schools, working environments, local communities and the underprivileged. The Flemish government formed an agreement with VIGeZ in which subsidies and objectives were fixed. The objectives are: disseminating information to the whole population and making recommendations to the government and scientists; developing a methodology for different organizations which are responsible for working within the preventive health policy (such as the LOGOs); helping to introduce this methodology into the functioning of these organizations; evaluating the interventions; and organizing the training of professionals. The tasks are defined in an annual plan, which must be approved by the Flemish Care and Health Agency (VIGeZ 2010)

5.1.1.2 The French community

The government of the French community defines its objectives for health promotion in a five-year programme. In the latest five-year programme (2004–2008), the priorities in the areas of health promotion and prevention were (Ministère de la Communauté française, Direction Générale de la Santé 2008):

- prevention of addiction
- prevention of cancer
- prevention of infectious diseases (by promoting vaccination programmes, prevention of AIDS and sexually transmitted diseases (STDs) and the fight against tuberculosis)
- prevention of injuries and promotion of security
- promotion of physical activity
- promotion of oral/dental health
- promotion of cardiovascular health
- promotion of well-being and mental health
- health promotion for early childhood
- promotion of a healthy environment.

The 2008–2009 programme emphasizes the following priorities, based on the objectives of the five-year programme (Ministère de la Communauté française – Direction Générale de la Santé 2009):

- prevention of AIDS and STDs
- fight against tuberculosis
- screening of neonatal deafness
- screening of congenital anomalies.

In the French community, health promotion is organized by the Local Centres for Health Promotion (CLPS), which have to coordinate, on the local level, the implementation of the five-year programme and the community plans for health promotion.

These local centres operate at the request of all the actors within the competence of their territory. The responsibilities of the CLPSs are: to work out an action plan respecting the objectives of the five-year programme; to coordinate the execution of the action plan on the level of the organizations or people who mediate with the population or the public targeted by the objective; to bring methodological help to the organizations and people who develop actions in the field of the health promotion and preventive health care; and to encourage the development of partnerships in the territory, in particular by the realization of local conferences in health promotion. There are nine CLPSs in Wallonia and one in Brussels (Communauté française, Centre de documentation administrative 1997; Communauté française, Centre de documentation administrative 2009).

Health promotion and preventive health care policies in the French community are assisted by the Community Services for Health Promotion (SCPS). These community services give logistic and methodological assistance (i.e. formation, documentation, communication, research and evaluation) to the government, the CLPSs, the Superior Council of Health Promotion and the organizations or people who develop actions in the field of health promotion. There are four accredited community services, each with their own specificity: *"Question Santé",* a non-profit-making organization responsible for communication in health promotion; RESOdoc-UCL (*Unité d'Education pour la Santé*) of the Catholic University of Louvain (UCL) responsible for documentation, research and formation; SIPES-ULB (*Service d'Information Promotion Education Santé*) of the Free University Brussels responsible for methodological help for the collection and diffusion of data; and APES-ULG (*Appui en Promotion et Education pour la Santé*) of the University of Liège for intervention and evaluation methodology (Ministère de la Communauté française, Direction Générale de la Santé 2010).

5.1.1.3 The German community

In the German community, the Council for Health Promotion (*Beirat für Gesundheitsförderung*) defines the global concept of health promotion, consisting of a structural level (improving infrastructure, health promotion networks, and coordination between health care organizations) and an individual level (age-specific information and self-responsibility). In the global concept, specific health objectives are determined every two years (German Community 2006). For 2008–2009, the three main objectives for health promotion are:

- promotion of healthy nutrition
- promotion of physical activity
- promotion of well-being and mental health.

These objectives are elaborated in information and sensitization campaigns, focused on the prevention of health hazards and determined for age-specific groups (e.g. the elderly, youngsters, young parents). The Council for Health Promotion, composed of representatives of the German-speaking government, sickness funds, social health services and Service for Child and Family (*Dienst für Kind und Familie*), supports health promotion on the local level by co-financing non-profit-making organizations and specific projects (German Community 2004).

5.1.2 National screening programmes

In Belgium, two national screening programmes for early detection of diseases exist: breast cancer screening and neonatal screening for congenital metabolic diseases.

5.1.2.1 Breast cancer screening

In 2000, the communities and the federal government signed a protocol to organize and finance, on a national scale, a campaign for breast cancer screening for women between 50 and 69 years old, based on the directives developed by the Europe Against Cancer programme (Christiaens et al. 2007). The federal government pays for the radiological costs (via the NIHDI), while the organization's costs are paid for by the communities.

The responsibility for the coordination of the campaign is attributed to recognized screening centres. Seven screening centres were identified: one in the Walloon region, five in Flanders (in four Flemish universities and one in Bruges) and one screening centre for Brussels. The screening centres are responsible for the identification of the target group, sending the invitations, the second assessment of the mammography,[aa] data recording and reporting to the referring physician. In Flanders, the campaign started in June 2001, while in the Walloon and Brussels-Capital regions, the campaign started in June 2002. Breast cancer screening in the German community is part of the programme of the French community. The coverage of breast cancer screening in Belgium is detailed in Section 7.5 *Quality of care*.

5.1.2.2 Neonatal screening

The goal of neonatal screening is the early detection of 11 congenital metabolic diseases in neonates. To guarantee the quality of test performance, centres for detection of metabolic diseases (specialized laboratories) are certified by the communities (three in the French community and three in the Flemish community) (Communauté française 2009). These laboratories collaborate with partners who take the blood samples (from maternity wards, GPs, independent midwives) and partners who take care of the follow-up for babies with a positive test result (paediatricians, centres for metabolic diseases).

A Flemish study group developed a strategy for the standardization and optimization of neonatal screening. This strategy is a working instrument for all health care workers and is updated on a regular basis (Vlaams Agentschap Zorg en Gezondheid 2010e).

5.1.3 Non-national screening initiatives

Other screenings initiatives are not yet organized at federal level but exist at the level of communities.

Since March 2009, the detection of colorectal cancer for those aged 50–74 is organized in the French and the German communities. The test consists of an examination of blood in the stools, followed by a colonoscopy in persons at risk and is performed every five years after normal results, or every 1–3 years depending on the number of adenomas found during colonoscopy. In the Flemish community the screening is organized in local pilot projects and with a different diagnostic technique (examination of the blood with immunochemical tests) (Jonckheer 2009).

The detection of cervical cancer in women aged 25–64 is organized in pilot projects or as opportunistic tests in Belgium. The target group is invited to have a Pap smear taken once every three years (Stichting Tegen Kanker 2010). The coverage of cervical cancer screening in Belgium is detailed in Section 7.5 *Quality of care*.

The prevention campaign for cervical cancer is extended with the availability of a vaccination against the human papilloma virus (HPV) for girls aged 12–18. This vaccination is reimbursed by the NIHDI. (Hoge Gezondheidsraad 2007; *BS–MB* 2008)

5.1.4 Family and child health care

Three different institutions (K&G for the Flemish community, ONE for the French community and *Kind und Familie* for the German community) are in charge of the organization of preventive medical, psychosocial and parenting/pedagogical services for parents-to-be and families with young children. In addition to this, they provide consultations for children up to six years old as well as childhood immunizations.

Vaccination coverage is described in Table 5.1. Levels of child immunization against diphtheria, tetanus, pertussis and poliomyelitis have been stable and reached 99% in 2007. Immunizations against *Haemophilus influenzae* type b and hepatitis B have increased significantly since 2000, up to 97.5% and 94.4% respectively in 2007 (see Table 5.1). Since 2004, the financing of all vaccines (listed in the vaccination calendar) is regulated with the same distribution code for all communities: two-thirds is financed by the federal government and one-third is financed by the communities (NIHDI 2007b).

[aa] The radiologist performs a first assessment of the mammography and the screening centre provides a second assessment.

These institutions also organize hearing screening for neonates. This comprises screening, the possibility of controlled referral to a highly qualified centre, diagnosis, treatment and home-based guidance, as well as registration in a central database. The screening test is free.

A pioneering community-based eye screening for amblyogenic factors has been organized by K&G, in collaboration with five Flemish university ophthalmologic departments. The programme aims to reduce the number of children with lazy eye from 6% to 2%, using a powerful and convenient infrared video-refractometer. The programme covers screening, referral to an ophthalmologist, follow-up, registration and feedback. Nurses perform the test in children at the age of 1 and 2 years old.

In both the Flemish and French communities, school health care services are provided for nearly every nursery, primary and secondary school (up to the age of 18 years old). On a regular basis (once in primary school and twice in secondary school), pupils go to a school medical centre for a preventive medical examination, which includes screening for physical and mental disorders, sight and hearing tests, vaccinations (such as hepatitis B) and verification of vaccination dates. In addition, teams composed of a physician and a graduate nurse visit schools for prevention of communicable health problems (e.g. tuberculosis, head lice) and health education.

Table 5.1: Levels of child immunization in Belgium (%), 1990–2007 (selected years)

	1990	1995	2000	2005	2006	2007
Diphtheria	93	94	95	97	99	99
Tetanus	93	94	95	97	99	99
Pertussis	93	94	95	97	99	99
Measles	85	85	82	88	92	92
Poliomyelitis	95	92	96	97	99	99
Haemophilus influenzae type b	–	–	86	95	98	98
Hepatitis B	–	–	60	78	94	94

Source: WHO Regional Office for Europe 2010

5.1.5 Mechanisms for notification and surveillance of disease outbreaks

5.1.5.1 Notification of an infectious disease

The specific proceedings to encounter an infectious disease outbreak are regulated by the communities.

In the Flemish community, the proceedings for infectious diseases contain five domains: primary prevention (vaccination of the population); curative approach (diagnostic and treatment); surveillance of infectious diseases; case management (individual contagion); and outbreak management (collective contagion) (Burgmeyer, Hoppenbrouwers and Bolscher 2007).

The Flemish community determines the list of infectious diseases, the proceedings for notification and the assignment of the local state epidemiologists (one per province) (Vlaams Agentschap Zorg en Gezondheid 2004; Flemish Government 2009b). These health inspectors are responsible for taking measures to confront the disease outbreak (such as communicating with the health authorities, organizing the medical examination of patients and the provision of specific medical treatment) and supervising the performance of these measures. The measures for dealing with an outbreak of disease also depend on the target group (patient, unknown patient, susceptible contacts and individuals) and the different components of contagion.

Every physician, head of a laboratory of clinical biology and supervising physicians working in a school, work environment and in residencies for children, youth and elderly are compelled to report a case of an infectious disease to a health inspector within 24 hours. The mentioned diseases are listed in a pre-determined and regularly updated list (which is the responsibility of the communities) (Flemish Government 2009a). More detailed information about infectious diseases can be found on the web site of the Flemish community (Vlaams Agentschap Zorg en Gezondheid 2010c). The reporting of a case contains information about the disease (syndrome, diagnostic technique, course and beginning of the disease) and demographic components.

In the French community, the notification of infectious disease outbreaks occurs in a similar way as in the Flemish community. The list of diseases includes: food poisoning, active tuberculosis, STDs, diseases which can be prevented by vaccination, bacterial infections, legionnaires' disease, widespread diseases, zoonosis and rare diseases. More detailed information about the list of diseases can be found on the web site of the French community (French Community 2010b).

The German community applies the same proceedings as the French community.

On the federal level, the FPS Health, Food Chain Safety and Environment is supported by the Superior Health Council (scientific advisory department).

In the case of a major disease outbreak (e.g. the risk of national contagion or a disease outbreak in neighbouring countries), the communities will collaborate with the federal government to coordinate a national action plan.

5.1.5.2 Surveillance of an infectious disease

The goal of surveillance is the organization of the systematic collection, analysis, interpretation and dissemination of data in order to optimize the preventive programmes of each community. The surveillance of infectious diseases occurs in three ways: compulsory notification of infectious diseases by physicians and laboratories; registration by an extensive network of sentinel laboratories; and the organization of projects and programmes (for example the programme for STDs).

The IPH gathers the necessary epidemiological information (by using and/or reinforcing the existing surveillance system or by creating new ones), coordinates the risk assessment and gives epidemiological support (e.g. intervention, survey) to the health authorities.

5.1.6 Measures on lifestyle behaviours

5.1.6.1 Alcohol consumption

A national campaign against drink-driving (BOB-campaign) was set up in 1995 by the Belgian Institute for Traffic Safety (BIVV-IBSR). Because of its huge success, the BOB-campaign has been renewed at the end of each year and has been copied by other countries. Local projects on the prevention and treatment of addictions can be financed by the Fund for the Fight Against Addictions. In 2008, a National Action Plan for Alcohol was also defined (see Chapter 6).

The main restrictions in place to protect minors from the negative effects of alcohol abuse include age limits (strong drinks, e.g. hard liquor, can only be sold to adults over 18 years old, other alcoholic beverages, e.g. beer and wine, only to persons over 16 years old). Advertisements for alcoholic products are also restricted. They may not be aimed at minors or involve minors (Act of 17 November 2006) (FPS Health, Food Chain Safety and Environment 2010a).

5.1.6.2 Smoking

Prohibition of tobacco use includes the ban on smoking in public places, schools and work environments. Also, since January 2010, it is prohibited to smoke in the catering industry. The only exception is allowed for drinking houses where only drinks are served (Royal Decree of 22 December 2009 and Royal Decree of 13 December 2005). In addition, there are numerous prevention campaigns organized by schools and local health networks.

Schools are supported in providing a "smoke-free" school environment and a "smoke stop" course is organized to help adolescents give up smoking.

In line with European legislation, the sale of tobacco products is restricted to adolescents over 16 years old (Act of 1 December 2004). In places that sell tobacco products, leaflets and posters must warn the buyer of the health risks of smoking. Advertising tobacco products (and sponsorship by these companies) is prohibited. Furthermore, a warning about health risks on the cigarette packs is compulsory (Ministerial Decree of 27 October 2005).

5.1.6.3 Overweight

Several initiatives are in place to promote healthy eating and exercise in schools. These include promoting the consumption of healthy food and drinks (eating fruit, healthy drinks and healthy snacks) and the integration of a nutrition and physical activity policy (see also Subsection *Prevention measures* in Section 6.1.1 *Increasing accessibility*). The promotion of healthy nutritional eating habits is coordinated by the local health networks.

5.2 PATIENT PATHWAYS

5.2.1 In hospital

Efforts to develop patient pathways are, so far, mainly related to pathways in hospitals. Generally, these pathways are called clinical pathways. In the context of hospitals, clinical pathways are often defined as schedules of medical and nursing procedures, including diagnostic tests, medications and consultations designed to provide an efficient and coordinated programme of treatment. Several initiatives have been undertaken to stimulate the use of clinical pathways in Belgian hospitals.

In 2000, the Centre for Health Services and Nursing Research of the Catholic University Leuven (KUL) launched the Belgian Dutch Clinical Pathway Network to support hospitals in developing, implementing and evaluating clinical pathways. The first activity of the Network is to provide education on clinical pathways and related concepts such as patient safety, quality control, multidisciplinary teamwork, operations management and evidence-based medicine. The second activity is to support multidisciplinary teamwork, in-hospital projects on pathways and multi-centre research projects and benchmarking. The third activity is research and international collaboration (FPS Health, Food Chain Safety and Environment 2006a).

Some research projects are funded by the federal government. Since 2003, a joint venture, called Network of Clinical Pathways (*Het Netwerk Klinische Paden*), between the Centre for Health Services and Nursing Research of the KUL, the Dutch Institute for Health Care Improvement (CBO) and the UCL has been established. The team incorporates competences in patient care management, change management, cost-accounting, operations research, evidence-based medicine and information and communication technology. In 2008, 106 organizations were members of the Network, including acute hospital trusts, rehabilitation centres and home care organizations.

Within the Network, a clinical pathway is defined as: a collection of methods and tools to guide the members of a multidisciplinary and interdisciplinary team towards patient-focused collaboration for a specific patient population. It is a (systematic) way of identifying and defining the different tasks of the different team members. The goal is to assure qualitative and efficient care. It is a tool to systematically plan and follow up a patient-focused care programme. More than 450 pathways are under development or have been implemented (KUL 2006; Sermeus and Vanhaecht 2002).

A KCE survey showed that clinical pathways have a higher penetration in predominantly Dutch-speaking acute hospitals and larger acute hospitals. The impact of clinical pathways at present is below 10% in most of the hospitals, but there is a large potential for growth covering up to 40–60% of patients. A multitude of pathways already exists for a large number of frequent interventions in surgery, obstetrics-gynaecology and, to a lesser extent, internal medicine and neurology. Currently, less than two-thirds of the pathways fulfil the three characteristics of clinical pathways: a timeline, multidisciplinary work and a detailed overview of key elements (Devriese, Lambert and Eyssen 2005).

Apart from specific clinical pathways by pathology, a general pathway can be formulated, for example, for a woman who is in need of a hip replacement as shown in Box 5.1.

5.2.2 In ambulatory care

In 2009, care pathways (*zorgtraject/trajet de soins*) for the treatment and follow-up of certain chronic diseases were developed and implemented to enhance the collaboration in care between the patient, the GP, the specialist and other caregivers (Royal Decree of 21 January 2009). The collaboration between caregivers is described in a "care pathway" contract that lasts four years. Financial incentives are given to the physicians (yearly lump sum of €80 per patient) and to the patient (complete reimbursement for consultations, more access to specific devices and, for example, reimbursed consultation with a dietician, a personal care plan and the guarantee that the care plan is individually adapted to his or her specific needs, etc.). Currently, two pathways already exist: one for patients with chronic kidney insufficiency (since 1 June 2009) and one for patients with diabetes type 2 who no longer respond to oral treatment (since 1 September 2009) (NIHDI 2009a; NIHDI-Care Pathways 2009).

To enhance the collaboration between all caregivers and optimize the quality of care, local multidisciplinary networks were set up as a supportive service for the caregivers. The local GP circles are the initiators for setting up an operational plan in collaboration with the local ISHC-GDT-SISD. The aim of this operational plan (under the supervision of a care pathway promoter) is the gathering of information about the caregivers and the local organizations, the facilitation of communication between caregivers and the evaluation of the local network. The local networks receive a yearly sum (in agreement with the Assurance committee) adjusted to the number of inhabitants in the local region (NIHDI-Care pathways 2009).

Box 5.1

Patient pathway example: woman in need of a hip replacement

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

- **She can contact a GP with whom she can be registered (i.e. the GP who keeps her GMD-DMG). She can also contact an orthopaedic specialist directly.**
- **The GP or the orthopaedic specialist can prescribe any necessary pharmaceuticals.**
- **The GP refers her to a hospital orthopaedic department for examination and, subsequently, an operation.**
- **She has free access to any accredited hospital, public or private. Thus, the GP makes the referral in consultation with the patient.**

- **After consultation with the orthopaedic specialist, the decision is made for admission and surgery. Waiting lists are limited.**
- **During hospitalization, any necessary medication and physiotherapy are prescribed by the responsible orthopaedic specialist.**
- **Following surgery and primary rehabilitation at the hospital, the responsible orthopaedic specialist, together with staff from social services in the hospital, the patient and her family, develops a plan for further care.**
- **After discharge from hospital, she can go home (where she might need home care) or, if she is 60 years or older, she can go to a residential home, a home for the elderly or a nursing home.**
- **The GP receives a discharge summary from the hospital which will be added to the GMD-DMG. The GP is responsible for any further follow-up, such as referral to a physiotherapist.**
- **A follow-up visit to the hospital outpatient department or with the private specialist is likely to take place to check the treatment's outcome.**

5.3 PRIMARY/AMBULATORY CARE

In this section, primary health care is defined as the first point of contact between an individual and the health system. Since there is no referral system in Belgium, for several specialties (in particular for gynaecology, ophthalmology, dermatology, paediatrics and otorhinolaryngology) the specialist often forms the first point of contact with the patient in the health care system. They will therefore be considered in this section along with GPs.

Delivery of ambulatory care in Belgium is mainly private and based on the principles of independent medical practice, that is, independent medical practitioners and paramedics are remunerated via fee-for-service payment and there is free choice of physician by the patient. The vast majority of physicians work as independent, self-employed health professionals. Medical specialists can work in health institutions (mostly hospitals) and/or on an ambulatory basis in private practice. GPs mostly work in private practice; they rarely work in hospitals except to perform deliveries in maternity units and in emergency care units. Because there is no referral system between GPs and other specialists, every citizen has free access to medical specialists and hospital care, even as the first point of contact with the health care system.

Domiciliary visits to patients by GPs are a regular practice in Belgium. Indeed, in 2008 there were 46 345 577 visits to GPs of which 15 017 280 (32%) were domiciliary. Visits to specialists can either take place at a hospital or in an outpatient department (most often situated in a hospital). The total number of visits to specialists was 26 023 318 in 2008. Patients do not usually have to wait long for access to either GPs or specialists.

The number of outpatient contacts per person per year decreased from 6.9 in 2000 to 6.5 in 2007, but increased again to 6.8 in 2008. In particular, the number of physicians' visits to patients at home has decreased from 2.3 in 1995 to 1.4 in 2008. The number of visits by patients to GPs and specialists has increased to 2.9 and 2.4 per person per year, respectively (2008). In the past decade, the number of outpatient contacts seems to have stabilized at around 7.0 contacts per person per year (see Table 5.2) (NIHDI 2008d).

Table 5.2: Outpatient contacts per person per year, 1995–2008 (selected years)

	1995	2000	2005	2006	2007	2008
Consultation at GP's office	2.5	2.7	2.7	2.7	2.8	2.9
Consultation with a specialist	2.0	2.1	2.3	2.3	2.3	2.4
Physician visits (mostly GPs) to patients at home, nursing home, hospital, etc.	2.3	2.0	1.6	1.5	1.4	1.4
Other*	0.1	0.1	0.0	0.0	0.0	0.0
Total	**6.8**	**6.9**	**6.6**	**6.5**	**6.5**	**6.8**

Source: Raw data provided by NIHDI.
Note: *GP assistance during emergency transport, advice and multidisciplinary dialogues (from 2006). Calculation based on the date of the service

Physicians (GPs and specialists) operate in solo or group[bb] practices, frequently without any staff except perhaps a medical secretary. Most group practices correspond to integrated health care practices, such as medical houses (*maison médicale/wijkgezondheidscentra*), which operate a multidisciplinary team, including (at least) several GPs, administrative and reception staff, nurses, a physiotherapist and a psychotherapist. The number of such practices is growing, although there is still only a small minority of people affiliated to them. Group practices can operate a fee-for-service payment system like other physicians, but also a capitation system (NIHDI 2010i). The total number of medical houses using a capitation system increased from 53 in 2003 to 99 in 2009.

The provision of many other health care services (e.g. pharmacies and dental services) is also private.

Primary care services are also to a large extent provided by other health care professionals, such as nurses and physiotherapists. Nurses play a key role in providing services to people with chronic diseases or disability. Primary care services provided by nurses include, for example, wound and diabetes care.

There are also centres for family planning (which have a minimum staff of one physician, one psychiatrist or psychologist, one lawyer and one social assistant), which are subsidized by the communities for their equipment, personnel and running costs.

Physiotherapists are also largely involved in primary care services. Indeed in 2008, the Professional Association of Physiotherapists estimated that primary care treatments corresponded to 80.9% of all acts performed by physiotherapist (Axxon 2009). As is the case for nursing care, demand for physiotherapy services has increased due to the ageing population and also because of increasing lifestyle related health problems (such as lack of physical activity).

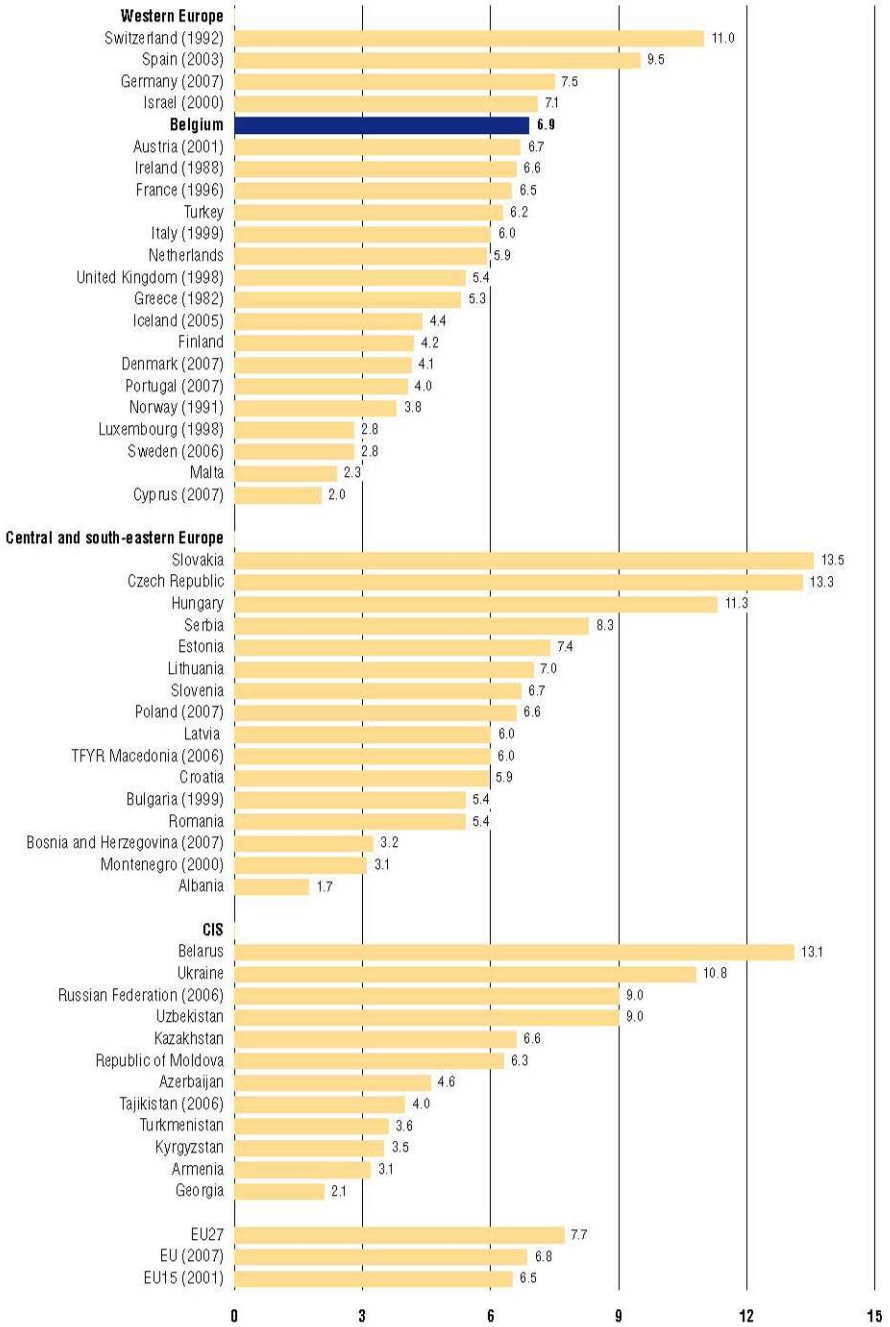
5.3.1 The GP gatekeeping role

GPs do not serve a gatekeeping role in Belgium. Patients have free choice concerning the first physician to contact, can change physicians at any time, get a second opinion, or even consult several physicians at a time. Moreover, they can directly access specialists or enter hospitals. The free choice of physician is an important right granted to patients. Nevertheless, the average number of physician contacts per person in Belgium is in line with the EU27 average (6.9 outpatient contacts[cc] per person in 2008, compared to the average of 6.86 in the EU27) (see also Fig. 5.1).

bb First estimates showed that around a quarter of recognized GPs operate in group practices. More accurate data on group practice will be available from the end of 2010.

cc The WHO Regional Office for Europe (2010) defines outpatient contacts per person per year as: "The total number of primary health care or ambulatory care contacts divided by the population. An outpatient contact is one episode of examination/consultation performed by a physician or by a nurse in the presence of a physician, in relation to one outpatient at one time and location, normally at the physician's

Fig. 5.1: Outpatient contacts per person per year in the WHO European Region, 2008 or latest available year



Source: WHO Regional Office for Europe 2010.

Concerning the contact between patients and GPs, the national HIS of 2004 showed that a large majority of the population (95%) had a regular GP, and that the mean number of contacts per year was 4.5 (self-reported by the patient). The survey indicated that people with a low education level (primary education diploma) contacted GPs more often than people with the highest education level (higher education diploma), with 7.8 and 3.3 contacts, respectively.

office or the patient's home. The number of outpatient contacts includes: patient's visit to physician's office; physician's visit to patient's home or other place; call for ambulance; day-patient cases." For Belgium this number includes advice, patient's visit to physician's office (GPs and specialists), physician's visit to patient's home and medical assistance during urgent transfer to a hospital (in an ambulance); day-patient cases are not included.

This difference in the number of contacts between patients and GPs might be due to the fact that less educated people have poorer health. Only 10% of GP contacts resulted in a patient referral to a specialist for treatment or additional investigation. This low figure could reflect the high proportion of patients that directly seek a specialist consultation (Van der Heyden et al. 2003).

Despite the importance attached to the principle of free choice of provider, measures have been taken to strengthen the position of the GP as the preferred entrance point for health care (see Section 2.6.2 *Regulation of providers* and Subsection *Strengthening primary care* in Section 6.1.2 *Assuring health care quality*).

5.3.2 Out-of-hours primary care

In order to contain the number of patients relying exclusively on hospital emergency services for more or less urgent questions and problems, and because out-of-hours care is a heavy burden for GPs, both out-of-hours duties and remuneration have been expanded. In 2002, a lump sum of €125 per 24-hour period was assigned to GPs on duty during the weekend or public holidays. The fee applies to GPs for each 24-hour weekend shift that they are on call, irrespective of the number of consultations given.

In a given area, GP circles are responsible for local health policy; collaboration with other health care providers and hospitals; and the organization of out-of-hours primary care. Although GP circles are financed for mainly administrative aspects, they can receive extra funding if the out-of-hours service is further extended with a unique phone number, or if the population density is less than 125 inhabitants per km.

In 2007, the National Commission of Representatives of Physicians and Sickness Funds proposed additional "experimental" measures which aimed to ensure a structured organization for out-of-hours visits (for their own patients, visits after 18:00) and organized duty services (for every patient in a specific area). Organized duty services are accessible for everybody during the weekend, holidays and week nights.

These are temporary measures, which will be evaluated at the end of 2010. Two measures concern organized duty services. First, duty services may start at 19:00 instead of 20:00. As of January 2010, the NIHDI will pay a supplement of €5.66 per hour for these extended hours. Second, a further fee supplement of €2.11 is offered for patients visiting their doctor between 19:00 and 21:00. Patients are fully reimbursed for the duty supplement.

An "availability" supplement is also afforded to physicians who remain available to their patients between 18:00 and 21:00. The "availability" supplement of €2.11 can be charged to patients. Patients receive full reimbursement for the "availability" supplement if they have a GMD-DMG (NIHDI 2010l).

In 2008, there were 20 organized duty centres: ten in the Flemish community, six in the French community and four in Brussels-Capital.

5.3.3 Geographical distribution of primary health care physicians

A recent KCE study reported on the geographical distribution of GPs and specialists in Belgium. In 2005, the lowest densities were observed in Antwerp, Limburg, West Flanders and East Flanders, with 9.8, 9.9, 9.9 and 10.2 GPs per 10 000 inhabitants, respectively. The highest densities were observed in Luxembourg and Namur with 14.2 and 14.4 GPs per 10 000 inhabitants, respectively. Intermediate densities were observed for Flemish Brabant, Hainaut, Liège, Brussels and Walloon Brabant (11.1, 11.4, 13.1, 13.2, 13.6 per 10 000 inhabitants, respectively).

The density of practising specialists is lowest in Limburg and West Flanders (8.4 and 9.4 specialists per 10 000 inhabitants), whereas the highest densities were observed in Brussels and Walloon Brabant (21.7 and 24.0 specialists per 10 000 inhabitants). The relatively high density of specialists in Liège, Brussels and in the Flemish Brabant can be related to the higher number of hospital beds in those provinces.

In Belgium, all doctors are free to choose their practice location. In order to relocate doctors to medically deprived areas, in 2006 the government launched a dedicated fund for this purpose called the Impulseo I fund (see Subsection *Mechanisms to provide an adequate supply* in Section 6.1.1 *Increasing accessibility*) (Roberfroid et al. 2008).

5.4 SECONDARY CARE (SPECIALIZED AMBULATORY CARE/INPATIENT CARE)

Secondary care in Belgium refers to inpatient care in hospitals as well as in day care.

5.4.1 Hospitals

According to the Belgian Hospital Act, several primary conditions have to be met for a health care establishment to be labelled as a hospital:

- continuity of care ("at any time")
- basic coverage in diagnostic and therapeutic medicine ("appropriate examinations and/or treatment within the field of medicine, surgery and in certain cases obstetrics")
- multidisciplinary setting
- appropriate organization and infrastructure ("necessary and appropriate medical, medico-technical, nursery, paramedical and logistical framework")
- possibility of overnight stay(s)
- function as quickly as possible in relation to requirements of care (according to a patient's condition, required care must be provided in order to treat or alleviate disease, restore or improve their state of health, or stabilize lesions as quickly as possible).

In Belgium, hospitals are private or public non-profit-making organizations that are classified into acute, psychiatric, geriatric and specialized hospitals (see also Section 4.1.2 *Capital stock and investments*).

People are free to choose which hospital they visit and public hospitals have to accept all patients. Thus, there is no formal referral system between primary and secondary/tertiary care, but, in practice, it is usually the GP or the private specialist who decides to send the patient to a hospital.

Waiting lists that occur in some European health systems are quite rare in Belgian hospitals. For specific interventions, waiting lists may occur due to external reasons, such as the shortage of donors in the case of organ transplantation. To alleviate the shortage of organs (especially kidneys and livers), a campaign was set up among the population and care providers under the name "BELDONOR". Since then, the number of candidate donors has increased steadily from 33 850 in 2005 to 100 581 in 2009. In 2009, the campaign continued and took a particular focus on specific target groups, such as students in secondary education. In addition, the GIFT project was set up in intensive care units of 60 hospitals. Under this project, "transplantation correspondents" can undertake early screening of potential organ and/or tissue donors and can later discuss with family members and providers about the importance of donation (FPS Health, Food Chain Safety and Environment 2008a).

As mentioned before, hospital accreditation is regulated by the federal government and implemented by the communities (see Section 2.6.2 *Regulation of providers*). The system of accreditation is primarily concerned with aspects relating to safety, hygiene, quality and continuity of care. In recent years, hospital planning and accreditation is moving away from considering the hospital as an overall infrastructure towards defining it in terms of its various medical and supportive services.

The concepts "care programme" and "care function" were introduced. A programme is a coherent set of care services for a well-defined target patient group. The programme is first defined by the case treated and the type of care given. Then, norms describing infrastructure, number of personnel, minimum activity level and so on are allocated to this programme. A distinction is made between basic programmes for regular conditions and specialized programmes for rarer conditions, which will not be available in every hospital. A function describes a set of hospital services which are not aimed at a specific patient group. They are not provided in a defined unit, that is, they are not directly linked to hospital beds and all the programmes and services of the hospital can use them. The idea is that hospitals would be comprised completely of a series of basic programmes and basic functions (which would have to be present in every hospital) as well as some specialized functions and programmes. Among basic functions, general hospitals must ensure the availability of non-surgical procedures for adults (such as cardiology, gastroenterology and endocrinology), a maternity unit, an emergency unit as well as a unit for children and elderly (Belgian Federal Government 2010).

At present, there are care programmes for reproductive medicine, cardiac pathology, oncology, paediatric and geriatric patients (Royal Decree of 15 February 1999).

For oncology, the professional title of medical oncologist was introduced, making oncology an exclusive discipline. In addition, a care programme for breast cancer was developed, as a specialized programme with the intention of improving the preventive as well as curative approaches to breast cancer.

The care programme for children was created with two objectives: reducing the number of paediatric services with a low occupancy rate to the benefit of paediatric services with a higher occupancy rate, and establishing paediatric services that offer the whole range of treatment forms – from consultation to day hospitalization to classical hospitalization.

The care programme for geriatric patients was developed from the same logic. This programme integrates different treatment modes in the form of different modules: polyclinic treatment, day hospitalization, classic hospitalization, and internal and external liaisons. The liaison function should guarantee a transmural approach in the form of care pathways. Also, geriatric treatment is guaranteed for patients who are treated in hospital units other than the geriatric service.

According to the Hospital Act, a medical council has to be established in every hospital. Through this council, the hospital physicians participate in the decision-making process of the hospital. The medical council gives advice to the hospital manager on five matters: general regulations, medical activities, relations with other hospital staff, financial means and techniques necessary for medical activity. For well-defined matters, this advice obliges the manager to consult an intermediary in case of disagreement on this opinion and the advice of the medical council. The Hospital Act imposes an obligation upon every hospital to determine a so-called general regulation on the legal relationship between the hospital and its physicians, as well as the organizational, working and financial conditions. Under this general regulation, the rights and obligations of every hospital physician and the hospital manager, including their working conditions, have to be laid down in writing, either in an agreement between both parties or in a unilateral act of appointment.

The geographical distribution of hospital care facilities and the total number of beds per type of hospital in each province is in line with the distribution of the population in Belgium (see Table 5.3). In the province of Luxembourg, with the lowest density of habitants, the lowest number of hospitals is found (4) and the highest number of hospitals is found in Brussels (28).

In the provinces near Brussels, such as in the Flemish Brabant and the Walloon Brabant, the number of hospitals is lower compared to the other provinces, due to the high number of hospitals in Brussels.

Also, the total number of beds is higher in the Flemish region (40 233) than in the Walloon and the Brussels Capital Regions (21 575 and 8594, respectively).

Table 5.3: Geographical distribution of hospital care facilities and total number of beds per type of hospital per province, 2008

	Acute hospitals (number of beds)	Specialized hospitals (number of beds)	Geriatric hospitals (number of beds)	Psychiatric hospitals (number of beds)
West Flanders	14 (6 582)	4 (374)	1 (54)	7 (1 856)
East Flanders	14 (6 933)	2 (111)	0	12 (2 489)
Antwerp	18 (8 395)	3 (193)	1 (152)	6 (2 933)
Limburg	8 (3 242)	1 (120)	0	5 (1 254)
Flemish Brabant	6 (3 603)	2 (312)	0	8 (1 630)
Brussels	12 (6 834)	1 (117)	5 (613)	10 (1 030)
Walloon Brabant	2 (878)	2 (314)	0	4 (391)
Hainaut	18 (7 304)	1 (6)	0	7 (1 540)
Liège	11 (4 936)	2 (126)	1 (395)	5 (1 440)
Namur	6 (1 944)	1 (10)	0	3 (776)
Luxembourg	3 (998)	0	0	1 (199)

Source: Raw data from the FPS Health, Food Chain Safety and Environment.

5.4.2 Day care

Day care is defined as a programmed hospitalization of a patient for a surgical intervention (surgical day care) or a number of diagnostic or therapeutic tests (medical day care), which occur within the traditional hospitalization, but can be carried out efficiently and safely in one day (according to the OECD). Day care is organized in a specific hospital unit, which is a part of an acute hospital with an adapted specialized medico-technical environment.

The agreement between the hospitals, the sickness funds and the NIHDI defines a day hospital as "an organized and integrated function of day care under the supervision of a medical specialist with fixed procedures concerning selection of patients, safety, quality, continuity, reporting and cooperation with several medico-technical services" (Roberfroid et al. 2008).

Day care has been introduced for oncology, paediatric and geriatric activities, and has increased significantly in the last decade. The proportion of day-care admissions increased from 30% in 2000 to 42% in 2007 in acute hospitals.

Day care in long-term care facilities is described in Section 5.8 *Long-term care for the elderly*.

5.5 EMERGENCY CARE

Emergency care has been regulated in Belgium since 1964. The Emergency Medical Assistance Act aimed to improve medical assistance at public places by introducing a uniform telephone number and regulating first aid on the spot and transport to hospital.

Emergency care is defined by the Emergency Medical Assistance Act as the immediate supply of adapted aid to all persons whose medical condition – as a result of an accident, a sudden disorder or a sudden complication of a sickness – requires emergency mediation after calling the uniform telephone number as a result of which the assistance, the transport and the relief in an adapted hospital service can be assured.

Emergency medical assistance is seen as a chain which has several links. The first is the bystander who, in a correct manner, must call the emergency centre on the uniform telephone number ("100") and if possible, must be able to offer the appropriate first help on the spot. The following links include the person in charge at the emergency call centre "100", the ambulance service, the MUG-SMUR and the emergency department in the hospital.

The organization of the aid centres "100", including the installation and the functioning of the uniform call scheme, falls under the responsibility of the Minister of Social Affairs and Public Health. In 2009, there were 17 aid centres. The costs are paid by the federal government. The Council Decision of 29 July 1991 introduced the single European emergency call number 112 (91/396/EEC). Since 2002, all fixed and mobile phones are free of charge to this number. The latest Eurobarometer report on the use of the 112 number mentioned that Belgian (along with Slovakia) had the largest increase in respondents who identified the 112 as the emergency number from anywhere in the EU (European Commission 2010).

The main tasks of those responsible in the aid centre are: to inform the nearest ambulance service or a GP, to decide about the possible mediation of a MUG-SMUR and to make sure that the patient is transported to the most suitable hospital. Each patient must be transported to the nearest emergency care department of an acute care hospital except if the hospital can not provide the appropriate care.

The MUG-SMUR is a part of specialized emergency care and is specialized in the treatment of vital emergencies in very specific situations which require a high level of competence. For this specific care, a fast intervention vehicle carries the necessary equipment to provide care to the patient on the spot. The MUG-SMURs are not in charge of the transport of patients. If the situation is serious, the physician goes with the ambulance and looks after the patient until they arrive at the hospital. The physician can also recommend the appropriate hospital according to the pathology of the patient. To avoid traffic jams and to cover more rural areas, the MUG-SMUR disposes of two helicopters, which can also be used to transport the patient (Royal Decree of 10 August 1998).

Each mobile urgency and resuscitation service is managed by a hospital or an association of hospitals and is linked with the emergency care department of an acute care hospital. The MUG-SMUR ensures a 24-hour service. The number of MUG-SMURs is based on the number of inhabitants and population density. In 2009, there were 79 recognized MUG-SMURs, of which 15 were managed by two or more hospitals. The MUG-SMURs are financed by the federal government.

Specialized emergency care services are organized in acute hospitals (Royal Decree of 27 April 1998). Not every hospital has to have a specialized emergency care service, but all hospitals must provide first emergency capabilities where the treatment of patients with an acute pathology can be provided (under authorization of the Minister of Social Affairs and Public Health, Royal Decree of 27 April 1998). Specialized emergency care services are led by a recognized specialist in emergency care medicine and a nurse specialized in intensive and emergency care (or with at least five years of experience). A 24-hour service must be provided by at least one recognized physician in emergency care medicine or acute medicine and two nurses. The number of medical staff has to be adapted to the intensity of activities of the specialized emergency care.

To ensure first aid to the patient, the physician must have access to at least three beds in intensive care, a polyvalent surgical headquarters, a laboratory for clinical biological tests, a medical imaging service (with a mobile radiological device and a transversal axial tomography device), a stock of red blood cells or supply from a hospital blood bank and access to the archives of medical files (with 24-hour accessibility). The emergency physician can also be assisted by several specialists (organized within an out-of-hours service). Besides medical care, the medical staff are also responsible for registration of the activities and continuous training in resuscitation techniques of all personnel in the hospital.

In order to organize the collaboration between all services and to formalize protocols for emergency care (also in collective emergency situations), a commission with representatives of all emergency caregivers was founded in 1998.

Since 2006, the federal government has also financed an experimental project called Paramedical Intervention Teams (PITs). A PIT is composed of a nurse specialized in emergency care and an ambulance driver, and covers emergency care needs when the presence of an emergency physician is not required. Moreover, they are supported by a physician via a secure radio connection. PITs are also attached to a hospital. In 2006, the law also established the conditions necessary to set up automated external defibrillators (AED) in public places. This measure aimed at improving survival chances for individuals having a heart attack (FPS Health, Food Chain Safety and Environment 2006b).

In case of large-scale emergency situations a Medical Intervention Plan (MIP) will coordinate the emergency care by setting up a medical post for triage of the injured and a Psychosocial Intervention Plan (PSIP) to support the victims (FPS Health, Food Chain Safety and Environment 2010b).

Box 5.2 shows an example of a patient pathway in an emergency case.

Box 5.2

Example of a patient pathway in an emergency care episode

A man with an emergency care need on a Sunday morning would take the following steps:

- **the man (or someone else) calls the GP out-of-hours service;**
- **the GP visits the man at home or the man comes to the practice;**
- **the GP makes the diagnosis and decides if he can treat the patient or if the patient has to go to an emergency care department in a hospital.**

Another possibility is that the man goes directly to the emergency department, without consulting the GP. If the man is seriously injured, he or a bystander calls the "100" centre (or the European number 112), which will send an ambulance to give first aid on location and transport the patient to the nearest hospital (with an emergency department).

5.6 PHARMACEUTICAL CARE

The pharmaceutical industry is one of the leading sectors in the Belgian economy. According to the professional organization Pharma.be, approximately 29 400 people worked in the sector in 2008, of which about 20% are high-skilled researchers. More than 150 companies have operations in Belgium, of which 33 have a production sites in the country. Pharmaceuticals amount to 11% of the country's exports (Pharma.be 2009).

Pharmaceuticals are exclusively distributed through community pharmacies and hospital pharmacies. In 2009, Belgium had 5 229 community pharmacies. The establishment of new pharmacies has been strictly regulated since 1973, controlling the opening of pharmacies in new areas. In 1994, a five-year moratorium imposed a limit on the number of pharmacies. This was prolonged in 1999 for ten years and in 2009 for an additional five years. As a result, the number of pharmacies has slightly decreased, thus increasing the population-to-pharmacy ratio from 1900 in 1999 to 2040 in 2009 (Minister of Social Affairs and Public Health 2009). The restriction on the number of pharmacies means that although in theory graduate pharmacists can go straight into practice after their five-year university course, in fact they are usually employed in existing practices or have to pay exorbitant prices to buy their own pharmacy.

Only physicians and (to the extent that their profession requires) dentists and midwives can prescribe pharmaceuticals. About 2500 pharmaceutical products are on a positive list and therefore are partly or fully reimbursable. The percentage of the cost borne by the sickness funds varies depending on the therapeutic importance of the pharmaceutical (see Section 3.4.1 *Cost-sharing*). The patient only pays the non-reimbursable percentage as a co-insurance to the pharmacy. The sickness funds reimburse the reimbursable percentage directly to the pharmacies through the third-party payer system. Beneficiaries of the system are inhabitants of the country covered by compulsory health insurance. Since 2008, the self-employed also receive reimbursement for their pharmaceutical consumption (because of the coverage of their minor risks, see Section 3.3.1 *Coverage*).

Public expenses for pharmaceuticals reimbursement account for a large proportion of the compulsory health insurance budget, approximately €3.75 billion, representing 18.12% of public health care expenditure in 2008 (NIHDI 2008a; NIHDI 2008d).

More than 72% of expenditure for reimbursed ambulatory pharmaceuticals in Belgium is prescribed by GPs (Table 5.4).

Table 5.4: Expenditure for each anatomical group (compulsory health insurance reimbursement and out-of-pocket payments) prescribed by GPs, specialists, dentists or student physicians for ambulatory reimbursed pharmaceuticals, 2008

	GPs (thousand €)	Others (thousand €)	Total (thousand €)	GPs (%)	Others (%)	Total (%)
A Alimentary tract and metabolism	219 275.4	59 083.4	278 358.9	78.8	21.2	100.0
B Blood and blood-forming organs	110 640.0	43 144.9	153 784.9	71.9	28.1	100.0
C Cardiovascular system	567 431.6	56 555.2	623 986.8	90.9	9.1	100.0
D Dermatologicals	15 449.7	12 449.7	27 899.4	55.4	44.6	100.0
G Genito-urinary system and sex hormones	22 943.3	13 754.5	36 697.8	62.5	37.5	100.0
H Systemic hormonal preparations excluding sex hormones and insulins	37 990.1	35 852.6	73 842.8	51.4	48.6	100.0
J Anti-infectives for systemic use	170 797.7	95 032.9	265 830.6	64.3	35.7	100.0
L Antineoplastic and immunomodulating agents	88 464.5	226 771.2	315 235.6	28.1	71.9	100.0
M Musculo-skeletal system	89 954.9	17 019.7	106 974.6	84.1	15.9	100.0
N Nervous system	325 611.8	115 373.4	440 985.1	73.8	26.2	100.0
P Antiparasitic products, insecticides and repellents	418.5	402.5	821.0	51.0	49.0	100.0
R Respiratory system	179 011.9	38 635.2	217 647.1	82.2	17.8	100.0
S Sensory organs	6 967.4	23 836.2	30 803.6	22.6	77.4	100.0
V Various	20 948.6	5 726.4	26 675.0	78.5	21.5	100.0
Total	**1 855 905.5**	**743 637.8**	**2 599 543.3**	**71.4**	**28.6**	**100.0**

Source: NIHDI 2010g

To curb pharmaceutical expenditure, several measures have been employed of which the most important are mentioned below. Since 2000, the following measures were introduced to modernize pharmaceutical policy:

- simplifying the procedures and structures for the approval of new pharmaceuticals and using scientific research to review products already on the market;
- guaranteeing the supply of pharmaco-therapeutic innovations;
- encouraging pharmaceutical use based on evidence and medical guidelines, with attention to the price-quality ratio of the various alternatives and the place of pharmaceutical products in the overall medical care given;
- setting realistic budgetary targets based on objective policy options and with the introduction of recuperation mechanisms when the budget is exceeded; and
- ensuring affordability for the patient.

More details on recent measures in the pharmaceutical field are given in Section 5.6.3 *Pharmaceutical policy*.

5.6.1 Regulation of pharmaceuticals

The federal Minister of Social Affairs and Public Health is responsible for the market authorization of pharmaceuticals. In order to protect public health, a pharmaceutical must satisfy a number of requirements regarding quality, safety and efficacy. To register a product, the pharmaceutical company must submit an application at European level or nationally. This official registration is a basic condition of introducing a pharmaceutical on the market in Belgium by means of a pharmacy or by a physician (for sample pharmaceuticals) (NIHDI 2009b).

Since January 2007, the national registration procedure is the responsibility of the Federal Agency for Medicines and Health Products (FAMHP). The application for registration must be accompanied by a complete file that contains the results of clinical tests from which the quality, safety and efficacy of the product is established for specific indications. In his/her decision the Minister considers the recommendations of the FAMHP (FAMHP 2010b). For certain applications (vaccines, sera, etc.), the Minister seeks advice from the Superior Health Council (NIHDI 2009b). According to the European Directive 2004/27/EC, the recording procedure cannot take more than 210 days (European Directive of 6 November 2001).

The determination of the maximum price for a pharmaceutical product is the responsibility of the federal Minister of Economic Affairs. For reimbursed pharmaceuticals, the Minister considers the recommendations of the Pricing Committee for Pharmaceuticals when setting prices or considering price increase requests. In the case of non-reimbursable pharmaceuticals, recommendations are given by the Price Regulation Commission (FPS Economy 2010; NIHDI 2009b).

The federal Minister of Social Affairs is responsible for reimbursement decisions. Since January 2002, he/she is advised on these matters by the CRP-CTG-CRM. The CRP was set up at the NIHDI and is composed of 30 representatives of the sickness funds, pharmacists, physicians, academics, pharmaceutical companies (producers of originators and generics), the government and the NIHDI. The latter three stakeholders do not have voting rights (NIHDI 2009b). The three most important tasks of the Commission are:

- to formulate proposals to register pharmaceuticals on the list of reimbursable pharmaceuticals; these proposals are based on expert reports applying methods of HTA;
- to give recommendations on the request of the Minister about policy matters concerning the reimbursement of pharmaceuticals;
- to formulate proposals for the Committee for Health Care Insurance of the NIHDI or interpret rules concerning the reimbursement of pharmaceuticals; and
- to formulate reimbursement modalities for pharmaceuticals described in Article 34 first paragraph °5 d of the law of 14 July 1994 (i.e. radio-isotope).

5.6.2 Pharmacovigilance

Since 1976, there has been a notification system for adverse events in Belgium. These can be reported freely or by health care providers (physicians, pharmacists and dentists). FAMHP deals with and analyses adverse events and transmits them to the European database, EudraVigilance, of the European Medicines Agency (EMEA). The Belgian Centre for Pharmacovigilance (BCGH-CBPH) for human drugs, part of the FAMHP is the central point for collecting data on adverse drug reactions in Belgium (Test-Achats 2009; FAMHP 2009).

In 2008, the FAMHP received 4125 notifications, of which 616 were from health care providers. All other notifications were provided by the responsible firms, the authorities that conduct clinical studies or the consumer organization Test-Achats (see Section 2.7.1 *Patient information*) (FAMHP 2008). For these organizations, notification is a legal obligation.

In 2007, the FAMHP and Test-Achats undertook a collaboration agreement for reporting adverse effects by patients. Test-Achats forwards reports of adverse reactions related to medicines to the FAMHP with the authorization of the person issuing the notification (Test-Achats 2009). In 2008, 175 notifications were received through this method (FAMHP 2008).

Also in 2008, the FAMHP launched the "active pharmacovigilance programme", which aimed to increase the number of notifications to FAMHP from health care providers and to improve the quality of reporting. One year after its launch, the number of reports of adverse reactions received from health care providers had almost doubled (Test-Achats 2009; FAMHP 2009).

5.6.3 Pharmaceutical policy

The high public expenditure on pharmaceutical consumption and its rapid growth has been a constant concern for health policy-makers. However, this financial challenge needs to be balanced with the fundamental task of ensuring timely access to the best available pharmaco-therapeutic treatments. A series of measures has been taken over the last few years to achieve this. These measures have included: a new system for pricing and reimbursement, a claw-back system, a reference pricing system, prescribing and dispensing "low-cost" alternatives, tender process, price reductions, regulation of pharmacists' margins and measures directed at hospital pharmacies.

5.6.3.1 New pricing and reimbursement system

At the beginning of 2002, a new system of pricing and reimbursement was introduced with faster and more streamlined procedures. Pricing and reimbursement decision time was on average 595 days in 2000, well above the 180 days stipulated in the European Price Transparency Directive 89/105/ECC. Therefore, the government's first aim was to bring Belgium in line with the provisions and obligations of the Transparency Directive.

Henceforth, pricing and reimbursement procedures run in parallel (see Table 5.5). The pharmaceutical company submits the pricing file to the FPS of Economic Affairs and the reimbursement request file to the CRP. These files contain detailed information on the new drug in comparison to pharmaceuticals already on the market in terms of: the degree of innovation; cost savings; the scientific, social and health economic added value; and arguments in support of the requested price. The Minister of Economic Affairs sets the maximum price, advised by the Pricing Committee for Pharmaceuticals. The decision is taken within 90 days and then transmitted to the CRP (NIHDI 2010c).

At the same time, the reimbursement request file is examined by the CRP, which formulates proposals to the Minister of Social Affairs. The reimbursement procedure consists of two successive steps.

First, the CRP examines the new product's therapeutic added value compared with existing pharmaceutical products. This is a binary decision: proven therapeutic added value (Class 1) or analogous value (Class 2). Apart from these, class 3 regroups "copies" and generics, and specific procedures exist for "orphan" drugs and parallel imported drugs. This evaluation (of therapeutic value) is executed within 90 days and assesses the following five criteria: efficacy, effectiveness, safety (side-effects), convenience of use and applicability.

Second, taking into account the price, the budget impact, the cost-efficiency and the therapeutic added value, the CRP has 90 days to issue a proposal on whether the new pharmaceutical should be reimbursed, the percentage of the cost borne by the public health care payer and possible restrictions/conditions to reimbursement.

Last, the Minister, on the basis of the proposal, takes a definitive decision within 30 days (Royal Decree of 21 December 2001). Thus, the total procedure for pharmaceutical approval to public reimbursement takes no more than 180 days. If the pharmaceutical company does not receive a decision within 180 days, its application for reimbursement is accepted. However, the positive reimbursement decision is applied after its publication in the *Belgian Official Journal* (*BS–MB*).

Table 5.5: Belgian's fourth hurdle procedure

Step	Actions	Timeline
Pre	Market authorization is mandatory. Positive advice from the EMEA's Committee for Medicinal Products for Human Use (CMPH) is sufficient to start reimbursement procedures in some cases.	
1	Submission of reimbursement request file by the applicant, the pharmaceutical company, to the Secretary of the CRP simultaneously with the pricing request file sent to the Ministry of Economic Affairs.	Day-0
2	Brief provisional evaluation of product characteristics transferred to the applicant and the Ministry of Economic Affairs.	Day-30
3	In-depth evaluation report on therapeutic value is presented, discussed and approved in a plenary session of the CRP. Report sent to the applicant who is allowed to reply within 20 days.	Day-60
4	The Minister of Economic Affairs communicates the maximum price allowed.	Day-90
5	Draft proposal of the CRP on reimbursement modalities: presentation, discussion and approval in a plenary session of the Committee. Proposal sent to the applicant who is allowed to reply within 10 days.	Day-120
6	Final proposal of the CRP on reimbursement modalities: presentation, discussion and approval in a plenary session of the Committee. Proposal sent to the Minister and to the applicant.	Day-150
7	Advice from the Budget Minister and from the State Council	
8	The Minister takes a decision as to the therapeutic value, the reimbursement modalities, the time limits and the elements that should be evaluated for the individual revision.	Day-180
9	If the reimbursement decision is positive, the pharmaceutical product is added to the list of reimbursable pharmaceutical products. The positive decision is publicized in the *BS–MB*.	
10	Application of the decision on the first day of the month following a 10-day period after the positive decision is publicized.	

Source: Adapted from Van Wilder and Dupont 2009

5.6.3.2 *Claw-back system*

In order to curtail the steep increase of pharmaceutical expenditure (see Section 3.1 *Health expenditure*) and constant budget overruns, the pharmaceutical companies were forced to contribute to the financing of public pharmaceutical expenditure. In 2001, a closed annual budget for pharmaceuticals was established within the compulsory health insurance system. If this budget is exceeded, pharmaceutical companies have to reimburse 65% (later increased to 72%) of the budgetary deficit with regard to pharmaceutical expenditure. Although initially planned for one year, this claw-back system has been continued. In 2006, a special provision fund was created, funded by the pharmaceutical industry, to pay back 100% in case of overspending but limited to a maximum of €100 million. Since 2008, this special fund has been replaced by a new system in which the companies' contributions are based on the reimbursed pharmaceuticals turnover for the year of budget overruns.

5.6.3.3 *Reference pricing system*

In order to create headroom for innovation, the use of generic pharmaceuticals was advanced by the introduction of a series of measures. Historically, the generic pharmaceutical market has been relatively small in Belgium. From the perspective of the public health care payer, generic pharmaceuticals in 2002 represented only 1.14% of the volume and 0.72% of the value of reimbursed pharmaceuticals consumed in Belgium. In 2008, these shares amounted to 24.03% and 10.77% respectively (NIHDI 2008a; NIHDI 2008d).

First of all, a reference pricing scheme was introduced in June 2001 for reimbursed pharmaceuticals with generic equivalents (Article 35 of the Coordinated Law of 14 July 1994; see also Section 2.6.2 *Regulation of providers*). A reference pricing scheme is mainly characterized by its scope (how are drugs grouped into clusters?) and by the maximum reimbursement level, that is, its reference price level (how is it fixed?). The initial cluster definition was all drugs with the same active ingredient, same dosage and same administration route. Since 2005, drugs are included independently of the dosage and administration routes. From April 2010 onwards, the system will be enlarged by including a number of variants of the currently included active ingredient (e.g. isomers). The Belgian reference price level is calculated as a percentage reduction on the original brand drug price. This percentage reduction has gradually increased from 16% at the introduction of the system in 2001 to 20% in July 2002, 26% in January 2003 and 30% in May 2005. In 2009 and 2010, additional percentages were added for drugs in the reference pricing scheme for over two and four years.

5.6.3.4 *Prescribing and dispensing of "low-cost alternatives"*

From April 2006, physicians are obliged to prescribe a certain percentage of "low-cost medicines" depending on the physician's specialty (Royal Decree of 17 September 2005). For example, GPs have to prescribe at least 27% of "low-cost medicines", compared to dentists 30%, cardiologists 29%, neurosurgeons 15%, paediatricians 14% and gynaecologists 9%. Physicians who do not reach these minimal targets can lose their supplementary fees within the quality accreditation system. Legally, three types of pharmaceuticals are considered to belong to the category of "low-cost medicines". These include:

- original branded pharmaceuticals without patent that have reduced their price to the reference price (i.e. price of generic pharmaceuticals);
- generic pharmaceuticals and copies of original pharmaceuticals;
- pharmaceuticals which are prescribed on the basis of International Nonproprietary Name (INN), even if they are not "cheaper". From October 2005, prescription and reimbursement on the basis of the INN of the active ingredient was made possible.

Since their establishment, these prescribing quotas have largely been attained by physicians.

5.6.3.5 *Tender process*

In June 2006, a pharmaceutical tender process was introduced (the Belgian "Kiwi" procedure). In this system the government invites the pharmaceutical companies to tender for certain pharmaceuticals. This can lead to differentiated repayment according to the propositions received (e.g. the cheapest proposed pharmaceutical will receive the most favourable reimbursement). The aim is to encourage pharmaceutical companies that put similar pharmaceuticals on the market to offer the lowest price for their product.

In contrast to similar systems abroad, the Belgian model considered only off-patent drugs and so far has only been applied to cholesterol-lowering pharmaceuticals. Furthermore, it is not the intention to refund only one selected pharmaceutical. Based on this procedure, similar pharmaceuticals from different companies can be classified either: (a) in a different category of reimbursement; or (b) to receive the lowest reimbursement established for that category. In this way, pharmaceutical companies proposing a higher price will receive a lower reimbursement.

5.6.3.6 Price reductions

Additionally, price reductions have been regularly imposed on "old" pharmaceuticals (i.e. products reimbursed for over 12 or 15 years). As of 2010, pharmaceuticals reimbursed for over 12 years will see their reimbursement basis decreased by 15% and drugs reimbursed for over 15 years will see their reimbursement basis decreased by an additional 2.35%. These compulsory reductions will be applied twice a year (Act of 23 December 2009).

5.6.3.7 Regulation of pharmacists' margins

For their role in dispensing and providing advice to patients, pharmacists receive a percentage of the public price of pharmaceuticals (i.e. a maximum of 31% with a limit on the absolute amount of €7.44). As generic pharmaceuticals are considerably cheaper than original products, pharmacists received less in absolute terms when dispensing a generic pharmaceutical. In 2001, pharmacists' profits on generic pharmaceuticals were set equal to their profits on original pharmaceuticals in absolute terms to neutralize the dispensing of generic pharmaceuticals from a financial perspective. Despite this measure, triggered price competition led original brand drugs to decrease their prices and, as a consequence to further decrease the pharmacists' margin. To avoid this negative impact on pharmacists' income a new system to establish pharmacists' margins came into force in April 2010 (see Subsection *Protection measures* in Section 6.1.1 *Increasing accessibility*).

5.6.3.8 Hospital pharmacy measures

Several measures were taken for pharmaceuticals dispensed in hospitals as well. Until 1983, hospital drugs were completely reimbursed on a fee-for-service basis. For all pharmaceutical specialties, the purchasing price plus 10% profit margin was charged. There were no financial incentives for the optimization and rational use of drugs. Because of increasing expenditures for pharmaceuticals, the federal government attempted to control the budget by introducing a co-payment per person per day in 1983 (€0.62). This co-payment is charged irrespective of actual consumption. The hospital also received a reimbursement percentage from the NIHDI. Since that year all pharmaceutical specialties have been assigned to a reimbursement category. The reimbursement percentage of the compulsory health insurance depends on those categories (category A, B, C, Cs, Cx, D). The pharmaceutical specialties of category A, B and C are considered as "necessary" drugs. Category D consists of non- reimbursable drugs.

Considering the percentages of reimbursement, the lump sum of €0.62 per day had to cover €0.37 for each package for medicines in category B, 50% of the medicines in category C, 60% of the medicines in category Cs and 80% of the medicines in category Cx. Analysis of these data indicate that the lump sum did not cover hospital costs for pharmaceuticals.

In an effort to control escalating expenditure on pharmaceuticals for hospitalized patients, the first step towards prospective pharmaceutical budgeting was made in 1997, when a fixed sum reimbursement was introduced for the prophylactic use of antibiotics for surgical interventions, since unnecessary long administration or inadequate choice of drugs (too broad spectrum) may lead to high costs and microbial resistance.

From 1 July 2006 (two Royal Decrees of 16 May 2006), a prospective budget for all pharmaceuticals administered to patients hospitalized in an acute hospital was introduced. The purpose of a prospective budget is to optimize the use of pharmaceuticals through a permanent and constructive dialogue between hospital pharmacists, physicians, nurses, medical directors and administrators.

Most pharmaceuticals are integrated in the prospective budget for 75% of their value. The remaining 25% of their value is still reimbursed per product, thus allowing the tracking of consumption of these products. Each hospital's prospective budget is calculated based on its case mix and the national average cost per APR-DRG, taking into account the severity of illness. These average costs are established annually, based on the linked MCD and HBD for all NIHDI-reimbursed hospital stays of the last available year (generally three years earlier).

The prospective pharmaceutical budget is limited to inpatients (patients who stay at least one night in hospital). However, it is not applicable to psychiatric hospitals or chronic hospitals with isolated rehabilitative or geriatric services, nor for ambulatory care. Furthermore, it does not include all pharmaceuticals. In general, an active pharmacological compound is not included if it is very relevant to medical practice, in terms of its therapeutic and social value as well as its innovative character, and if the cost can strongly delay its administration to a hospitalized patient through its inclusion in the prospective budget. Other specific products are excluded by law from the prospective budget (e.g. orphan drugs, cytostatics, immunoglobulins and albumins, retroviral drugs, radio-isotopes, etc.). The list of excluded pharmaceuticals is updated monthly and these products remain reimbursed entirely per product. At a later date, this system can be extended to day care in acute hospitals and to hospitalized patients in psychiatric, geriatric and specialized hospitals.

Next to the measures described above, more rational use and prescribing were encouraged via campaigns and periodical feedback to prescribers (see also Section 2.6.2 *Regulation of providers*).

As a result of all these measures the compound annual growth rate on pharmaceutical expenses was 4.7% between 2004 and 2009 (NIHDI 2008d).

5.7 REHABILITATION CARE

Rehabilitation concerns supplying medical care after the acute phase of a disorder or an accident with the aim of repairing, improving or maintaining the functional situation of the patient as much as possible. The NIHDI has the following definition: rehabilitation encompasses coordinated multidisciplinary activities aimed at enhancing the activities and participation of persons with function restrictions, taking into account relevant external and personal factors.

Rehabilitation is supplied in hospitals (department of physical medicine and rehabilitation for less complex rehabilitation, with no or reduced remaining residual injury) and in specific institutions for rehabilitation (type 2 centres for more complex impairments with a impact on activities and participation and type 3 centres for more complex impairments in need of specialized knowledge [Categorial centres]), and is organized on the basis of an agreement between the concerned institution and the NIHDI. These agreements are concluded individually with each institution and are related to a well-defined, therapeutic project.

Such agreements define the target group (i.e. a description of the indications that the claimant must suffer to be allowed into rehabilitation), the required framework (i.e. the composition of the team of care providers) and the contents of the packages of care. In general, it concerns "type" agreements, where the target group, framework, package of care and insurance allowance are identical for all institutions which sign the agreement. Generally, the insurance allowance is paid per day, per month or per year.

Rehabilitation is characterized by its multidisciplinary character. The patient is looked after by care providers of several disciplines, who hold meetings at regulated times concerning the impact of the therapy and the results of the treatment (NIHDI 2010q).

In 2009, the NIHDI had agreements with 856 institutions, concerning endocrine and metabolic diseases, blood and immunity disorders, disorders of the urogenital system, respiratory and heart disorders, (neuro)locomotorial disorders and disabilities, mental and neurological impairments, chronic pain and chronic fatigue, sensorial impairments and others (e.g. undesirable pregnancy) (NIHDI 2010o).

Reference centres are specialized in the treatment of specific diseases, that is, AIDS, cystic fibrosis, rare monogenetic hereditary metabolic illnesses, neuromuscular disorders, refractor epilepsy, chronic breathing disorders, chronic fatigue syndrome, chronic pain, autism, brain paralysis or cerebral palsy and spina bifida.

Not all of the hospital departments of physical medicine and rehabilitation have an agreement with the NIHDI. In some hospitals (without such agreements), the department of physical medicine and rehabilitation is financed by the "nomenclature of medical acts". In other hospitals, the department of physical medicine and rehabilitation is financed in part by the "nomenclature of medical acts" and in part by the insurance allowance fixed by an agreement with the NIHDI.

5.8 LONG-TERM CARE FOR THE ELDERLY

The Belgian elderly care infrastructure comprises home care and community services, short-term and long-term residential care and hospital care. Long-term residential care includes service-flats, homes for the elderly[dd] and nursing homes.[ee] A recent study showed that in Belgium, elderly individuals preferred to be cared for at home with the help of family and friends, as well as with the help of health care professionals. As stated by Willemé, "to achieve the goal of delaying or avoiding the move of care-dependent elderly people to [permanent] residential care [in homes for the elderly or nursing homes] a major policy goal is to diversify the provision of services". This has led to the development of a wide range of home assistance and personal care services as well as short-term or temporary care facilities (Willemé 2010).

Often, entry into a residential institution is related to a serious health episode or to the inability of informal caregivers to continue to provide care. Indeed, in these cases, the combination of formal and informal help at home is not enough to cover the elderly person's needs. As a consequence, residential care facilities are reserved for more severely dependent individuals (Willemé 2010). Currently, in terms of public policy, the last agreement between the different authorities in long-term elderly care (Protocol 3 – for more details see Subsection *Long-term residential care* in Section 4.1.1 *Infrastructure*) has clearly stated that integration and coordination between the different types of care (home care, hospital care, residential care, etc.) needs to be considered. As a consequence, concrete measures, such as the reclassification of beds according to patients' health status, have been put into place.

An overview of the number of users of long-term care in Belgium is given in Table 5.6, and the number of beds recognized by the NIHDI is provided in Table 5.7.

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dd Woonzorgcentra, previously called Rusthuis in Dutch, Maison de repos pour personnes âgées (MRPA) in French, and Altenwohnheime in German.

ee Rust-en verzorgingstehuis (RVT) in Dutch, Maison de repos et de soins (MRS) in French, and Pflegewohnheime in German.

Table 5.6: Number of users and percentage of the total population aged 60 years or older using long-term care (living in a nursing home/home for the elderly or receiving nursing care at home), 1995–2007 (selected years)

Number of individuals aged 60 years or older using long-term care services												
	Nursing homes				Homes for the elderly				Home care			
	Brussels	Flanders	Wallonia	Belgium	Brussels	Flanders	Wallonia	Belgium	Brussels	Flanders	Wallonia	Belgium
1995	2 263	10 903	4 133	17 299	12 576	36 853	27 357	76 786	–	–	–	–
2000	3 682	20 411	9 034	33 127	10 672	38 683	33 483	82 838	4 434	86 528	27 537	118 499
2004	4 771	27 843	13 015	45 629	9 515	3 289	30 963	73 368	4 861	10 646	36 883	148 204
2005	4 642	2 762	12 944	45 206	9 276	3 298	30 654	7 291	4 696	10 118	34 116	139 992
2006	4 844	27 891	13 212	45 947	9 516	3 415	32 558	76 224	4 849	104 584	36 215	145 648
2007	5 157	30 431	14 123	49 711	9 438	31 577	9 438	50 453	5 344	108 355	38 619	152 318
Percentage of the population aged 60 years or older using long-term care services												
	Nursing homes				Homes for the elderly				Home care			
	Brussels	Flanders	Wallonia	Belgium	Brussels	Flanders	Wallonia	Belgium	Brussels	Flanders	Wallonia	Belgium
1995	1.1	0.9	0.6	0.8	5.9	3.0	3.8	3.6	–	–	–	–
2000	1.8	1.6	1.3	1.5	5.2	2.9	4.7	3.7	2.2	6.6	3.8	5.3
2004	2.4	2.1	1.8	2.0	4.8	2.4	4.3	3.2	2.5	7.9	5.2	6.5
2005	2.4	2.0	1.8	2.0	4.7	2.4	4.3	3.2	2.4	7.4	4.8	6.1
2006	2.5	2.0	1.8	2.0	4.8	2.4	4.5	3.3	2.5	7.5	5.0	6.3
2007	2.6	2.1	1.9	2.1	4.8	2.2	1.3	2.1	2.7	7.6	5.2	6.5

Sources: Raw data from NIHDI – Statistics April 2010.

Table 5.7: Number of beds recognized by the NIHDI

	Nursing homes			Homes for the elderly			Short-stay beds			Day-care beds		
	Brussels	Flanders	Wallonia	Brussels	Flanders	Wallonia	Brussels	Flanders	Wallonia	Brussels	Flanders	Wallonia
1995	1 898	11 589	5 144	10 748	39 690	24 358	0	3	0	0	0	0
2000	3 544	20 394	9 165	12 307	40 295	35 338	0	241	0	55	584	74
2001	4 012	23 166	10 311	11 773	38 252	35 030	0	267	0	70	639	84
2002	4 366	23 394	11 643	11 746	38 482	35 122	0	327	6	70	697	89
2003	4 829	27 301	13 176	10 919	34 664	33 556	0	402	6	130	796	162
2004	4 855	28 261	13 789	10 906	34 136	33 026	0	497	61	165	937	157
2005	4 951	28 384	13 830	10 769	34 024	33 124	0	571	178	170	1 068	157
2006	5 107	29 465	14 140	10 358	33 393	32 655	0	678	238	170	1 092	176
2007	5 287	31 402	14 753	9 976	31 857	32 108	0	756	347	170	1 179	228
2008	5 470	33 617	15 709	9 872	30 638	31 453	0	848	414	170	1 250	228
2009	5 740	35 894	17 870	9 621	29 741	29 398	0	949	452	170	1 289	288
2010	5 759	38 062	19 243	9 644	28 365	28 170	0	1 043	583	170	1 372	288

Sources: Raw data from NIHDI – Statistics April 2010.
Note: This number does not include beds in process of recognition.

5.8.1 Home care

5.8.1.1 Coordination of home care services

Service tasks include, for example, cleaning and laundry services, help with shopping, post office and bank services, and preparation of meals. Personal care can include assistance with meals, getting dressed, personal hygiene and mobility. For those in need, subsidized security alarms are available. These are linked to family members, GPs, or to the nearest special housing or call centre, where a nurse responds and attends to alarms (Peetermans, Hedebouw and Misplon 2004).

Until 2002, coordination of home care services was done at the level of federated authorities. However, in 2002, the federal government introduced the ISHC-GDT-SISD at the local level. The ISHCs have to coordinate all disciplines involved in home care in a defined geographical area (maximum 1 per 70 000 inhabitants per community). Financing of the ISHCs is provided by the NIHDI and accounts for €0.19 per inhabitant in 2010. Each ISHC is composed of representatives of several health professions, with at least one representative of GPs and nurses involved in home care. The main task of each ISHC is to oversee the practical organization and to support care providers and their activities within the framework of home care. In particular, this includes the evaluation of the patient's ability to perform ADL/IADL (Instrumental Activities of Daily Living), the development and monitoring of a health and welfare plan, the assignment of tasks between care providers and multidisciplinary consultation to achieve objectives (NIHDI 2009g).

To stimulate multidisciplinary cooperation instead of competition, each geographical area can only have one ISHC, with the exception of the Brussels region, where both the Flemish and the French communities can accredit ISHCs. In addition to this, ISHCs must work in accordance with the coordination structures already existing before 2002 at a regional level (De Lepeleire et al. 2004). Coordination between the federal ISCH and regional coordination structures in the three regions has followed different pathways given the specificities of the regional coordination services. The description of coordination services at a regional level is provided hereafter.

In Flanders, the coordination of home services is currently in transition. Between 1995 and 2009, home care was coordinated in Flanders by the Cooperation Initiatives in Home Care (SIT-HISC). To simplify the organization of the SIT-HISC, the Cooperation Initiatives in front-line health care (SELs) were founded. These SELs coincide with the GDTs (i.e. ISHCs). The cooperation initiatives between the different representatives of health care in a specific region are aimed to optimize front-line health care by organizing activities. A SEL covers the area of a regional city (Van Audenhove et al. 2009). SELs are active at the micro level (the organization of care around a dependent person) and the meso level (cooperation between different health care providers, ensuring continuity of care, for example transmural reach agreements, etc.)

In Wallonia, home care is coordinated by 49 centres (*Centres de Coordination de Soins et de Services à Domicile,* (CSSDs)) distributed in 13 ISHC zones (Wallonia Public Services 2009). Their main task is to guarantee the quality of care and cooperation between workers involved in home care, including GPs, home nurses, accredited services for family aid, aid for the elderly and social work, and so on. The support and coordination of care are (in the first instance) aimed at people who are in serious need of care in order to enable them to remain at home as long as possible.

Home coordination in the care in Brussels region is very complex since federal and community rules are applicable. Dutch-speaking coordination centres are assembled in BOTs (*Brussels Thuis Overleg*). For the French-speaking, since 2007, five CSSDs have been part of a single federation (*Fédération bruxelloise des centres de coordination de soins et de services à domicile*). These five centres are financed by the COCOF and share the same objectives. Their aims are to evaluate patients' and their families' needs and resources and put into place the services needed, as well as to follow up on the individuals' situation. The centres also aim to prevent burn-out of informal caregivers.

5.8.1.2 *Financing and services provided for home care*

Access to home care services is usually initiated through a contact between the patient (or their family) and a health care provider (GP or nurse) or a social worker (Willemé 2010). Although there is not an official assessment of the patient's reported needs, the NIHDI can choose to evaluate the level of dependency and the services provided can be reassessed. The NIHDI finances medical acts, such as nursing care and physiotherapy according to several criteria, including the patient's dependency level as well as its resources. The communities and the regions finance other services, such as family aid and delivery of meals, and so on. As for medical acts, the reimbursement level depends on the person's dependency level as well as on their resources.

Nurses providing care at home in Belgium are organized in two ways: via employee-nurses and via self-employed nurses (see Subsection *Nurses* in Section 3.6.2 *Paying health care professionals*). Employee-nurses in home care are employed by private non-profit-making organizations with a specific focus on home nursing. A small proportion of employee-nurses are employed by the local public centres for social welfare and by self-employed nurses. In the last 10–15 years, the option of being self-employed has become more attractive, both financially and organizationally. As a result, the proportion of the expenditures for home nursing spent on employee-nurses has decreased from approximately 60% in the 1990s to approximately 40% of all NIHDI expenditures on home nursing in 2005 (Sermeus et al. 2010).

Remuneration of nursing acts for individuals living in the community include the following (adapted from Sermeus et al. 2010).

1. A fee-for-service payment system covering technical nursing interventions: a doctor's prescription is required for reimbursement of all nursing interventions (except for hygienic nursing care).
2. A lump sum payment covering nursing interventions for patients suffering from dependency/deficiencies in ADL: a patient's dependency is assessed by scores on the BESADL derived from the Katz scale. A doctor's prescription is not required for nursing care delivery under the lump sum system (except for technical acts that require a doctor's prescription under the fee-for-service payment system).
3. A subsidy for the costs related to the computerization of home nurses.
4. Since 2002, specific costs for home nursing organizations have been financed (Royal Decree of 16 April 2002, modified by the Royal Decree of 7 June 2004). Specific costs were defined as costs for organization, coordination, programming, continuity, quality and evaluation. The objective of this subsidy was to promote collaboration of home nurses.
5. Reduced social tax contributions to create additional employment of employee-nurses.
6. Special agreements: for example, a specific arrangement covers nursing assistance in haemodialysis and peritoneal dialysis at the patient's home.
7. Social agreements: for example, the agreement to harmonize the salary scale between home and hospital nurses.

If the patient's treatment is related to an acute health care condition or long-term illness, a physiotherapist's visits are reimbursed by the NIHDI. A logopaedist's visits can also be reimbursed by the NIHDI. However, in both cases the medical examiner of the NIHDI must have provided prior authorization for reimbursement. Other care and services provided by nurse aids and family aids are partially financed by the communities and the regions. The patient's payment is established according to income scales set by the authority in charge.

In December 2009, a new protocol agreement between the federal government, the communities and regions has more clearly defined the role played by family aids, nurse aids and other health care professionals (in particular nurses) in the care of dependent individuals at home. Several other services (e.g. meal delivery, transport services, etc.) can also be provided by the CSSD and individual's payment is usually set according to income scales.

5.8.1.3 Day-care centres, community-care centres and night centres

Day-care centres (*Centra voor dagverzorging – Centres de soins de jours*) provide day nursing care to elderly people without overnight facilities. This is a valuable option for elderly individuals who do not need intensive medical interventions and do not wish to move to a residential setting permanently, but who need care or supervision and aid in ADL. Transportation to and from the day-care centre is arranged (Arnaert, van den Heuvel and Windey 2005). A day-care centre is allied with a residential home. The number of day-care stays (places) is programmed at the federal level. Currently, the number of a minimum stays is equal to 3 per 1000 elderly aged 75 years and older and restricted to a maximum of 3.9 per 1000 elderly aged 75 years and older.

To be admitted in a day-care centre a resident must be strongly physically or mentally dependent on the aid of others in their daily operations. Dependency is scored on the basis of the Katz scale. A fixed daily compensation is reimbursed by the compulsory health insurance.

Community care centres (*Dagverzorgingscentra – Centre d'accueil de jour*) can provide more accessible professional health care to dependent elderly individuals (Arnaert, van den Heuvel and Windey 2005). Individuals admitted in these facilities are less dependent than those in day-care centres. The communities establish the number of places in community care centres as follows: (a) two stays per 1000 individuals aged 60 years or older in the French community; (b) one stay per 3000 elderly aged 65–69, five stays per 3000 elderly aged 70–89, and 25 stays per 3000 elderly aged more than 90 years in the Flemish community; (c) 1.5 stays per 1000 individuals aged 60 years or older in the German community. Community centres are also evolving into day-care centres in order to provide the care needed for individuals with increasing demand for care.

Night centres offer overnight accommodation only, but without nursing care. Night care can be provided in centres of convalescence (after surgery for serious diseases) and in short-stay units for a shorter period. These units are dedicated to elderly patients who suffer a sudden health crisis or who need care while family caregivers are away. These centres take care of the elderly during a restricted period of day and night or only during the night (for a maximum of 60 consecutive days).

5.8.2 Residential care

5.8.2.1 Long-term residential care

Long-term residential care comprises "service-flats", homes for the elderly and nursing homes (Charlot et al. 2010). In these types of residential care, the usual family and household care is given partly or completely (Article 2, paragraph 6 of the Decree of the Flemish Government of 18 December 1991; Article 2 of the Decree of the French Region of 5 June 1997; Article 1 of the Decree of the German community of 4 June 2007). Residential care is available to elderly people, who are defined by the legislator as individuals aged 60 years and older. The following sections differentiate between the three types of residential care.

The preference of the elderly to live in housing where they can continue to live independently is supported by service-flats and service-housing complexes, that is, two sorts of housing care facilities for the elderly. In "service-flats", elderly individuals without major health conditions live in independent units but are offered a broad range of services (meals, house-cleaning, primary care at home, etc.). Use of services is not required but is available on demand. The service-flat programme aims to have two apartment units per 100 people aged 60 years and older. Currently, service-flats are increasing in the Belgian landscape.

Moreover in Flanders, with increasing dependency of individuals, service-flats become "care-flats", combining the housing qualities of a service-flat with the care qualities of residential care. The individual house units are adapted to the needs of the elderly and a house assistant is present to stimulate the social network and aid in emergency situations (Arnaert, van den Heuvel and Windey 2005; Vlaams Agentschap Zorg en Gezondheid 2009a).

Homes for the elderly and nursing homes are defined as one or more buildings that functionally generate a collective residence in which elderly people live on a long-term basis. Services such as meals are also collectively provided. Both alternatives offer a home replacement environment when possibilities for long-term care at home or short-term residential care are no longer sufficient for individuals having different levels of disabilities (Vander Stichele et al. 2007). Indeed, nursing homes (or nursing beds) are designed for people with long-term care needs, who have serious disabilities in ADL. Eligibility for admission to a bed in nursing home or in a home for the elderly rests on the following criteria (Declercq and Van Audenhove 2004):

1. The elderly person has undergone all active and reactivating treatment but has not regained full competency in ADL. However, daily medical supervision or specialized medical treatment is not necessary.
2. All possibilities for at-home care have been explored so that admission to residential care is needed.
3. The general health status of the elderly person demands, apart from medical care provided by a GP and nursing care, paramedical and/or physiotherapeutic care and help with ADL.
4. The elderly person is dependent for bathing, dressing, mobility, toilet and continence or eating (Article 158, Royal Decree of 3 July 1996, on the law of the compulsory health insurance).

Usually the institution's characteristics determine the extent to which additional requirements for admission are established. For instance, a couple might be admitted to a residential institution, even if only one of the partners is dependent (Charlot et al. 2010). Younger individuals might be admitted into residential homes only when approved by the responsible authority (Declercq and Van Audenhove 2004). These specific cases correspond most often to younger individuals who have another long-term illness or disability (not age-related).

Each home for the elderly and nursing home must have a coordinating and advisory physician who is always a GP. This advisory physician is responsible for the coordination of pharmaceutical care, wound care and physiotherapy. Each home for the elderly and nursing home must always have a functional link with a hospital. They must cooperate with the geriatric service of the hospital and a specialized service for palliative care. The degree of a resident's dependency is assessed by the formal caregiver using a standardized instrument (Katz scale). The subjects are classified in five iso-resource groups (O, A, B, C, Cd). The flat-rate allowance for each group is paid directly to the institutional managers. The amounts received are used to pay the formal skilled caregivers (number fixed by legal standards) (NIHDI 2010p).

Many residential institutions can be considered as both homes for the elderly and nursing homes. Indeed, in March 2010, out of the 1599 residential institutions in Belgium (excluding service-flats), 1130 institutions received financing for beds for elderly individuals with different levels of dependency. This system merger responds to the changing needs of elderly individuals and has led to reclassifying "beds in homes for the elderly" to "beds in nursing homes".[ff] This reclassification aims at improving the financing of beds in residential care in order to guarantee the quality and continuity of care, which means that elderly people can receive different levels of care without leaving an institution. In order to receive both types of financing, residential institutions must receive accreditation and comply with quality standards (Charlot et al. 2010). Thus, it is easier to focus the discussion on "beds" rather than "institutions".

[ff] Protocol no. 3 of 13 June 2005 between the federal government and the federated authorities, Articles 128, 130, 165 and 138 of the constitution on health care policies for elderly individuals.

The distribution of responsibilities between the different authorities is complex. However, since 1997 three protocol agreements (1997, 2003 and 2005) between the federal government and the communities have formulated common objectives for elderly care. These agreements allow each authority to flesh out the common objectives autonomously according to local demographic needs (Vander Stichele et al. 2007).

These three agreements aimed to progressively shift the number of beds in homes for the elderly towards nursing home beds. For Belgium, the actual number of available beds amounted to 129 167 units on March 2010, shared between 66 180 beds in homes for the elderly and 62 987 beds in nursing homes (NIHDI 2010j).

5.8.2.2 Short-term residential care

Short-stay centres (*centrum voor kortverblijf – centres de court séjour*) provide an alternative to long-term residential care for elderly individuals with increasing disability. Short-stay centres must be associated with long-term residential care centres. Usually, short-term centres provide care up to 60 days consecutively and for a maximum of 90 days per year.

5.8.3 Hospital care

In acute hospitals, the geriatric ward was distinguished as a separate entity in 1984, and in 1986 geriatric medicine was recognized as a new medical specialty. These steps recognized the need for comprehensive geriatric assessment, evaluation and management of frail older patients to reduce morbidity and mortality, prevent hospital admission, and delay or postpone institutionalization (Arnaert, van den Heuvel and Windey 2005).

In acute hospitals, a specific care programme for geriatric patients was developed (Royal Decree of 29 January 2007). The aims were to optimize functional performance and to increase the independence and quality of life of elderly patients by providing a specialized, multidisciplinary and intensive care.

The multidisciplinary approach, involving both physical and psychosocial aspects, is aimed at shortening hospital stays. In 2008, the Flemish community had 4093 geriatric beds, while the French community had 2753 beds in 46 facilities (63.42% in the Walloon provinces and 36.58% in Brussels in 23 facilities).

Elderly patients with cognitive impairments can be treated in psycho-geriatric departments (*dienst SP-psychogeriatrie*). In 2008, there were 192 psycho-geriatric beds in the Flemish community and 196 in the French community (Van Audenhove et al. 2009).

As a component of the geriatric care programme, geriatric day hospitals were founded. In this setting, an efficient and multidisciplinary screening and evaluation of elderly individuals can be performed on an ambulatory basis. Besides the diagnostic evaluation, therapy and rehabilitation are also provided. In 2008, there were 76 geriatric day hospitals in Belgium. In this year, the Ministry of Public Health financed 84 projects concerning geriatric day hospitals, of which 52 were in the Flemish community, 24 in the French community and 8 in Brussels.

Finally, specialized centres for dementia were founded to provide information and care services to patients (and their families) and caregivers involved with dementia. In 2008 in the Flemish community, there were 10 regional centres with specific expertise in dementia, supervised by one coordinating centre (*Expertisecentrum Dementie Vlaanderen*). These centres cooperate with the Flemish Alzheimer's League (*Vlaamse Alzheimer Liga*). In the French community, a similar project does not yet exist (Van Audenhove et al. 2009).

5.9 SERVICES FOR INFORMAL CARERS

There is no national strategy for the protection of informal caregivers in Belgium. However, an increasing number of services, including respite care, are available at a local level. More recently, planning of new alternatives for home care at a national level aim to take into account caregivers' needs in terms of respite care, psychological support and training (*BS–MB* 2009b).

According to Belgium's Civil Code, individuals are legally obliged to guarantee minimum living standards to close family members. Parents and their children are obliged to mutually support one another and this obligation extends down to grandchildren. This legal obligation also extends to the family-in-law (parents-in-law and sons and daughters-in-law), except in the case of a divorce or after the death of the partner when there are no children (Code civil du 21 mars 1804). However, there is no exact definition of the extent of these obligations. For instance, children are legally obliged to cover part of the cost for stays in a nursing home when their elderly parents do not have enough financial resources.

In order to appraise individuals' involvement in the provision of informal care, specific questions on care activities were included in the 2001 Socioeconomic Survey of Belgium. The survey covered all residents living in the country for that year. Questions were focused on the caregiver. Information on the person receiving care is limited to whether the person is a family member (sharing or not sharing the same household), friend or neighbour (FPS Economy 2003).

In 2001, 9.3% of residents in Belgium aged 15 years or older provided informal care. Among the 719 686 individuals looking after an ill person, almost 60% were women. Among caregivers, 51% did not provide care on a daily basis and 49% looked after a sick family member or friend every day (30% spent less than 2 hours and 19% spent more than 2 hours per day) (Farfan-Portet et al. 2007).

Training and information for caregivers is mostly provided by non-profit-making organizations (addressed to specific populations) and no specific policies are coordinated at a central level. In the same way, there is no centralized policy to provide respite services for caregivers. Nevertheless, several short-term respite care services are available. Due to the Belgian federalized structure, services are available at different levels in each of the country's regions. Moreover, services at a local level (communes) are also provided. Most services tackle specific groups, such as caregivers of dementia patients or parents of disabled children. Short-term respite care includes care at home, day-care centres and short-term residential care facilities. Financial participation of families varies from one institution to another, and in some cases, sickness funds reimburse a part of the total expenses. Information on services is increasingly available through the Internet.[gg]

Income replacement directly related to the provision of informal care is not currently available in Belgium. However, individuals participating in the labour market are entitled to two types of paid leave to care for an ill person. Leave to care for a person in end of life is available to all individuals working full-time or part-time. Labour force participants are entitled to a full month of leave, renewable once (*BS–MB* 1995).

The second type of leave can be used to care for a household or family member with a serious illness (*Congé pour maladie grave d'un membre du ménage ou de la famille*). The leave can be taken for up to 12 months. However, it is restricted to a minimum of one month and a maximum of three consecutive months at any one time. For both types of leave, the worker can choose a part-time leave (for instance, one day per week for five months) and could receive up to €726.85 in 2009 (for a month of full-time leave) (*BS–MB* 1998).

gg See: www.aidant-proche.be and http://www.onszorgnetwerk.be

Two more allowances can be used indirectly to pay for the services of informal caregivers. The Flemish community introduced the dependence allowance (*Vlaamse Zorgverzekering*) in 2001. A monthly sum (€130 per month in 2009) is granted to dependent individuals living in the community who receive informal or formal care. This sum can be used to cover the caregivers' expenses such as travel costs (*BS–MB* 2001b).

People with disability, living in the community, can also receive the "Personal Assistance Budget (PAB)" (*Persoonlijke-assistentiebudget, budget d'assistance personnel*). The PAB was introduced first in Flanders and more recently in Wallonia; it consists of a fixed amount that is granted to a disabled person to employ a "home-helper". The PAB cannot be used to pay for services from an informal caregiver except if a legal work contract is established between the disabled person and the carer. The annual amount of the PAB depends on the person's disabilities and the help used. For 2009, the PAB in Wallonia varied from €5000 to €35 000 and in Flanders from €8845.4 and €41 278.30 (*BS–MB* 2001a; *BS–MB* 2009a).

Other allowances relating to disability are also available, but they are set up as payments for the disability. The income replacement allocation is attributed to a person aged 21–65 who is not able to fully participate in the labour market. In 2009, this allocation varied between €5809.20 to €11 618.40 per year. In addition to this, individuals who incur additional costs relating to their disability can receive the integration allocation. This allocation varies from €1061.30 to €9550.30 per year according to the level of disability and income. For individuals aged 65 years or more, the allocation for the elderly is attributed to individuals who suffer from disability or age-related illness leading to loss of autonomy. The amount of the allocation varies from €907 to €6087 per year (FPS Social Security 2009g).

5.10 PALLIATIVE CARE

The 2002 WHO definition states that "palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual" (WHO 2007). In Belgium, the gradual development of palliative care started in 1985.

A 2009 report from the KCE proposed that patients should be defined as "palliative patients" when they are in "an advanced or terminal stage of severe, progressive and life-threatening disease whatever their life expectancy" (Keirse et al. 2009). The report estimated that the palliative patient population would range between 10 000 and 20 000 patients, that is, between 8000 and 13 000 palliative patients in the first front line of care, 5500 patients in residential facilities and 3000 patients in hospitals (Keirse et al. 2009).

5.10.1 Structures for palliative care

Three palliative associations have been created in Belgium: *Federatie Palliatieve Zorg Vlaanderen* in the Flemish region, *Fédération bruxelloise pluraliste des soins palliatifs et continus* in the Brussels-Capital region and *Fédération wallonne des soins palliatifs* in the Walloon region. A palliative association is a structure that fosters the cooperation between representatives of front-line social and medical workers, organizations, institutions, associations and services for palliative care. Their mission is to promote communication between members, to organize education sessions, to stimulate the development of knowledge and research and to be representatives for the authorities.

Networks of palliative care (*samenwerkingsverbanden in palliatieve zorg – associations en matière de soins palliatifs*) are also present in Belgium: 15 in the Flemish provinces, 8 in Walloon provinces, 1 in Brussels and 1 in the German-speaking community. These networks are responsible for the promotion of palliative care through raising awareness in the population, coordinating local care, educating caregivers and volunteers, and evaluating the needs for palliative care. Each network is supported by a multidisciplinary counselling team. This team counsels the home caregivers.

5.10.2 Services for the patients

Palliative care exists in several settings (FPS Health, Food Chain Safety and Environment 2008b; Vlaams Agentschap Zorg en Gezondheid 2009b):

- palliative care at home
- palliative day-care centres
- palliative function in homes for the elderly and nursing homes and in hospitals
- palliative care units in hospitals.

5.10.2.1 Palliative care at home

Home care of the patient is performed by a team of health professionals (GPs, nurses, physiotherapists, psychologists), informal carers and volunteers. An external multidisciplinary counselling team, specialized in palliative care and linked to the palliative networks, can provide counselling by organizing consultations with caregivers, coordinating palliative care, and supporting caregivers psychologically and morally. Besides the support of the primary caregivers, this team will also be responsible for registration of the patients' data and for day-and-night accessibility (by phone) for the caregivers.

A patient who stays at home and has a life expectancy of less than three months can benefit from a "palliative statute". This statute involves, for example, a lump sum and the abolition of the patients' co-payments for nursing, GP visits and visits of the physiotherapist. In 2007, 13 097 patients benefited from a palliative lump sum.

The Belgian law also fosters home care with possible career break (part-time or full-time, with a maximum of two months) for informal caregivers to give support to their next of kin.

5.10.2.2 Palliative day-care centres

In 2002, a project for day centres for palliative care started. These day centres are complementary to home care, offering an adapted and specialized care programme, and organizing social activities to increase the social network of the palliative patient. After evaluation of the day centres, the financial grants were reorganized.

5.10.2.3 Palliative care in homes for the elderly and nursing homes

Homes for the elderly and nursing homes have a "palliative function" whose aim is to heighten the caregivers' awareness and provide them with education on palliative care.

5.10.2.4 Palliative care in hospitals

In the same way, each hospital has to provide a "palliative function" to ensure the quality of care. This function is similar to the one existing in homes for the elderly and nursing homes. The multidisciplinary team of the palliative function can be assisted by a palliative support team (the mobile team) as a second line of support. The palliative function is bound to a palliative care unit in a hospital and is a member of a palliative network.

In some hospitals, palliative care units have 6 to 12 beds and multidisciplinary teams take care of the symptoms, psychological and mourning support. In Belgium, 379 beds are certified, spread over 5 hospitals in Brussels, 29 hospitals in Flanders and 17 hospitals in the Walloon region (NIHDI 2009e).

A recent study of the *Vrije Universiteit Brussel* described the consumption of specialized palliative care. Almost half of the palliative patients (41%) make use of the specialized care. The most common reason for palliative care is cancer (60% versus 27% other disorders). The results indicate the lack of implementation of palliative care for elderly and non-cancer patients (Van den Block, van Casteren and Deliens 2008). This conclusion is in accordance with the recent findings of the KCE report that advocates for the better identification of palliative patients with chronic non-cancer disease (e.g. dementia, chronic pulmonary or cardiac disease) (Keirse et al. 2009).

5.11 MENTAL HEALTH CARE

The mental health care sector consists of specialized care where psychiatrists and psychologists work together with other care providers, such as nurses and social workers, to assist people with mental health problems.

5.11.1 Provisions

Mental health care is provided in different structures, which can be broadly classified as:

- centres for mental health care
- psychiatric departments in general hospitals
- psychiatric nursing homes
- initiatives for sheltered accommodation
- psychiatric hospitals.

In addition to these structures, the mental health care sector also comprises rehabilitation centres, psychiatric home care, psychiatric annexes in prisons, and the private practices of (neuro)psychiatrists and of psychotherapists. Rehabilitation centres can be divided into centres that focus on addiction problems (medical-social reception centres, day centres, crisis intervention centres and therapeutic communities) and centres for psychosocial rehabilitation of children and adults.

Patients with a mental health problem can be referred to a mental health care centre by their GP or by a centre for student counselling (CLB). Centres for mental health care should preferably see patients with a serious problem or at risk of developing a serious problem. These centres provide ambulatory second-line provision of care; patients can go for a consultation or receive a home visit by someone from the centre. Patients carry on living and working in their own environment.

Care is offered by a multidisciplinary team able to address the medical, psychiatric, psychological and social aspects of the health problem. The remit of mental health care centres is two-fold. On the one hand, their assignment is a curative task and, on the other, they also have a preventive task for detecting or preventing problems at an early stage to ensure prompt and appropriate support. Many centres also provide specific programmes for children and adolescents. The main problems dealt with in the centres are anxiety, mood disturbances and addictions.

Mental health care centres are the responsibility of the communities and are financed by taxes. The personnel of the centres are almost entirely remunerated by the regions; additional activities are reimbursed under the federal health insurance system (NIHDI). There are 20 recognized centres for mental health care in the Flemish community and 61 centres in the French community (in 2009) (Vlaams Agentschap Zorg en Gezondheid 2010b; IWSM 2009).

Psychiatric departments in acute hospitals (PAAZ) provide short-term treatment for patients with mental health problems. Psychiatric services of general hospitals reserve 10% of their places for part-time hospitalization (day hospitalization and night hospitalization).

Psychiatric nursing homes provide care for patients with a stable condition needing permanent care for a long-term mental health problem who do not require hospital treatment under surveillance of a specialist in (neuro)psychiatry.

Because of the low number of beds in psychiatric hospitals (0.6 beds per 1000 inhabitants), patients can stay in psychiatric nursing homes instead. These nursing homes are outside the hospital campus and preferably located in the local community. There are 42 psychiatric nursing homes: 5 facilities (252 beds) in Brussels, 24 facilities (2230 beds) in the Flemish community and 13 facilities (801 beds) in the French community (NIHDI 2010n). In 2008, there were 68 psychiatric hospitals (38 in the Flemish region, 10 in the Brussels-Capital region and 20 in the Walloon region) exclusively treating people with psychiatric problems. They offer intensive and specialized treatment that may be short- or long-term. The hospital can have open and closed departments.

With the continued expansion of mental health care centres and psychiatric departments within general hospitals, as well as the advent of sheltered accommodation initiatives and psychiatric nursing homes, psychiatric hospitals acquired another function. Previously, psychiatric hospitals had an important residential function, but the focus has shifted to active treatment and rehabilitation. In psychiatric hospitals, 15% of places are reserved for part-time hospitalization (day hospitalization and night hospitalization).

Sheltered accommodation (*Beschut wonen – habitation protégée*) aims to offer accommodation and support to people with mental health problems who need daily help in order to (learn to) live independently. People who do not require full-time hospital treatment and whose problems have stabilized can find an alternative in sheltered accommodation. Appropriate day activities are organized and support is provided to help residents acquire relevant social skills that are useful in their living environments. Residents are supervised and live with a limited number of other patients in ordinary houses (three to eight persons). Since 2000, people can also live in individual houses; however, their number can not exceed 20% of the total.

In the Flemish community 45 facilities (2605 beds) for sheltered accommodation are certified, along with 27 facilities (764 beds) in the French community and 16 facilities (471 beds) in Brussels (2009) (see Table 5.8).

Table 5.8: Sheltered accommodation, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Brussels [a]	–	–	–	–	–	435	451	456	456	471
Flanders [b]	2 312	2 375	2 421	2 448	2 491	2 486	2 460	2 480	2 554	2 605
Wallonia [a]	–	–	–	–	–	708	756	751	755	764

Sources: [a] Raw data of the FPS Public Health, Food Chain Safety and Environment; [b] Raw data of the Flemish Agency for Care and Health for data between 2000 and 2004.

A traditional form of accommodation in Belgium for people with mental health problems is care within a host family. Patients participate in family life and sleep in the family house, but are still considered the responsibility of the hospital; they spend part of the day or all day in hospital doing various activities and can go back to the hospital for observation or in case of crisis. In 2003, there were 770 family accommodation places available in the Flemish region and 192 in the Walloon region (NIHDI 2010k; Vlaams Agentschap Zorg en Gezondheid 2010a).

5.11.2 Structure of mental health care

The current structure of the mental health care sector is the direct result of two important reforms that took place in 1990 and 1999.

The policy reform of 1990 was aimed at cutting back on psychiatric hospital beds and substitution through new provisions aiming to stimulate the social integration of patients. The new initiatives arose as a reaction to the increasing tendency to offer chronic patients, in particular, appropriate shelter outside the walls of the psychiatric hospital. Alternative reception facilities for mental health care were provided such as psychiatric nursing homes, sheltered accommodation and home care. These facilities are also financed by the health insurance system, but with a higher financial contribution from the patient. The reform also aimed at improving the quality of residential care by resisting large-scale operations and developing a better regional distribution of the supply of mental health care facilities. Dialogue platforms (*overlegplatforms*), in which all types of services in mental health care take part, aim to support dialogue about regional coordination of the different existing and new forms of medical and psychosocial supply for persons with a mental health disorder. There are 12 dialogue platforms in Belgium (5 in the Flemish provinces, 5 in the Walloon provinces, 1 in Brussels and 1 in the German-speaking province) (Consultation Platforms in Mental Health Care 2010).

The policy reform of 1999 included the following objectives: improving intensive and specialized care in psychiatric hospitals, setting up cooperation between the intramural and extramural sector, and further shifting hospital and elderly care beds to psychiatric nursing homes and places of sheltered accommodation.

Since 2003, an agreement makes it possible to further decrease the number of beds in psychiatric hospitals and to expand the number of beds in psychiatric nursing homes and the number of places in sheltered accommodation.

Since 2006, special attention has been given to young patients. A bridge function was developed between the justice department and psychiatric provisions, additional forensic psychiatry beds for delinquent youngsters were set up and the overall capacity for young patients was increased.

Innovation of care in the mental health care sector has been on the agenda for several years. Several pilot projects have been launched: in home care, for behaviourally disturbed aggressive patients, dismissal management, family care for children and youngsters, special accommodation for delinquent youngsters and adolescents, and so on. Besides these forms of care innovation, there is also a more comprehensive reform of the mental health care sector, whereby care circuits (of care programmes and services) and networks of services (collaboration between caregivers, institutions and services) are created to enable a more integrated approach to patients through the different care arrangements. A care circuit is the whole provision of care programmes and care services for a specific target group of (chronically ill) psychiatric patients. A network of services is the collaboration between care givers, care organizations and services; it coordinates one or more pathways for a specific target group.

In 2004, the realization of this reform began with the setting up of therapeutic projects (pathways) and a coordinating network. The aim of this reform is the realization of guidelines and a structural frame for optimal care based on pathways and networks. The realization of the reform of mental health care is in the experimental phase and the KCE is in charge of the evaluation of the therapeutic projects (Transversaal Overleg 2009).

5.12 DENTAL CARE

Dental care is provided by dentists who are mostly self-employed and publicly financed through compulsory health insurance on a fee-for-service basis. Dentists' fees are decided by the National Commission of Representatives of Dentists and Sickness Funds at the NIHDI. This commission follows the same procedure as for physicians. Every two years an agreement is made in which the financial and administrative relations between dentists and sickness funds are stipulated (the most recent version is the agreement for 2009–2010).

In the last ten years, more attention has been given to preventive health care, to the affordability of dental care and to better follow-up for young people. With the exception of orthodontics, dental care for children and adolescents under 18 years is free for all services mentioned in the fee schedule (i.e. consultations, preventive treatments, periodontics, conserving care such as fillings, extractions, removable dental prostheses). For radiography a reimbursement of 75% of the fee is provided.

Also, for insured people with preferential reimbursement, all dental services are covered by the compulsory health insurance. Moreover, for people with mental or physical disabilities, prophylactic cleaning is reimbursed every trimester instead of once a year. There is a reimbursement of removable dental prostheses for people aged 50 years and over. Between the ages of 18 and 50, the reimbursement has to be approved by the Technical Dental Council or the advising physician (NIHDI 2010r).

The National Commission also plays a preventive role by organizing public awareness campaigns about dental care in children. Dental mobile teams visit schools and public places and are equipped for screening children. The aims of the mobile dental teams are to encourage dental care in children, to increase the responsibility of parents and to register epidemiological data.

The dental societies of the Flemish community (*Verbond der Vlaamse Tandartsen*) and the French community (*Societé de médecine dentaire*) organize prevention campaigns. Examples include: a book for preschoolers, a dental suitcase with videos and leaflets, workshops on dental care for preschoolers (supported by the LOGOs), and leaflets and websites of advice concerning dental-friendly nutrition, oral hygiene, use of fluorides and cessation of smoking (Verbond der Vlaamse Tandarsten 2010; Société de Médecine Dentaire 2009).

5.13 COMPLEMENTARY AND ALTERNATIVE MEDICINE

In Belgium, only qualified physicians, dentists and midwives are entitled to make diagnoses and to prescribe treatment, and their freedom is absolute. Moreover, only these professionals are entitled to use non-conventional practice.

According to the Non-Conventional Practices Act (1999), a non-conventional practice is defined as performing actions which aim at improving or monitoring the medical condition of a human being, taking into account certain legal regulations and conditions. Homeopathy, chiropractic, osteopathy and acupuncture are legally considered as non-conventional practices. The number of non-conventional practices can be extended by the government. Only those individuals registered for a specific non-conventional practice or operation are allowed to provide it (*BS–MB* 1999).

The French community has certified the training for osteopathy, resulting in a complementary Master's degree in osteopathy at the Free University of Brussels (ULB). The education is not certified in the Flemish community (Institut des Sciences de la Motricité 2010).

Homeopathic medicines have to be produced by certified companies or pharmacies and can only be sold (as complementary nutrition supplements) in pharmacies. The free sale of homeopathic medicines in pharmacies challenges the pharmacist to undertake the dual role of diagnostician and practitioner.

For these products, the (simplified) proceedings of registration, production and notification is regulated by Royal Decrees (3 March 1992, 29 August 1997 and 12 February 2009), and is controlled by the FAMHP and BCGH-CBPH. The labels of the products may not contain any reference to the therapeutic or prophylactic effects of the ingredients (European regulation 2007) (FAMHP 2010a).

Non-conventional practices are not reimbursed by compulsory health insurance, but several sickness funds incorporate them in their voluntary health insurance with partial reimbursements (€10 per session and a maximum of five sessions per year, with a maximum of €75 for homeopathic medicines). They anticipate increasing demand by their clients for reimbursement for non-conventional practices.

The last HIS showed that, in 2004, 12% of the population had had contact with a non-conventional therapist. These contacts concerned: homeopathy (5.8% of the population), osteopathy (3.8%), chiropractic (1.7%) and acupuncture (1.6%). The percentage of the population who had contact with alternative medicine increased slightly between 1997 (8%), 2001 (11%) and 2004 (12%) (Bayingana et al. 2006).

The Non-Conventional Practices law is enabling legislation, but it has never been voted on and an executive commission has not yet been established (in March 2010). Furthermore, despite the increase of patients who consult practitioners of complementary medicines, their professional titles and certification are not yet regulated.

5.14 HEALTH CARE FOR SPECIFIC POPULATIONS

5.14.1 Asylum seekers

Medical care in refugee centres focuses on care (treatment and provision of medication) and prevention (six-monthly medical imaging of the lungs to trace tuberculosis). The health care for children is organized in collaboration with K&G in the Flemish community and ONE in the French community (Fedasil 2009).

5.14.2 Illegal immigrants

The government has developed special proceedings for urgent medical aid for illegal immigrants (Royal Decree of 12 December 1996). This concerns urgent care in the case of a serious disease or accident, but also contains preventive and curative care on an ambulatory or residential basis. Three conditions are required: the patient needs care, the patient is staying in Belgium illegally and the physician has filled an attestation for the welfare centres. If welfare centres cover those medical costs, they are fully reimbursed by the federal government. Some welfare centres distribute medical cards to illegal immigrants in need as a payment guarantee for physicians (Vreemdelingenrecht 2009).

5.14.3 Other

As specified in Section 3.4.1 *Cost-sharing,* the NIHDI also provides specific reimbursement to some people (e.g. preferential reimbursement, lump sum for the chronically ill, solidarity funds, and so on).

6 PRINCIPAL HEALTH CARE REFORMS AND INITIATIVES[hh]

6.1 ANALYSIS OF RECENT REFORMS

In Belgium, several measures have been taken with the aim of improving the performance of the health system. Table 6.1 provides a chronological overview of the most important reforms since 2007. The major reforms prior to 2007 have been discussed earlier in this report (see Section 2.2 *Historical background*).

The following sections focus on recent reforms that are considered to be good examples of attempts to achieve the current goals of the health system, such as: increasing accessibility; assuring health care quality; and maintaining financial sustainability (FPS Social Security 2009e). It should be noted that each reform described is categorized under a specific objective, but some of them actually cover multiple objectives (e.g. reducing pharmaceutical prices aims to both improve access to drugs and maintain the financial sustainability of the system).

Table 6.1: Major health care reforms and policy measures, 2007–2010

Year*	Reform	Description
Accessibility		
2007–2009	Protection measures: extension of MAB-MAF-MAF	The MAB system was extended in 2007, 2008 and 2009 and more categories of out-of-pocket payment are progressively being integrated in the MAB-calculation.
April 2007	Social security	Law of 31 January 2007 amending the Law of 23 December 2005 on the solidarity pact between generations
July 2007	Protection measures: OMNIO-system	Extension of the preferential reimbursement to all persons under a fixed income limit
July 2007	Protection measures: lump sum payments	Introduction of lump sum for patients suffering from Sjögren's syndrome (2007)
July 2007	Protection measures: chronically ill patients	Introduction of reimbursements for analgesic drugs and bandages
July 2007	Protection measures: out-of-pocket expenses for cancer patients	Reimbursement of travel expenses for non-hospitalized cancer patients
January 2008	Protection measures: coverage of self-employed	The compulsory coverage of self-employed was extended to minor risks.
March 2008	Public health	Launch of cancer plan (2008–2010)
June 2008	Public health	Launch of National Action Plan for Alcohol (2008–2010)
June 2008	Adequate supply: medical graduates	Increasing of quota for medical graduates
July 2008	Protection measures: dental care	Total reimbursement of dental care for children up to 15 years old
August 2008	Adequate supply: nurses	Launch of a plan to increase the attractiveness of the nursing profession
September 2008	Protection measure: chronically ill	Launch of the Plan for the Chronically Ill 2009–2010
January 2009	Protection measure:	MAB chronically ill + observatory set up in the NIHDI

hh This chapter was written by Sophie Gerkens.

Year*	Reform	Description
	chronically ill	
March 2009	Public health	The Decree of the Flemish government of 31 January 2009 on the recognition of LOGOs, their scope, composition, missions and funding comes into force (Articles 38–43 came into force on 31 December 2009 and Articles 3, 23, 24 came into force on 1 January 2010).
May 2009	Protection measures: dental care	Total reimbursement of dental care for children up to 18 years old
May 2009	Protection measures: supplements	Abolition (or limitations in numbers) of supplements in two-person rooms or day hospitalizations for some categories of patients
November 2009	Adequate supply: elderly care	The Decree of 30 April 2009 on the accommodation and care for the elderly comes into force (Decree of the Walloon government of 15 October 2009).
January 2010	Protection measures: supplements	Abolition of supplements in two-person rooms for all patients
January 2010	Public health	The Decree of the Flemish government of 29 May 2009 extending the missions of LOGOs to include environmental medicine networks
January 2010	Adequate supply: elderly care	The Decree of 13 March 2009 on accommodation and care comes into force (Decree of the Flemish government of 24 July 2009) regulating the notification, recognition and funding of care structures and infrastructures for the elderly.
January 2010	Adequate supply: elderly care	Launch of innovative projects for elderly care
March 2010	Patient safety and compensation	A law to compensate, under certain conditions, damages resulting from health care that does not involve the responsibility of the caregiver was passed on 31 March 2010 (not yet entered into force) (see Section 2.7.6 *Patient safety and compensation*).
Quality		
January 2007	Impulseo II	This fund provides a proportion of the salary costs of an administrative employee helping a group of GPs in the management of their practice (Royal Decree of 12 August 2008).
April 2007	Mental health care	Launch of the therapeutic projects
May 2007	Responsibility of health care providers	Laws of 13, 21 and 27 December 2006 affecting the structure, mission and enforcement rules of the Department of DGEC-SECM came into force.
June 2008	Performance	Signing of the Tallinn Charter
August 2008	eHealth	Set up of the eHealth platform
December 2008	Reference amounts in hospitals	(1) Abrogation of the system for the years 2003–2005 by the Health Law 2008 (Act of 19 December 2008); (2) new methodology (2006 methodology) for 2006–2008 in-hospital stays
January 2009	Reference amounts in hospitals	New methodology for in-hospital stays ending after 31 December 2008 (2009 methodology)
September	Pathways	Introduction of the pathway for type 2 diabetes

Year*	Reform	Description
2009		
June 2009	Pathways	Introduction of the pathway for chronic renal failure
Sustainability		
2007	Fund for the future of health care	From 2007, budgetary reserves have been created (with eventually the addition of surpluses) and pooled in a fund in order to invest for costs of ageing. This fund can only be used at the earliest from 2012.
April 2007	Pharmaceutical policy reform: reference reimbursement system	Exemption procedure based on the recognition of a significant therapeutic added value in the original drug (Royal Decree of 15 February 2007, Art. 41)
March 2008	Implants and medical devices	Introduction of commission for reimbursement of implants and invasive medical devices
December 2008	Provisional funds for pharmaceuticals	New contribution method based on a system of advances and deductions (Programme Law of 22 December 2008).
December 2008	Prescribing behaviour	National agreement between representatives of physicians and sickness funds on starting new drug treatments for certain therapeutic classes with cheapest molecules, on limiting high prescription volumes and on a better prescribing quality
May 2009	Implants and medical devices	A notification is now mandatory for each implant with a CE label
May 2009	Pharmaceutical policy reform: reference reimbursement system	Reference reimbursement system: (1) additional percentages were added for drugs in the reference price system for over two years (2.5%, i.e. total reduction of 31.5%); (2) increase of the frequency of application to four times per year; (3) the similar and cheaper reimbursed alternative must exist and be available on the Belgian drug market (Law of 22 December 2008, Arts 100, 156–157 and Royal Decree of 14 April 2009).
April 2010	Pharmaceutical policy reform: reference reimbursement system	(1) Inclusion of some patented or off-patented drugs in the system by full right; (2) additional reduction in the reimbursement basis of the original drug of 4% (total reduction of 32.8%) for drugs in the reference price system for over two years, and of 3.5% (total reduction of 35.2%) after four years; (3) new exemptions for drugs with a proven substantial added value regarding safety and/or efficacy; (4) introduction of a legal upper limit on the reference supplement (Law of 23 December 2009, Art. 34 and Royal Decree of 19 January 2010, Art. 12, 3°, 11°–12°).
April 2010	Pharmaceutical policy reform	Introduction of new system of remuneration for pharmacists

*Date on which application/policy came into force.

6.1.1 Increasing accessibility

Ensuring equal access to high-quality health care is one of the main objectives of the Belgian health system. In 2004, 10.1% of the households had to postpone medical care because of financial reasons (IPH, 2010a). Protection measures were therefore taken to avoid an increase in patient charges or to reduce them for some socioeconomic categories or diseases (i.e. chronic diseases). Mechanisms were also put in place to provide an adequate and sufficient supply of health services. Other prevention measures aim to reduce health inequalities.

6.1.1.1 Protection measures

As explained in Section 3.3 *Population coverage and basis for entitlement,* almost 99% of the population is covered by the compulsory health insurance. Since January 2008, there is no longer any difference between coverage in the general scheme and the scheme for the self-employed, as the latter now includes coverage for minor risks.

To protect patients in lower socioeconomic groups, additional protection measures have been taken. The system of preferential reimbursement, introduced in 1963, has gradually been enlarged over time. Since 1 July 2007, eligibility for preferential reimbursement has been extended to all persons under a fixed income limit. This extended system of preferential reimbursement is called the OMNIO system and is described in Section 3.4.1 *Cost-sharing*.

Additionally, the system of MAB, described in Section 3.4.1 *Cost-sharing*, was extended in 2007, 2008 and 2009, and more categories of out-of-pocket payments are progressively integrated in the MAB-calculation.

- Since January 2007, a rate of 20% is reimbursed for some classes of D-medication (painkillers) for chronically ill patients and the remaining 80% is integrated in the MAB-calculation. A similar mechanism for "active bandages" was also introduced (see below on measures for the chronically ill).
- Since July 2008, the safety margins for medical devices and implants have been introduced into the MAB-calculation (Schokkaert et al. 2008).
- • Since January 2009, the fixed co-payment for pharmaceutical products for patients in psychiatric nursing homes is also taken into account in the MAB-calculation (Act of 22 December 2008).
- Since January 2009, the required thresholds are reduced by €100 for families where one member incurred medical expenses of at least €450 in the two previous years (Royal Decree of 22 March 2008).
- Since 1 July 2009, some non-reimbursed painkillers are registered in Pharmanet (see Section 2.5.2 *Information systems*) and in 2010, around €3.7 million are foreseen to include the cost of some painkillers within the MAB-calculation.

Complementary to the MAB, and in order to protect people who can be expected to have high medical and nonmedical expenditures, such as chronically ill patients, certain fixed payments systems have been extended or added. Fixed payments introduced before 2007 were for chronically ill patients (Royal Decree of 2 June 1998), for incontinence material (Royal Decree of 2 June 1998), for palliative treatment at home (Royal Decree of 2 December 1999) and for patients in a persistent vegetative state (Royal Decree of 18 November 2005). In July 2007, a monthly fixed payment for patients suffering from Sjögren's syndrome was also introduced (Royal Decree of 3 June 2007). More information about these fixed payments can be found in the reports of De Graeve et al. (2006) and Sermeus et al. (2010).

In January 2010, the annual fixed payment for chronically ill patients amounted to €551.65 for patients entitled to home nursing for strong and severe dependency; €413.75 for patients receiving disability benefits and receiving financial interventions for the help of a third person, for those entitled to integration replacement for disabled people, and those entitled to an income guarantee for the elderly. For other dependent patients, the fixed payment is €275.83. In January 2010, other fixed payments increased to €594.79 for palliative treatment at home, to €453.24 for incontinence material, to €7576.04 for patients in a persistent vegetative state and to €21.05 for patients suffering from Sjögren's syndrome (NIHDI 2010e).

Since 2007, additional measures have been taken for the chronically ill. Since July 2007, chronically ill patients receive a 20% reduction in the price of paracetamol-based analgesics (and for combination paracetamol and codeine products); a lump sum of €20 per month; plus an additional amount of €0.25 per pack of active bandages for chronic wounds delivered by a pharmacy (Royal Decrees of 3 June 2007).

Moreover, as described above, the remaining patient charges for these products (paracetamol-based analgesics and active bandages) will be taken into account in the MAB-calculation.

On 23 September 2008, the 2009–2010 Plan for the Chronically Ill was presented by the Minister of Social Affairs and Public Health to improve the access and health care quality of the chronically ill. In January 2009, an observatory for the chronically ill within the NIHDI was created. It is composed of representatives of sickness funds and patient organizations, so that the needs of chronically ill patients, which are insufficiently covered by existing mechanisms of accessibility to health care, will be detected and precise measures will be proposed.

It should also be noted that supplementary payments are not covered by the MAB system. To protect some categories of patients, supplements in two-person rooms or in day hospitalizations have been forbidden since May 2009 for patients entitled to preferential reimbursement, children entitled to increased child allowances, patients in palliative units, patients entitled to lump sum payments for incontinence material or palliative treatment at home, or patients recognized as chronically ill and entitled to the lump sum payment. For other patients, a limitation on the number of supplements has also been introduced (Royal Decree of 20 November 2008). Since January 2010, this measure has been extended and room supplements for a two-person room were abolished.

Other measures to reduce patient co-payments for specific groups of patients were also introduced. For non-hospitalized patients with cancer, the reimbursement of travel expenses has been improved since July 2007. With the pathways for type 2 diabetic patients launched in September 2009, patients' official co-payments were abolished for GP consultations or consultations by a diabetic specialist. The "diabetes passport" allows these patients to receive assistance for some podological and dietary treatments. A similar mechanism also exists for patients with renal failure since June 2009 (see Section 5.2 *Patient pathways*). Moreover, since May 2009, dental care that is included in the nomenclature is fully reimbursed for children up to 18 years old (except for orthodontic treatments).[ii] They can also use the third payment system. In the past, dental care was only free for children up to 12 years old (from September 2005) and for children up to 15 years old (from July 2008).

In home nursing, co-payments have also been reduced from 15% to 10% for the lump sum C since February 2009 and for the lump sum B since February 2010. In physiotherapy, co-payments have also been systematically reduced. Co-payments for GP home visits for children up to 10 years old were reduced in 2009.

6.1.1.2 Mechanisms to provide an adequate supply

As highlighted in a recent KCE report, in the future Belgium will likely experience a potential shortage of GPs (Roberfroid et al. 2008). To respond to future needs, the Royal Decree of 12 June 2008 increased the quota for medical graduates accepted for further training leading to practise from 757 for the years 2008–2011 to 1230 for the years 2015–2018. Moreover, measures to reinforce the attractiveness of the GP profession were taken.

The Impulseo I fund was created to grant interest-free loans (up to €15 000) and subsidies (of €20 000) to doctors starting a GP practice after July 2006 in "urban positive active zones" or areas with a shortage of GPs, defined as area with fewer than 90 GPs per 100 000 population, or areas with a population density of less than 125 per km^2 and with less than 120 GPs per 100 000 population. An additional loan of €30 000 was provided to self-employed GPs and free administrative assistance during the first 18 months following the start of the practice was also provided (Royal Decree of 15 September 2006). About 5% of active GPs have already used this procedure.

[ii] For non-conventioned dentists, the payment of supplements is possible.

Fees to encourage increased GP availability were also created. Availability fees are allocated to attending GPs for any care provided in a given area and population. From July 2008, these fees cover availability for the weekend (48 hours per weekend), official holidays (24 hours per holiday), and weekdays from 7 p.m. until 8 a.m., which have been communicated to the competent medical commission (NIHDI 2010h).

A plan to increase the attractiveness of the nursing profession in hospitals, nursing homes and home care was also defined in 2008. This plan has four areas of action: reduction of workload and stress; promotion of qualifications; increase of remuneration and social recognition; and involvement in decision-making (Chambre des représentants de Belgique 2009).

In September 2007, a pilot project (VINCA) began, which aims to provide nurses with administrative support across mobile computing in order to enter patient information at the patient bedside and to facilitate administrative procedures (premium of €650 per home nurse) (FPS Health, Food Chain Safety and Environment 2010d). In June 2007, pilot projects were developed to integrate family/nurse aids in home care, mainly to meet the challenges of an ageing population, but also to relieve nurses of some basic tasks.

In 2008, the premium for the use of licensed software for nursing homes rose from €350 to €800 per provider (budget of €4.5 million). In July 2008, a budget of €16.3 million was allocated for the computerization of the nursing component of patient records in order to improve communication between health care providers, to improve the quality of care and to allow an automatic extraction of the nursing part of the HBD-SHA-AZV (see Section 2.5.2 *Information systems*).

In 2009, a hospital budget of €4.7 million was granted to increase the standing of nurse services provided in antisocial hours (e.g. night services), and a budget of €1 million was granted to promote continuing education. Additionally, two nurses were added to the board of directors of the KCE, and two nurses were added to the multipartite consultation structure. Since February 2009, home nurses can charge for a consultation once a year per patient (Royal Decree of 15 December 2008). This nursing consultation, which is entirely supported by the NIHDI (i.e. no patient co-payment), aims to assess the patient's condition, identify nursing needs and define care objectives. Furthermore, in March 2009, the Federal Council for the Quality of the Nursing Activity was established (Royal Decree of 27 April 2007) to externally assess the quality of nursing activity in hospitals.

In 2010, the hospital budget for nurse services provided in antisocial hours was increased by €40 million (total budget of €44.7 million). Budgets of around €16 million and around €800 000 were also foreseen for nurse services in antisocial hours in nursing homes and psychiatric nursing homes, respectively. With this budget, a specific remuneration was offered for services provided between 7 p.m. and 8 p.m. as well as night remuneration for services provided between 8 p.m. and 6 a.m.[jj] Measures to improve the remuneration of multiple services of home nurses were also taken (e.g. financing recognition for the preparation of oral medication or for the third and fourth visits in home care for patients under lump sum). An annual premium of €175 was given for the continuous training of nurses in home care (total budget of around €1.75 million).

jj Services beginning before 6 a.m. but ending after 6 a.m., or services beginning before 8 p.m. but ending after midnight are also considered night services.

Also in 2010, around €27 million was allocated to promote the specialization of nurses. With this budget, a gross annual premium was given for nurses with a professional title in intensive care and emergency medicine, geriatrics or oncology (of €3341.50) and for nurses with a specific qualification in geriatrics (of €1113.80). Professional titles and specific qualifications are obtained after a complementary training of 900 hours and 150 hours, respectively. To preserve these titles or qualifications, nurses also have to undergo continuous training and work in the corresponding sector. Finally, the VINCA II project for home nurses also started in April 2010 (€800 000). Subsidies are granted to develop evidence-based nursing by producing guidelines and recommendations on good practice.

A protocol agreement has been concluded in the interministerial conference of 14 December 2009 to improve the structural organization and collaboration between family aid for the elderly and home care given by health professionals (e.g. nurses).

Concerning elderly care, the Royal Decree of 2 July 2009 launched a call for innovative projects. The objectives of these projects are to allow older people to remain in their homes as long as possible by receiving appropriate care; to guarantee the continuity of care and promote collaboration between caregivers; to support informal caregivers; and to provide accessible care. These projects began in January 2010 and a second call will be held in May 2010 for projects that will start in October 2010.

Moreover, a budget of more than €88 million was used between 2006 and 2009 to convert around 12 800 beds in homes for the elderly into nursing home beds. In 2010, an additional budget of around €26 million is foreseen. Moreover, the KCE will examine the question of maintaining a moratorium in homes for the elderly (Chambre des représentants de Belgique 2009).

6.1.1.3 Prevention measures

Many ideas, initiatives and projects prevail in Belgium in the field of health promotion and prevention (see Section 5.1 *Public health*). This section details some holistic plans defined in interministerial conferences since 2007 in the field of public health (FPS Health, Food Chain Safety and Environment 2010c).

First, the National Health and Nutrition Plan, signed in June 2005, will continue until 2010. This Plan aimed to adopt a global approach to promoting healthy nutrition and physical activity. The protocol agreement on the breast cancer screening programme[kk] for women aged 50–69, which was first implemented in October 2000, was prolonged for a further five-year period in January 2004 and again in January 2009.

Furthermore, the 2009–2010 plan to eliminate measles and rubella was adopted at the interministerial conference of 2 March 2009. Moreover, on 28 September 2009, a protocol agreement on prevention was adopted. This protocol provides a general framework that should allow the communities to realize their prevention programmes with the support of the federal government and funding by the health insurance, in respect of the communities' individual competences. The organization of prevention programmes remains the responsibility of the communities.

In addition, to integrate all aspects of cancer prevention, a continuous cancer plan was launched on 10 March 2008, the so-called Cancer Plan 2008–2010. Roundtables gathered different stakeholders involved in cancer care: care providers, governments, sickness funds, patient associations, psychosocial workers, the Belgian Cancer Registry Foundation, the centres for the screening of breast cancer, NIHDI, FPS Public Health, IPH, researchers, pharmaceutical industry, universities, health care institutions and so on. In this plan, 32 concrete actions were defined. These actions are organized into three main principles: actions on prevention and screening; actions on care, treatment and support given to the patients; and actions on research, technological innovation and assessment (see Table 6.2).

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kk Women aged 50–69 can benefit from free mammography every two years. This "mammotest" has to take place under conditions determined by the legislation (see also Chapter 7).

Table 6.2: Cancer Plan, 2008–2010

Actions "prevention and screening"
1. To reimburse consultations for help in smoking cessation
2. To screen and support persons at risk of being predisposed to genetic cancer
3. To extend the age of girls' vaccination against HPV from 12 to 18 years
4. To improve the screening and early diagnosis of breast cancer
5. To establish a systematic programme of screening for cervical cancer
6. To promote preventive consultations on health risks
Actions "care, treatment and support to patients"
7. To provide specific support when the diagnosis of cancer is provided to the patient
8. To re-evaluate the multidisciplinary oncology consultation (COM)
9. To establish pathways for patients with cancer
10. To provide nursing and psychosocial support to patients through health care programmes on oncology (PSO)
11. To finance a data manager in the health care programmes on oncology (PSO)
12. To define and fund a health care programme on paediatric oncology
13. To manage rare tumours
14. To recognize oncology nurses
15. To improve coverage of cancer treatment by compulsory health insurance
16. To support radiotherapy and medical imaging in oncology
17. To provide structural support for banks and cell therapy units concerning colony-forming unit-spleen and cord blood
18. To improve reimbursement of certain secondary costs related to cancer treatment
19. To develop the functional rehabilitation of patients with cancer in remission state
20. To set the conditions for the recognition of a disability "post-treatment of cancer"
21. To support parents who have a child with cancer
22. To provide access to psychological support or to discussion or support activity groups
23. To provide structural funding for a paediatric pathway on continuing care for children
24. To support pilot projects on oncogeriatry
25. To improve the provision of palliative care for patients with cancer
26. To take actions in consultation with relevant ministers at the federal level
Actions "research, innovative technologies and assessment"
27. To establish a tumour bank
28. To provide structural funding for the coordination of translational research in hospitals
29. To support translational research
30. To use hadrontherapy in Belgium
31. To strengthen the Belgian Cancer Registry Foundation
32. To establish a reference centre for cancer

A National Action Plan for Alcohol 2008–2012 was approved during the interministerial conference of 17 June 2008. The main objectives of this Plan are to prevent and reduce alcohol-related damage; to fight against excessive, problematic and risky alcohol consumption (and not only against alcohol dependency); and to have a policy oriented towards targeted risk group (especially young people and pregnant women) and risk situations.

Finally, on 28 September 2009, a protocol agreement on prevention was adopted. This protocol provides a general framework that should allow the communities to implement their prevention programmes with the support of the federal government and funding by the health insurance, in respect of individual competences. The organization of prevention programmes remains the responsibility of each community.

6.1.2 Assuring health care quality

To assure the quality of the health system, several measures have been taken, such as assessing the performance of the health system, making health care providers accountable, strengthening primary care and promoting continuity of care and the integration of the supply. eHealth measures to facilitate administrative procedures and to improve the quality of care have been described (Section 4.1.4 *Information technology*). As described in this section, a Belgian eHealth digital platform was set up in 2008 (Act of 21 August 2008).

6.1.2.1 Assessing the performance of the health system

On 27 June 2008, the Tallinn Charter on health systems was signed by Ministers of Health from the 53 Member States of WHO European Region. By signing this charter, the Member States committed themselves to "promote transparency and be accountable for health system performance to achieve measurable results" (WHO 2008b). To realize this commitment, an evaluation of health system performance and balanced cooperation with stakeholders at all levels of governance were thus needed.

As already described (see Section 2.5.1 *HTA*), the KCE provides scientific support to health care decision-makers and publishes, among others, international comparisons of specific topics in health care (e.g. financing of hospital drugs). The KCE also compiled an inventory of the utility and shortcomings of existing health care databases. Also, the IPH has performed a number of studies related to patient satisfaction and accessibility of health care and health outcome research (e.g. health interview surveys, health care associated infections, AB-use, GP-sentinels, diabetes, mucoviscidosis, nursing homes, etc.) However, neither the KCE nor the IPH have provided a systematic performance assessment.

Therefore, during an interministerial conference on the subject, the NIHDI, the FPS Public Health, the FPS Social Security, the IPH and the KCE proposed to develop regular reporting on health system performance in Belgium. Towards this end, a working group has been established which brings together federal and federated entities. The aim of the first report was to agree on a set of performance indicators, to study the feasibility of these indicators, to facilitate the collection and aggregation of information, and to perform a first evaluation of health system performance. This first report was published by the KCE in collaboration with other federal and federated entities, such as the IPH, in June 2010 and results are summarized in Chapter 7 (Vlayen et al. 2010).

6.1.2.2 *Making health care providers accountable*

Measures taken before 2007 are described in Section 2.6.2 *Regulation of providers*. As described previously, feedback was provided on antibiotics (2001–2003), hypertensive prescriptions (2002–2003), pre-operative examinations (2005), extreme outliers (amoxiclav, quinolones, sartan, 2005), the prescription of a minimum percentage of cheap medicines (2006), as well as on the screening of breast cancer (2002, 2004, 2005, 2006). Since 2007, additional feedback has been gathered. At the initiative of the National Council for the Promotion of Quality, the NIHDI sent new feedback on prenatal care to 13 700 GPs, gynaecologists and midwives in January 2007. New feedback on the screening of breast cancer has also been sent out in 2007 and 2009. Additional feedback on the prescription of a minimum percentage of cheap medicines has been sent in 2007, 2008 and 2009. Moreover, new feedback on antibiotic prescriptions was gathered and distributed in 2007 and 2010 (NIHDI 2010f).

Concerning the system of reference amounts in hospitals, created in 2002 in order to address significant differences in medical practice between hospitals, new measures have been introduced. The system was abrogated for the years 2003–2005 by the Health Law (Act of 19 December 2008). The first reference amounts were then determined for 2006, with a new methodology based on recommendations from a KCE report (Van de Sande et al. 2005). Then, a new methodology (2009 methodology) was applied for hospital stays ending after 31 December 2008 (see also Section 2.6.3 *Mechanisms to ensure the quality of care*).

Moreover, after agreement between different actors, further incentives (and penalties) were established by law in order to further improve the prescribing behaviour of medical personnel. The prescription of all pharmaceutical products can be screened in order to verify that prescription patterns follow recommendations established by law.[II] Inappropriate prescription is evaluated based on recommendations made by the Reimbursement Commission through a series of indicators defined by the Committee for the Evaluation of Medical Practices for Drugs. The institution in charge of evaluating the prescribing

behaviour of medical personnel is the DGEC-SECM. Among measures to improve the quality of care, legal reforms affecting the structure, mission and enforcement rules of the DGEC-SECM were also set. The changes that apply to this institution included the establishment of new definitions on what is considered as "breach of responsibilities" from health care providers, as well as penalties and measures undertaken for such cases. Direct appearance in court during the process was also granted to health care providers. In addition to this, new procedures guaranteed independence between the members of the DGEC-SECM evaluating the case files and the officers leading the investigation.

6.1.2.3 *Strengthening primary care*

Measures taken before 2007 to strengthen primary care are described in Section 2.6.2 *Regulation of providers*. More recently, new initiatives on the GMD-DMG have been achieved. Since January 2009, the fees for GMD-DGM paid to the GP have been increased to €27.50. These annual fees paid by the patients are fully reimbursed by the NIHDI. The preventive role of the GP is also expanding (see Section 6.2 *Future development*) (NIHDI 2010a).

Moreover, in 2009, recognized GPs registered for duty services organized by circles of GPs and having at least 1250 in-office consultations or home visits per year received an annual fee of €1043 (NIHDI 2010a).

II Modification of the article 35bis § 10 and 73 §2 – §3 of the law of 14 July 1994 on mandatory health insurance and benefits. Modifications were set in the law of 8 June 2008 and the law of 19 December 2008.

To promote the grouping of GPs, the Impulseo II fund was created (Royal Decree of 12 August 2008). This fund provides a proportion of the salary costs for an administrative employee helping a group of GPs in the management of their practice. The financial contribution is equal to half of the actual salary costs, with a maximum of €8250 per year for a group of two GPs managing at least 500 GMD-DMGs[mm] and employing at least a 0.5 FTE person, and with a maximum of €16 500 per year for a group of three or more GPs managing at least 1000 GMD-DMGs[nn] and employing at least one FTE person. Moreover, they must use homologated computerized medical files (Royal Decree of 12 August 2008).

6.1.2.4 Promoting the integration of health services and multidisciplinarity

In Belgium, a set of methods and ways to organize care between institutions (systems of reference) and to promote cooperation between primary care and other levels of the health system have been developed. For example, agreements are in place specifying the tasks to be performed for patients suffering from diabetes, kidney failure, heart failure, asthma or obstructive bronchitis.

The Royal Decree of 21 January 2009 on patient pathways entered into force in April 2009 and a large campaign has been launched. Pathways for chronic renal failure and type 2 diabetes began in June and September 2009, respectively. In the Flemish region, these pathways are part of a broader coordination of primary care called *"samenwerkingsinitiatieven eerstelijnsgezondheidszorg"*. When necessary, coordination among providers of care is complemented by coordinated social assistance through the creation of networks/platforms. More details about these topics are detailed elsewhere (Section 5.2 *Patient pathways* and Section 5.8 *Long-term care for the elderly*).

The promotion of multidisciplinarity in mental health care is described in Section 5.11 *Mental health care*. Therapeutic projects in mental health care started in April 2007 and aimed to implement an "integrated health services model", guaranteeing continuity of care, providing needs-based care to the patient and promoting rehabilitation in society.

The National Cancer Plan (described in Subsection *Prevention measures* in Section 6.1.1 *Increasing accessibility*) also aims to strengthen collaboration between all levels of government and to increase multidisciplinarity and greater coordination between health care providers.

6.1.3 Maintaining financial sustainability

To maintain the financial sustainability of the health system, lump sum financing has been introduced (see Section 3.6 *Payment mechanisms*). Initiatives to ensure access to innovative pharmaceuticals are also described in Section 5.6 *Pharmaceutical care*.

To be able to respond to the increasing needs of the population, especially due to ageing, a fund for the future has been created (Act of 27 December 2006). At the end of 2009, more that €985 million has been saved and in 2010 a further €299.7 million will be added.

Also in 2006, a provisional fund for pharmaceutical products was created in order to compensate for budgetary excess (€100 million over a two-year period). Since December 2008, a new contribution mechanism has been established based on a system of advance payments and deductions (Programme Law of 22 December 2008).

Measures to reduce pharmaceutical prices and to promote the prescription of low-cost drugs were also taken before 2007 (described in Section 5.6 *Pharmaceutical care* and Section 3.4.1 *Cost-sharing*).[oo] Prescription quotas for low-cost drugs have not been updated since they were established in 2006.

[mm] Number reduced by 20% in 2007–2008 and by 50% for groups of recently recognized physicians.

[nn] Number reduced by 20% in 2007–2008 and by 50% for groups of recently recognized physicians.

[oo] The prescription quota for low-cost drugs was introduced by Royal Decree of 17 September 2005, instituting Article 73, §2 in the Coordinated Law of 14 July 1994 and the reference reimbursement system was introduced on 1 June 2001; Articles 35ter and 35quater of the Coordinated Law of 14 July 1994.

The 2009–2010 agreements between the representatives of physicians and sickness funds included a commitment to initiate therapy with the "least costly" drug(s) within a group of (initially) six pharmaceutical groups. The "least costly" medication (or the group of "least costly" medications) is identified by the NIHDI and updated on a monthly basis.

For the reference reimbursement system, different measures have been taken since 2007. Since April 2010, the basis of reimbursement for original pharmaceutical products undergoes an additional decrease of 4% (total reduction of 32.8%) after two years in the reference reimbursement system and a further decrease of 3.5% (total reduction of 35.2%) after four years in the system (Law of 23 December 2009). Moreover, since April 2010, a legal upper limit on the reference supplement has been introduced to exclude from the reimbursement list all drugs with a reference supplement of more than 25% of the reimbursement basis (with a maximum of €10.80) (Law of 23 December 2009).

A new system of remuneration for pharmacists also came into force in April 2010. The objective of this new system is to reinforce the intellectual role of the pharmacist and to partly disconnect the pharmacists' remuneration from the price of drugs. The remuneration is composed of a basic fee of €3.88 per reimbursed product (per pack), which is expected to make up 75% of the pharmacists' total remuneration. Second, they will receive an economic margin of 6.04% of the ex-factory price (+ 2% for ex-factory prices above €60). This new reduced percentage was calculated so that the share of the economic margin amounts to approximately 15% of the total remuneration. A specific lump sum of €1.20 is also provided for each prescription under the INN of the active ingredient. Moreover, an annual lump sum of €500 per pharmacy will be provided in 2010 to encourage the pharmacist to give detailed information to patients under chronic treatment when giving them their first prescription (Conseil des ministres 2010).

It should also be noted that on 1 March 2008, the Commission for the Reimbursement of Implants and Invasive Medical Devices was established (Royal Decree of 10 February 2008). The roles of this Commission are to determine a list of reimbursed medical devices and invasive implants, to make objective proposals on demands for reimbursement and to give advice on request of the Minister of Social Affairs and Public Health. This Commission is composed of representatives from Belgian universities, sickness funds and professional associations of pharmacists in hospitals, of physicians, hospital managers and manufacturers, and importers and distributors of implants and invasive medical devices.

Moreover, since 1 May 2009, new rules have been applied for the reimbursement of medical implants and invasive devices. A notification is now mandatory for each implant with a CE (European Conformity) label and only notified implants can be taken into account for reimbursement by the compulsory health insurance system. Implants which are not notified, even if they meet the conditions of notification, cannot be charged to the patient and will be charged entirely to the hospital. The notification does not constitute an assessment of the quality of products, but allows the compulsory health insurance to have an overview of all existing implants already available on the market (NIHDI 2010m). This reform will be completed in 2011 by a new reimbursement procedure for implants and invasive medical devices, which will guarantee quicker access to innovative devices with added therapeutic value.

6.2 FUTURE DEVELOPMENT

In the future, measures to improve the accessibility, quality and sustainability of the health system will continue. Some of the projects in these fields are described below (not exhaustive).

Among other measures to improve the population's access to the health system, there is a discussion about including long-term unemployed people (from one year), without any age limitation, and members of single-parent families in the group of people entitled to preferential reimbursement. A simplification of the administrative procedures related to the regulation of preferential reimbursement and of OMNIO status is also foreseen. Additional measures for the chronically ill will also continue (Chambre des représentants de Belgique 2009).

To increase the attractiveness of the GP profession, an Impulseo III fund for solo practice is under way (Chambre des représentants de Belgique 2009). Additional measures to increase the attractiveness of the nursing profession will also be taken. For example, an extension of the professional title for nurses in paediatrics, neonatology or psychiatry, and of the specific qualification for nurses in diabetics and psychiatry, is foreseen.

Also under way in Belgium are measures to improve the organization of medical emergency services accessible to the entire population. In the case of a medical emergency, two phone numbers are currently available for use in Belgium: the "100" (traditional call number) and the "112" (European call number). The European emergency call number "112" has been operational in Belgium since 1993, but is currently redirected to the traditional emergency call number "100". In future, medical dispatching will be restructured and streamlined with standardized and computerized tools and with a single emergency call number, the "112". An intermediate service between the single ambulance and the ambulance under medical supervision (MUG-SMUR) is also in progress, the so-called Paramedical Intervention Team (see Section 5.5 *Emergency care*). Moreover, using a psychosocial team to intervene in case of public emergencies is currently being evaluated (Chambre des représentants de Belgique 2009).

Measures to increase the quality of care by making health care providers more accountable will also continue. Following the work of an ad hoc task force created in 2009, accountability mechanisms on medical imaging and clinical biology are currently being investigated. The goal is to reduce both medical radiation exposure and the volume of examinations by 25% in 2010 (Chambre des représentants de Belgique 2009).

Furthermore, the determination of recognition standards for paramedical professions is a future objective of policy-makers. Moreover, pilot projects on telemonitoring to improve the management and follow-up of chronically ill patients and to increase their autonomy are in progress (Chambre des représentants de Belgique 2009).

Also under way are reforms to increase the preventive role of the GP. In the future, a free preventive consultation with a GP every three years is foreseen for patients who have a GMD-DMG. An additional fee of €10 per year will be given to the GP for each patient who has a GMD-DGM and follows a preventive programme. Also planned are the complete reimbursement of the preventive consultation for patients with preferential reimbursement, and a reduction of up to €3 of the co-payment for other patients. The National Council for the Promotion of Quality will define recommendations on measurable preventive objectives for each target group (NIHDI 2010a).

Pilot projects to improve communication between front-line health professionals (i.e. GPs, home nurses, physiotherapists) using the prescription as a communication tool are also in progress.

7 ASSESSMENT OF THE HEALTH SYSTEM[pp]

7.1 STATED OBJECTIVES OF THE HEALTH SYSTEM

According to the Belgium report on social protection and social inclusion, the objectives of the health system are grouped on three axes: increasing accessibility, ensuring the quality of care and maintaining the sustainability of the system (Council of the European Union 2009).

In Belgium, a whole set of measures have been taken since 2007 to strengthen the accessibility of the health system, to assure health care quality and to maintain the financial sustainability of the system (see Chapter 6 on recent reforms and Section 2.6.2 *Regulation of providers*).

As described in Section 6.1.2 *Assuring health care quality,* assessing the performance of the Belgian health system is one of the recent objectives of the government. The first pilot study was performed in 2009–2010 by the KCE and the IPH, in collaboration with other federal and federated entities (Vlayen et al. 2010). This chapter is therefore based on the results of this report.

In the report, four dimensions were analysed: quality (in terms of efficacy, appropriateness, safety, patient-centredness and continuity), accessibility, efficiency and sustainability of the health system in the areas of health promotion, preventive care, curative care, long-term care and end-of-life care. A total of 55 indicators were selected for the analysis. However, for some indicators, no recent national data were available. Unavailable data concerned some health indicators, such as mortality and indicators on social protection, resources in long-term care, lifestyle and environment.

This first pilot study suggested that, in general, the health care system is good in terms of accessibility (see Section 7.2 *Equity*), average to good with regard to safety (see Section 7.5 *Quality of care*) and average regarding the effectiveness of preventive care (see Section 7.5), the appropriateness of care (see Section 7.5), efficiency (see Section 7.4 *Technical efficiency*) and sustainability (see Section 7.3 *Efficiency of resource allocation*). The effectiveness of curative care and continuity were poorly rated by the indicators used in the pilot study (see Section 7.5). Furthermore, various inequalities were also identified, but these should be examined more closely in terms of equity (see Section 7.2).

Nevertheless, these findings must be interpreted with caution because of the fragmented assessment of certain dimensions, particularly with regard to the effectiveness of curative care (lack of data on clinical outcomes) and continuity (small number of indicators). Moreover, indicators on patient-centredness and equity are not easy to capture and generate lively debate. For these reasons, the evaluation of these dimensions requires the creation of ad hoc working groups. Some areas, such as end-of-life care, mental health care or care for the elderly were also not, or only poorly, investigated by the KCE report (Vlayen et al. 2010).

7.2 EQUITY

As in the KCE report on performance, this section does not study all aspects of equity in detail, but should rather be considered as a starting point for a more profound study on equity in the health system in Belgium.

7.2.1 Equity in financing

In Belgium, there is broad concern about the equitable funding of health care, based primarily on people's ability to pay and not on need for health care (Corens 2007). As described in Section 3.2 *Sources of revenue and financial flows,* public funding (around 71% of total health expenditure) is based on proportional social security contributions related to income, progressive direct taxation, and an alternative financing related to the consumption of goods and services (value added tax).

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pp This chapter was written by Sophie Gerkens.

The degree of vertical and horizontal equity of the overall system of funding was not analysed in the KCE report on performance and is therefore not covered in this section. Rather, this section is focused on the evaluation of the ease with which health services are reached in terms of the financial access to health care.

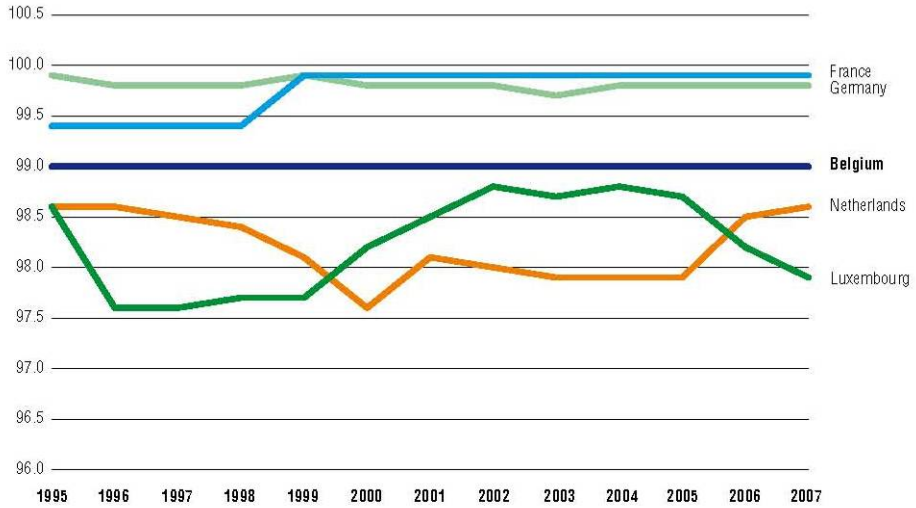
According to the NIHDI, the proportion of uninsured persons in Belgium ranges between 0.6% and 0.8%[qq] which is better than in some EU Member States, such as the Netherlands (1.5% in 2006; see Westert et al. 2008), but worse than in others, such as the United Kingdom, where the insurance coverage is 100%. Fig. 7.1 shows the population coverage in Belgium and neighbouring countries. The population coverage was higher in France and Germany, but lower in the Netherlands and Luxembourg (OECD 2009a).

Compared to neighbouring countries, the share of out-of-pocket expenditure in Belgium is high. OECD health data shows that in 2007, out-of-pocket expenditure constituted 19% of the total health care expenditure in Belgium, 5.5% in the Netherlands, 6.5% in Luxembourg (2006 data), 6.8% in France and 13.1% in Germany (OECD 2009a). Nevertheless, as explained in the KCE report on performance, caution is needed when comparing private expenditure in different health systems. It should be noted that the Belgian figures contain all paramedical purchases, all non-reimbursed drugs, medical devices, medical materials and net premiums (premiums minus reimbursement) paid to sickness funds and the interventions of private insurance in the cost of care (Vlayen et al. 2010).

As described in Section 3.4 *Out-of-pocket payments* and Chapter 6 on recent reforms, several measures have been implemented to improve accessibility and financial equity (i.e. MAB system, OMNIO, lump sum payment systems, solidarity funds and suppression of the supplement in double rooms). An evaluation of these measures is expected in the near future.

As shown in the KCE report on performance, MAB reimbursement represented 0.71% of total health expenditure in 2003 and rose to 0.87% in 2007. With the MAB, official co-payments amounted to 7.56% of all reimbursed services in 2006 compared to 8.8% without the application of this system (FPS Social Security 2009e).

Fig. 7.1: Health insurance coverage in Belgium and neighbouring countries (% of population), 1995–2007



Source: OECD 2009a.

qq Corresponding, for example, to people who have not paid their social security contributions and who are thus temporarily excluded.

7.2.2 Equity in provision of services

To measure the accessibility of health care services, the KCE report on performance tried to assess, among other aspects, the ease with which health services are reached in terms of availability of personnel. Some of the indicators presented in the KCE report on performance also suggest differences in the use of care (Vlayen et al. 2010). Indicators related to waiting times and lists were not investigated because Belgium is not affected by this problem.

7.2.2.1 Personnel availability

Health care accessibility in terms of personnel availability in Belgium is difficult to evaluate and more data are needed.

Currently available data show that the number of practising physicians was 2.96 per 1000 population in 2006 (NIHDI 2009h), which is below the EU15 average of 3.4 (NIHDI 2009h; OECD 2009a) (see Section 4.2.1 *Trends in health care personnel*). However, because the definition of a practising physician may vary between countries, international comparisons must be interpreted with caution.

A recent KCE report also showed that in Belgium less than one-third of medical students choose to specialize in general practice, that a quarter of the quota for GPs was not filled and that many young qualified GPs never practise or move out of the profession after a few years (Lorant et al. 2008; Roberfroid et al. 2008). Moreover, this report showed that the geographical distribution of GPs was in some cases inadequate. Thus, in future Belgium will likely encounter a potential GP shortage. Reforms to increase the attractiveness of the GP profession are described in Chapter 6 (see also Section 2.6.2 *Regulation of providers* and Section 5.3 *Primary/ambulatory care*).

Concerning the number of active nurses, as explained in Section 4.2.1 *Trends in health care personnel,* this number is difficult to determine. A register of nurses is currently in preparation but is not yet up to date. Reforms have been undertaken to increase the attractiveness of the nursing profession in Belgium and are described in Chapter 6.

7.2.2.2 Differences in the use of care

Differences in the use of care according to age, socioeconomic factors and geographical zone were suggested by some indicators of the KCE report.

A decrease in cervical cancer screening with age was found. In 2007, more than 70% of women aged between 28 and 39 years had received a Papanicolaou test during the three previous years, while this rate decreased to 43.7% for women aged 60–64. For women not eligible under the breast cancer screening programme,[rr] a decrease of opportunistic breast cancer screening with age was also identified in Belgium. In 2007, more than one-third of women aged 40–49 had had a mammogram in the previous two years (34.7%), while this percentage was 18.4% in the 72–79 age group. Differences in the number of hysterectomies were also highlighted with a peak for the age group 45–49 (2007 data) (Vlayen et al. 2010).

The KCE report also found inequalities according to socioeconomic factors for breast cancer screening, preventive dental care and hysterectomy rates. People in a household with an income exceeding the MAB ceilings had higher rates of hysterectomies (Vlayen et al. 2010).

Inequalities in the use of care related to socioeconomic factors were also shown in the HIS of the IPH. The coverage of cervical cancer screening was higher in women with an income level of over €2500 per month (73% in 2004) than in women with an income level below €750 per month (35% in 2004).

[rr] A breast cancer screening programme for women aged 50–69 using the mammotest has existed since 2001 in the Flemish region and since 2002 in the Brussels-Capital and Walloon regions.

A similar relationship with educational attainment was found. This survey also showed that people with a low education level had more contacts with a GP and more home visits but fewer contacts with a specialist. Concerning hospitalization, the survey showed that the proportion of day hospitalization compared to classical hospitalization was higher for people with a high education level. Furthermore, differences in the percentage of households that had to postpone medical care for financial reasons were also highlighted (almost 20% of households with an income level of €1000 or less per month compared to 2.5% of households with an income level of over €2500 per month) (IPH 2010a).

A study of the Christian sickness fund showed that children (under 18 years old) belonging to the lowest income class had a 28% lower chance of using preventive dental care in 2006 compared to other children, and a 36% lower chance compared to children belonging to the highest income class.[ss] This study also found that people belonging to the lowest income class had a higher risk (20%) of being admitted to the hospital than people belonging to the highest income class, and a higher risk (× 2) of being admitted to a psychiatric service of a general hospital or to a psychiatric hospital. They also had a 14% higher risk of using antidepressant drugs. The use of the GMD was also lower for people belonging to the lowest income class (Avalosse et al. 2008).

Furthermore, in Belgium, small regional differences were found in access to preventive child health care. In 2007, the percentage of children visiting a K&G health centre (in the Flemish community, see Section 2.3.2 *Federated authorities*) in their first year of life was 89.3%, while the percentage of children visiting a ONE health centre (in the French community, see Section 2.3.2) in their first year of life was 75%. The use of preventive dental care, hysterectomy and the GMD were also higher in the Flemish region.

Finally, the use of organized population screening with mammotests in women aged 50–69 years (breast cancer screening programme) is more pronounced in the Flemish region than in the Walloon and the Brussels-Capital regions. The total mammogram coverage for women aged 50–69, including both mammotests (breast cancer screening programme) and other mammograms (opportunistic cancer screening), was also slightly higher in the Flemish region than in the Walloon and the Brussels-Capital regions. Conversely, the use of mammography in women aged 40–49 and 70–79 (not eligible for the breast cancer screening programme) was higher in the Brussels-Capital and Walloon regions (Vlayen et al. 2010).

7.2.3 Equity in health outcomes

Some of the indicators presented in the KCE report on performance suggest differences in terms of health outcomes. Indeed, the report showed an increasing in-hospital mortality rate after hip fracture and community-acquired pneumonia, and an increasing hospitalization rate of pneumonia and influenza with age. These rates were also higher for males than for females (Vlayen et al. 2010).

A study of the Christian Mutuality also showed socioeconomic differences in terms of health outcomes (see Table 7.1).

[ss] Five classes were determined using the median net taxable income of each statistical sector (districts). The first class corresponded to statistical sectors (districts) where the median incomes were the lowest and the fifth class corresponded to statistical sectors where the median incomes were the highest.

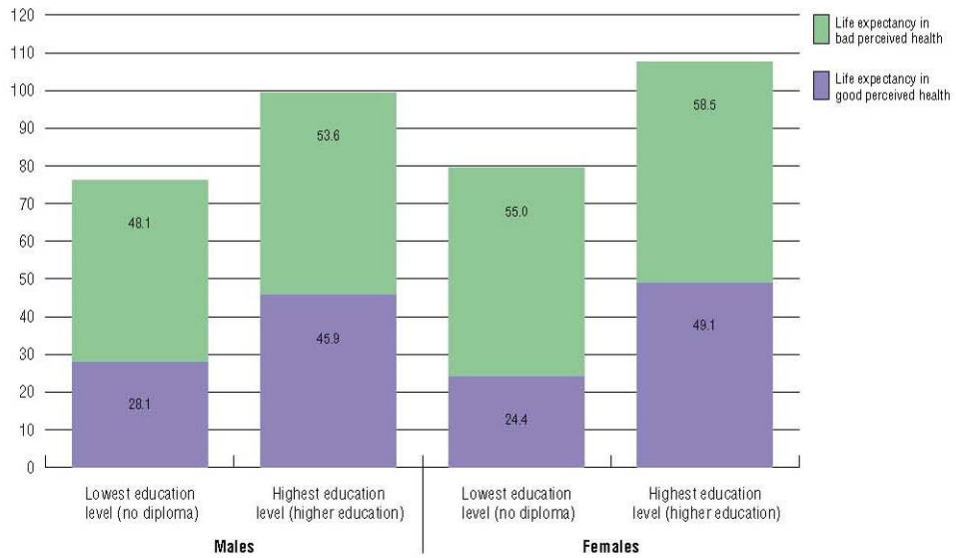
Table 7.1: Risk differences in terms of results for people in the lowest income class, 2006

	Compared to people in the highest income class	Compared to the whole population (members of the Christian Mutuality)
Mortality	1.45	1.21
In–home mortality	0.76	0.83
Chronic obstructive lung disease	1.15	1.08
To become disabled (after 12 months of incapacity)	1.66	1.33

Source: Avalosse et al. 2008.

Differences in life expectancy in good perceived health by education level also exist in Belgium. At 25 years, differences between people with the lowest and highest levels of education was 17.8 for males and 24.7 for females (see Fig. 7.2).

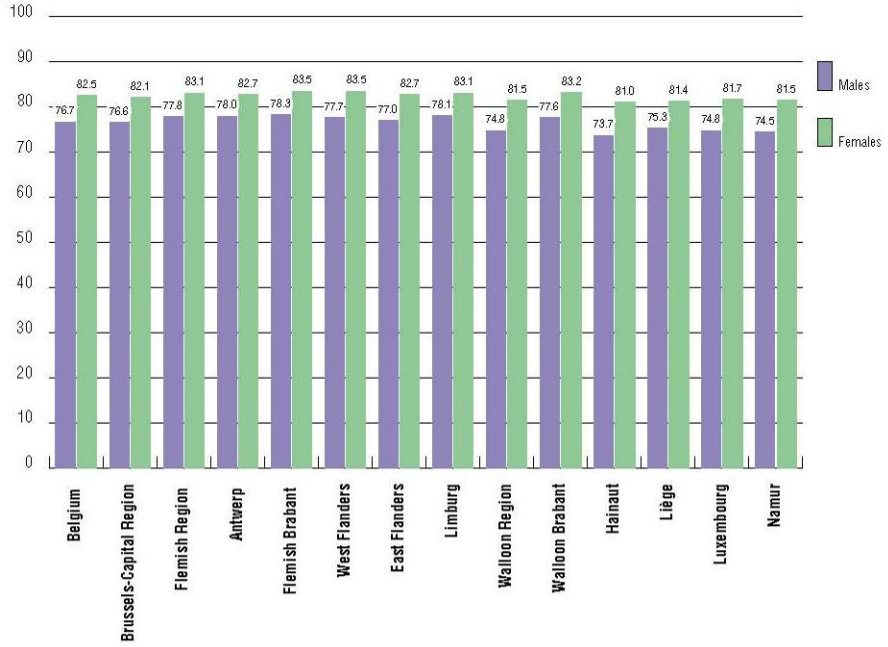
Fig. 7.2: Life expectancy in good perceived health by education level in Belgium, 1997



Source: Bossuyt and Van Oyen 2001.

Regional differences in terms of life expectancy were also shown. Fig. 7.3 shows that life expectancy at birth for males was lower in the Walloon region, and especially in Hainaut province, with a difference of three years compared to Belgian life expectancy and a difference of more than four years compared to Limburg province.

Fig. 7.3: Life expectancy at birth by provinces, triennial, 2004–2006



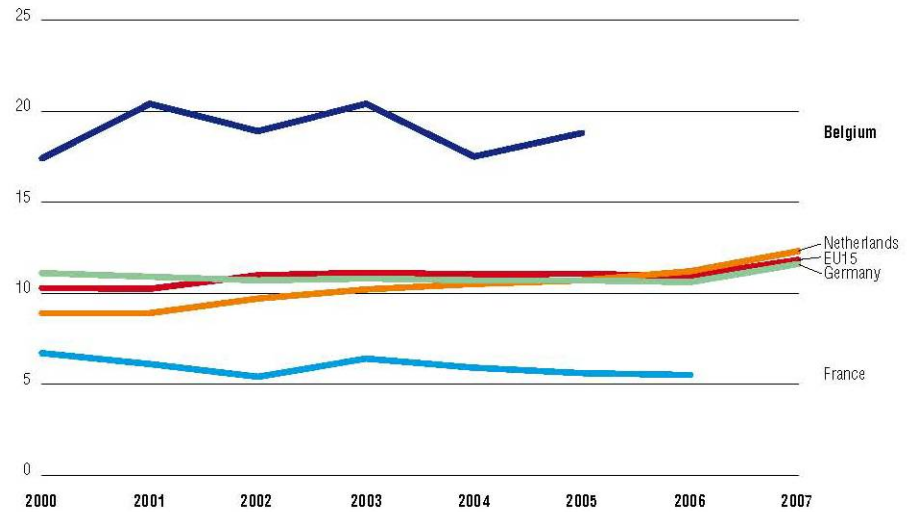
Source: Statistics Belgium 2009.

7.3 EFFICIENCY OF RESOURCE ALLOCATION

In this section, the health system's capacity to be innovative and to provide and maintain an appropriate infrastructure, including workforce, facilities and equipment, were investigated.

Concerning the maintenance of an adequate level of workforce, the number of medical and nursing graduates was analysed. Compared to neighbouring countries and to the EU15 average, the number of medical graduates per 100 000 population was higher in Belgium (see Fig. 7.4). The number of nursing students increased from 19 314 to 23 069 between 2000 and 2007(Vlayen et al. 2010). Pacolet and Merckx (2006) also estimated the total number of nursing and midwifery graduates to be around 38 per 100 000 population in 2004, which is above the EU15 average of 30.4. However, it should be noted that these data include foreign students who return to their country of origin after graduating.

Fig. 7.4: Number of medical graduates per 100 000 population in Belgium and neighbouring countries



Source: OECD 2008 (June, for Belgium); OECD 2009a.

In terms of infrastructure, the number of acute care beds was higher in Belgium than the EU15 average (4.7 versus 4.0, respectively per 1000 population in 2006) (WHO Regional Office for Europe 2010) and decreased from 5.5 per 1000 population in 1980 to 4.8 per 1000 population in 2008 (see Section 4.1.1 *Infrastructure*).

To maintain the qualification level of physicians, an accreditation system was introduced, as explained in Section 2.6.2 *Regulation of providers*. However, the proportion of accredited specialists significantly decreased from 65.4% in 2004 to 62.3% in 2008. The proportion of accredited GPs has remained stable around 68.7% in 2008 (Vlayen et al. 2010).

In 2008, the proportion of recognized GPs having received an allowance for using approved software in their practice was 65% for GPs with more than 500 contacts per year and 74% for GPs with more than 2500 contacts per year. The use of this software is moderate compared to other countries, such as the Netherlands, where this rate was estimated to be about 98%. It is nevertheless important to highlight the fact that not all GPs using software apply for the allowance (Vlayen et al. 2010).

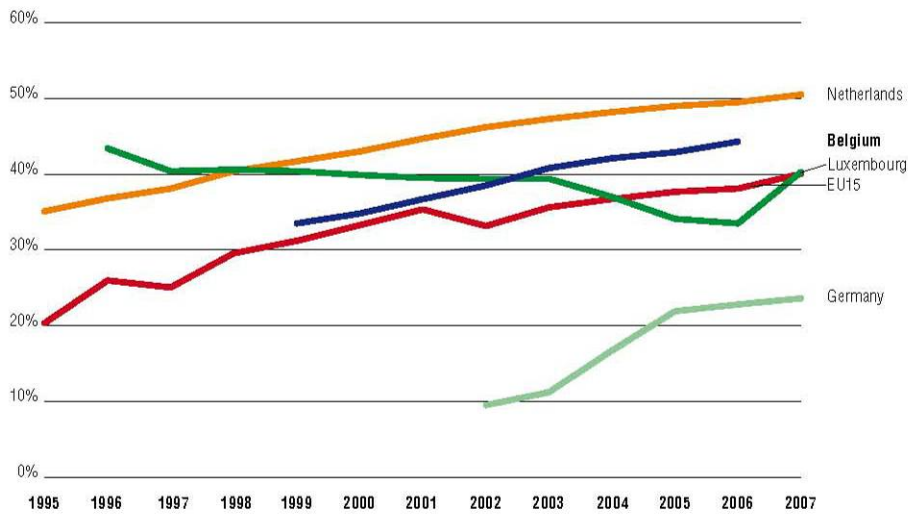
Concerning health expenditure, total health expenditure as a percentage of the GDP is higher in Belgium compared to the EU15 average. Compared to neighbouring countries, expenditure is nevertheless lower than in France and Germany (see Section 3.1 *Health expenditure*) (OECD 2009a). However, caution is needed when comparing total health care expenditure between countries.

7.4 TECHNICAL EFFICIENCY

To study the efficiency with which the health system's output is produced and to ensure that the resources are used to yield maximum benefits/results, two kinds of indicators were measured by the KCE report on performance: (1) the proportion of ambulatory and day care and (2) indicators on the organization of acute inpatient care (the use of minimally invasive techniques and of standardized processes, the hospital length of stay and the number of acute care bed days). These indicators were selected to examine potential savings in the Belgian health system through the use of day surgery, less expensive treatment alternatives and minimally invasive techniques.

Potential savings on bed occupancy and nursing care can be achieved by carrying out elective procedures as day cases. In Belgium, the percentage of surgical day cases among total surgical cases increased from 33.5% in 1999 to 44.3% in 2006 and was above the EU15 average (average for countries with available data; see Fig. 7.5) (OECD 2009a).

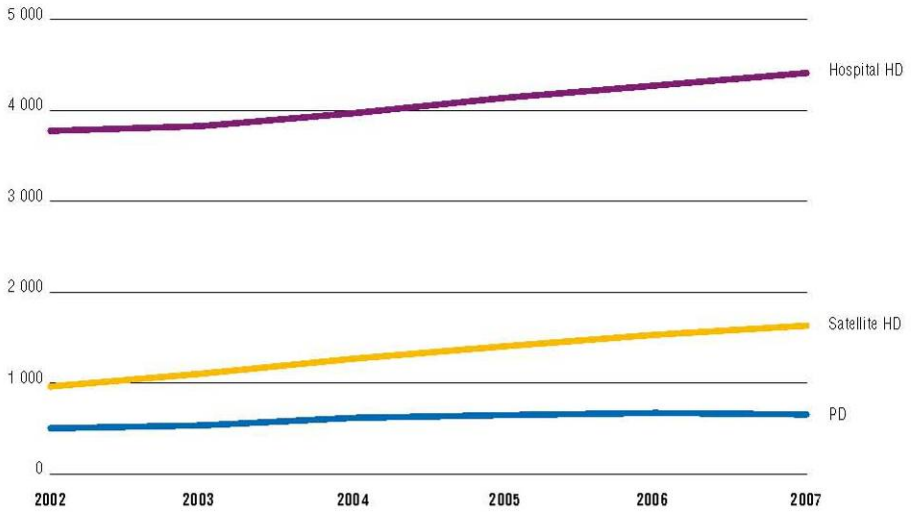
Fig. 7.5: Evolution of surgical day case rate in Belgium and neighbouring countries, 1995–2007



Source: OECD 2009a.
Note: French data were not available.

Concerning chronic dialysis, haemodialysis in hospital is more expensive than alternatives such as haemodialysis in satellite centres or home peritoneal dialysis. However, in Belgium the substitution of hospital haemodialysis by the less expensive alternatives is lower than in many other countries, although the proportion of patients on alternative dialysis modalities increased between 2002 and 2007 (see Fig. 7.6).

Fig. 7.6: Number of patients under chronic dialysis in Belgium, 2002–2007

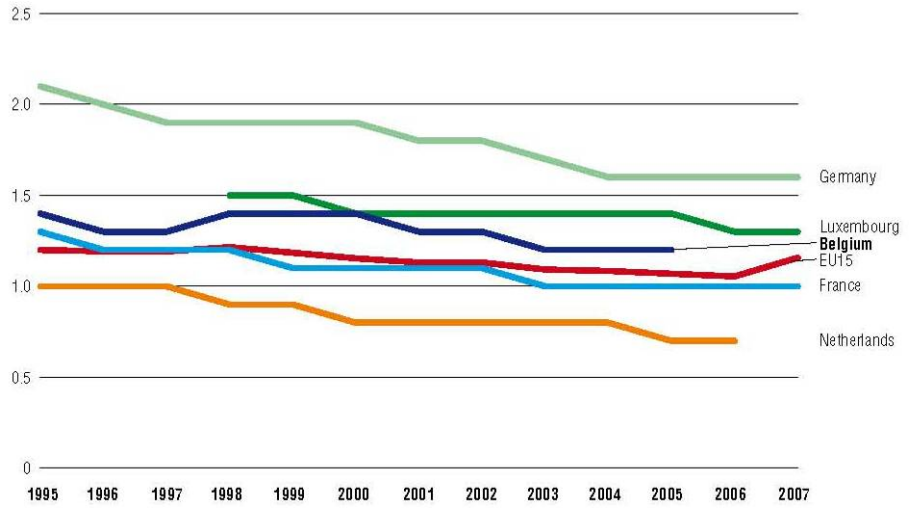


Source: Cleemput et al. 2010.
Notes: HD: Haemodialysis; PD: Peritoneal dialysis.

The KCE report on performance also showed that the use of minimally invasive techniques for cholecystectomy and cardiac revascularization increased in Belgium. Moreover, protocols, guidelines and clinical pathways to standardize well-defined care processes are used by many institutions.

As shown in Section 4.1.1 *Infrastructure,* the average length of stay in hospital has been decreasing since 1980, although it is still above the EU15 average. The number of acute bed days has also decreased but is higher than the EU15 average (see Fig. 7.7).

Fig. 7.7: Evolution of acute care bed days in Belgium and neighbouring countries, 1995–2007



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Source: OECD 2009a

7.5 QUALITY OF CARE

The KCE report on performance assessed the quality of the health system by measuring indicators subdivided into five sub-dimensions: effectiveness, appropriateness, safety, patient-centredness and continuity.

7.5.1 Effectiveness

Vaccination coverage of children in Belgium increased and was above 90% for all vaccines in 2007 (see Table 7.2). Compared to the EU27 average, vaccination coverage was slightly below the European average for measles and rubella, but was higher than the EU27 average for diphtheria, tetanus, pertussis, poliomyelitis and especially for hepatitis B and invasive disease due to Haemophilus influenzae type B. Moreover, as shown in Table 7.3, coverage for the complete vaccination (up to four doses) remains above 90% and is higher in the Flemish than in the French region. Influenza vaccination in the population over the age of 65 has remained relatively constant since 2000 and covered about 63% of this population group in 2006, which is similar to the EU15 average (62.5%).

The coverage of breast and cervical cancer screening has also increased since 2000, but this increase was moderate compared to other European countries (see Table 7.4) (OECD 2009a; Vlayen et al. 2010). The coverage of cervical cancer screening is slightly higher than the European average (calculated for available countries), but was low compared to some countries, such as the United Kingdom and Finland where the coverage was 79.4% and 70.5%, respectively (OECD 2009a). No data are currently available on colorectal cancer screening.

Concerning health promotion indicators, a positive tendency can be shown, even if certain target groups need to be reached more accurately (see Section 5.1 *Public health;* see also the KCE report on performance (Vlayen et al. 2010)). It should also be noted that the percentage of children aged under 18 years who went to the dentist for an annual check-up increased from 15.6% in 2002 to 22% in 2007 but was moderate compared to other countries, such as in the Netherlands (55.1% for children aged 0–12 years and 64.7% for young people aged 12–18 years) (Vlayen et al. 2010; Westert et al. 2008). To increase this percentage, since May 2009 dental care is totally reimbursed for children up to 18 years old (see Subsection *Protection measures* in Section 6.1.1 *Increasing accessibility*).

Table 7.2: Vaccination coverage (% of children), 2007

	Diphtheria-tetanus-pertussis	Measles-mumps-rubella	Meningococcus	Poliomyelitis	Hepatitis B	Invasive disease due to Haemophilus influenzae type b
EU27	94.7	93.0	N/A	95.8	82.7	90.5
EU15	93.6	91.5	N/A	94.9	N/A	90.2
Belgium	98.5	91.9	93.3	98.7	97.5	98.0

Source: WHO Regional Office for Europe 2010; and for Belgium: raw data provided by IPH.
Note: N/A: Not available.

Table 7.3: Vaccination coverage in the French (2009 data) and Flemish (2008 data) communities per dose (% of children aged 18–24 months)

	Diphtheria-tetanus-pertussis	Measles-mumps-rubella	Meningococcus	Poliomyelitis	Hepatitis B	Invasive disease due to Haemophilus influenzae type b
French community						
Dose 1	100.0	92.4	91.2	99.6	98.8	99.0
Dose 2	100.0	–	–	99.6	98.8	99.0
Dose 3	98.6	–	–	98.0	96.9	97.5
Dose 4	90.6	–	–	90.4	90.4	90.2
Flemish community						
Dose 1	99.3	96.6	95.6	99.7	99.0	99.1
Dose 2	98.6	–	–	98.8	98.3	98.4
Dose 3	98.3	–	–	98.5	98.0	98.1
Dose 4	95.2	–	–	95.3	95.1	95.2

Source: Robert and Swennen 2009.

Table 7.4: Population coverage of breast and cervical cancer screening, 2000–2006

	2000	2001	2002	2003	2004	2005	2006
Coverage of breast cancer screening* (% females aged 50–69)							
Belgium	–	43.0	–	54.0	–	57.0	–
EU15	69.4	66.9	72.3	71.3	72.8	70.9	68.0
Coverage of cervical cancer screening (% females aged 20–69)							
Belgium	59.5	63.2	61.0	61.0	63.1	62.2	65.3
EU15	61.5	63.4	63.7	65.0	59.2	60.1	59.6

Source: OECD 2009a.
Note: *Total mammogram coverage for woman aged 50–69 including both mammotests (National Breast Cancer Screening Programme) and other mammograms (opportunistic cancer screening). For regional differences, see Subsection Differences in the use of care in Section 7.2.2 Equity in provision of services.

Concerning the effectiveness of curative care, the KCE report on performance tried to measure five-year cancer survival and infant mortality. However, data for five-year cancer survival was not available at a national level. The more recent Belgian cancer mortality data concerned the year 2004 (one-year incidence). In this year, the three most important cancers were lung cancer (4828 deaths), colorectal cancer (1453 deaths) and prostate cancer (1377 deaths) for males, and breast cancer (2286 deaths), colorectal cancer (1388 deaths) and lung cancer (1274 deaths) for females (Belgian Cancer Registry 2008). More recent data are available in the Flemish region (2007 data, one-year incidence) and showed similar results (Vlaams Agentschap Zorg en Gezondheid 2010f).

Infant mortality data between 1998 and 2006 were only available for the Flemish and Brussels-Capital regions (no national data). Infant mortality in these regions has decreased since 1998 and is around the EU15 average in 2006 (EU15 average: 3.6/1000 live births; Flanders: 4.2/1000 live births; Brussels-Capital: 3.7/1000 live births) (Brussels-Capital Health and Social Observatory 2010; OECD 2009a; Vlaams Agentschap Zorg en Gezondheid 2010g).

The KCE report also assessed in-hospital mortality for two clinical conditions: hip fracture and community-acquired pneumonia. Even if the risk of mortality after these two interventions for these conditions has decreased since 2004, the rates are higher than those reported in the United States (hip fracture: 7.5% versus 3.01% in 2007; community-acquired pneumonia: 13.6% versus 5.49% in 2007) (see Table 7.5) (AHRQ 2007; FPS Health, Food Chain Safety and Environment 2008d). More in-depth analysis with adequate risk-adjustment is needed to explain these differences. To better measure the effectiveness of curative care, more recent mortality data are needed[tt] and in-hospital mortality rates for other conditions should also be examined.

Table 7.5: In-hospital mortality (%) after hip fracture and community-acquired pneumonia, 2004–2007

	2004	2005	2006	2007
Hip fracture	15.2	13.9	14.5	13.6
Community-acquired pneumonia	7.8	7.7	7.4	7.5

Source: FPS Health, Food Chain Safety and Environment 2008d

7.5.2 Appropriateness

Previous reports showed differences in practice for rectal cancer, pre-operative investigations, the use of antibiotics and antihypertensive agents, and prenatal care (NIHDI 2010f; Vlayen et al. 2008).

The KCE report also showed an increase in medical radiation exposure from 2.15 mSv per capita in 2005 to 2.42 mSv per capita in 2008, despite national guidelines which stressed the need to reduce medical radiation exposure by promoting the use of newer technologies requiring less irradiation. As described in Section 4.1.3 *Medical equipment,* Belgium has a high radiation exposure compared to other European countries. The published guidelines should thus ideally be accompanied by strategies to implement these guidelines (Health Protection Agency 2008; NIHDI 2009h; Vlayen et al. 2010).

Concerning the use of minimally invasive techniques, the rate of laparoscopic cholecystectomies and the rate of percutaneous transluminal coronary angioplasty (PTCA) increased in Belgium and were in line with the European average.

The rate of caesarean sections also increased but was below the EU15 average. Additionally, although the rate of hysterectomies in Belgium decreased between 2001 and 2007, this rate was high compared to the European average (see Table 7.6) (OECD 2009a; Vlayen et al. 2010).

[tt] These data will be available again in the near future.

Table 7.6: Data on appropriateness of care, 2000–2006

	2000	2001	2002	2003	2004	2005	2006
Laparoscopic cholecystectomies (% of total cholecystectomies)							
Belgium	81.8	82.8	84.5	85.3	85.6	86.6	86.8
EU15	76.3	78.9	79.7	82.0	86.5	91.7	82.2
PTCA (% of total revascularization procedures : PTCA and coronary artery bypass graft)							
Belgium	–	–	67.6	–	73.5	75.1	76.3
EU15	62.9	63.6	65.7	69.5	74.0	75.6	76.5
Number of caesarean sections per 1000 live births							
Belgium	158	174	182	188	188	193	199
EU15	195	208	218	225	236	236	243
Hysterectomies per 100 000 females (inpatient)							
Belgium	150	160	166	164	164	158	152
EU15	119	116	117	115	114	125	113

Sources: OECD 2009a; Vlayen et al. 2010.

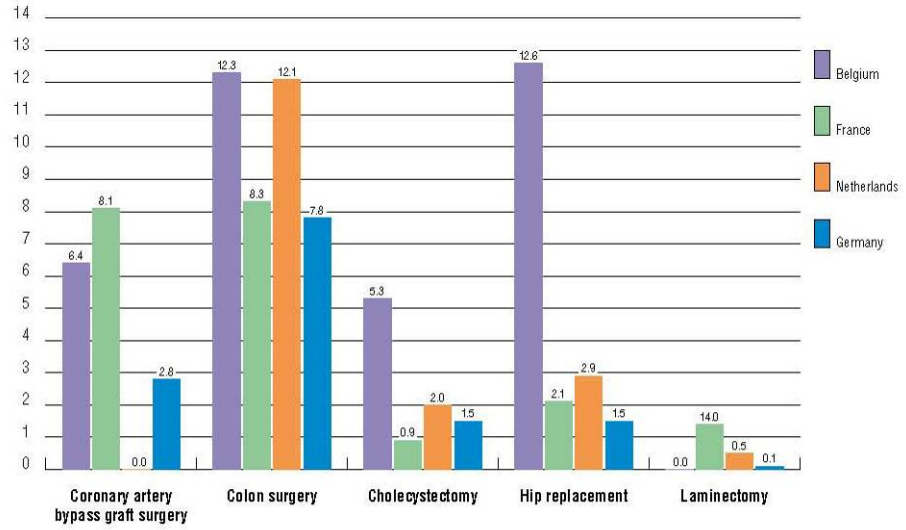
7.5.3 Safety

The National Surveillance of Infections in Hospitals (NSIH), a section of the IPH, is an important source of data for inpatient safety. Inpatient safety can be considered as relatively good in Belgium. The incidence of nosocomial MRSA infections peaked in 2004 at 3.25 per 1000 admissions and decreased to 2 per 1000 admissions in 2008. Recommendations on the control of MRSA (since 2003), the national hand hygiene campaigns and the rationalization of the use of antibiotics are possible explanations for this decrease. The incidence of nosocomial septicaemia also decreased between 2005 and 2008 (7.2 and 6.1 infections per 1000 admissions, respectively). The evolution of nosocomial multi-resistant enterobacter aerogenes was also positive. The incidence rate of blood transfusions with adverse effects decreased from 0.0147 per 1000 discharges in 2004 to 0.0096 per 1000 discharges in 2005 (compared to the United States rate of 0.004 per 1000 discharges in 2007) (Vlayen et al. 2010; NSIH 2010a; NSIH 2010b; AHRQ 2008).

Nevertheless, according to HELICS data, the incidence of infections acquired at intensive care units in Belgium is similar to other European countries. However, these data showed that in 2004, except after laminectomy, Belgium had a high cumulative incidence of post-operative surgical site infections compared to other countries, especially after hip replacement, cholecystectomy and colon surgery (see Fig. 7.8) (HELICS 2006).

The inpatient incidence of decubitus ulcers also increased from 14.9 per 1000 discharges in 2004 to 16.3 in 2005 (compared to the United States rate of 25.1 per 1000 discharges in 2007) (Vlayen et al. 2010; AHRQ 2008).

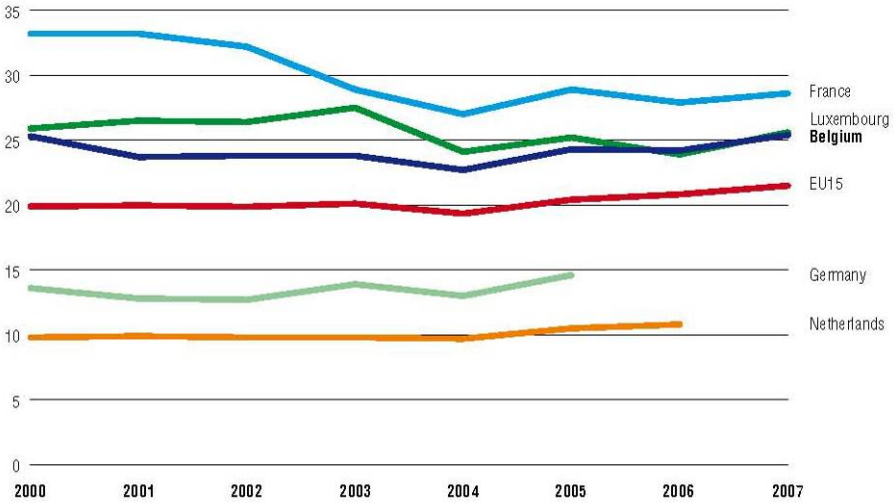
Fig. 7.8: Cumulative incidence of post-operative surgical site infection in Belgium and neighbouring countries, 2004



Source: HELICS 2006.

Concerning antibiotics consumption, Belgian rates (together with France and Luxembourg) were high compared to the European average, with a decreasing trend between 1998 and 2004, and an increase after 2004 (see Fig. 7.9).

Fig. 7.9: Antibiotics (ATC J01) prescribed in Belgium and neighbouring countries (DDD/1000 inhabitants/day), 2000–2007



Source: OECD 2009a.

Moreover, as described in Section 7.4 *Technical efficiency,* a clear shift from inpatient care to outpatient and day care can be observed. The average length of stay in acute hospitals has decreased in recent years but remains about one day longer than the EU27 average in 2008 (7.8 versus 6.7) (WHO Regional Office for Europe 2010). The coordination of care may be one of the explanatory factors of this decrease (besides others factors such as the financing of the system). General data on patient-centredness was not analysed because of difficulties with finding appropriate indicators.

8 CONCLUSIONS[uu]

Belgium currently enjoys qualitatively good health care. Patients have the freedom to choose their sickness fund, health care provider and health care institution. Waiting lists are not considered to be a problem in Belgian hospitals as they are in other European countries. The compulsory health insurance offers general coverage of health risks and guarantees wide access to care. Moreover, for more vulnerable population groups, several measures have been put in place to ensure their access to high-quality care. Voluntary health insurance has only a limited and mainly additional role. These features explain to a significant degree the population's satisfaction with the organization of health care in Belgium.

The growth in health expenditure in Belgium attained a yearly average real growth of 4.4% from 2000 to 2007 and is similar to that in other western European countries. To a large extent, the evolution of the budget over recent years was due to an explicit choice made by the government. After years of adhering to economic limits to meet the budgetary requirements of the EU Treaty of Maastricht, the real growth norm of 1.5% was raised to 2.5% in the period 2000–2003 and to 4.5% since 2004.

Several factors will continue to put pressure on health expenditure, such as the evolution of medical technology and drug innovations, increasing population expectations for new and rapidly available treatments, financial remuneration of health care providers and an ageing population, consequently providing a need for structural changes in the Belgian health system. Indeed, on the basis of the expected evolution of demographic as well as non-demographic effects, public expenditure on health is expected to rise from 7.3% of GDP in 2008 to 11.5% in 2060, including an increase for long-term care from 1.2% in 2008 to 2.8% in 2060 (Conseil supérieur des finances – Comité d'étude sur le vieillissement, 2009).

The challenge for the future of the Belgian health system will be to ensure the efficiency and performance of the health system at a sustainable cost. Public authorities will have to continue to promote the objectives of accessibility, quality and sustainability. The reforms that will be carried out in the coming years will probably build further on previous achievements and recent reforms. Further changes will also aim at simplifying the system in order to make it more homogeneous.

A final consideration will be what role the EU will play in the design and strengthening of future health systems. A great challenge will be the maintenance of a system mainly based on solidarity in an increasingly global world. However, stimulating cross-border collaboration and supporting the sharing of resources and experiences could provide an additional asset to health systems for improving their overall performance.

[uu] This chapter was written by Sophie Gerkens, Maria Isabel Farfan and Anja Desomer.

9 APPENDICES

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9.2 USEFUL WEB SITES

9.2.1 Federal government

Belgian Commission for the Coordination of Antibiotic Policy:
http://www.health.belgium.be/eportal/Myhealth/Care/Properuse/Antibiotics/index.htm

Belgian Health Care Knowledge Centre:
http://www.kce.fgov.be

Cabinet of the Minister of Social Affairs and Public Health:
http://www.laurette-onkelinx.be

Crossroads Bank for Social Security:
http://www.ksz-bcss.fgov.be

eHealth Platform:
https://www.ehealth.fgov.be

Federal Agency for Medicines and Health Products:
http://www.fagg-afmps.be/

Federal Parliament:
http://www.dekamer.be and http://www.senate.be

Federal Planning Bureau:
http://www.plan.be

Federal Portal:
http://www.belgium.be

Federal Public Service Economy, SMEs, Self-employed and Energy:
http://economie.fgov.be

Federal Public Service Health, Food Chain Safety and Environment:
http://www.health.fgov.be

Federal Public Service Justice:
http://www.just.fgov.be

Federal Public Service Social Security:
http://www.socialsecurity.fgov.be

Institute of National Accounts:
http://www.inr-icn.fgov.be

Intermutualistic Agency:
http://www.nic-ima.be

National Bank of Belgium:
http://www.nbb.be

National Institute for Sickness and Disability Insurance:
http://www.inami.fgov.be

National Social Economic Database Belgostat:
http://www.belgostat.be

National Social Security Office:
http://www.onssrszlss.fgov.be

Scientific Institute of Public Health:
http://www.iph.fgov.be

Statistics Belgium:
http://www.statbel.fgov.be

Superior Health Council:
http://www.health.fgov.be/CSH_HGR

Technical Cell for the Management of Clinical and Financial Data:
https://tct.fgov.be/etct/

9.2.2 Flemish community

Child and Family, Flemish Public Institution for Well-being of Children:
http://www.kindengezin.be

Flemish Care and Health Agency:
http://www.zorg-en-gezondheid.be

Flemish Health Council:
http://www.wvc.vlaanderen.be/vgr

Flemish Institute for Health Promotion:
http://www.vigez.be

Flemish Patient Platform:
http://www.vlaamspatientenplatform.be

Legislation Flemish community and region:
http://www.juriwel.be/

9.2.3 French community

Appui en Promotion et Education pour la Santé, Université de Liège:
http://www.apes.be

Association of Health Service Users (French-speaking):
http://www.luss.be

Birth and Child Office of the French community:
http://www.one.be

Directorate-General of Health for the French community:
http://www.sante.cfwb.be

Institut de recherche santé et société (IRSS), Université Catholique de Louvain:
http://www.uclouvain.be/322972.html

Legislation French community and Walloon region:
http://www.wallex.wallonie.be

Question Santé:
http://www.questionsante.org

Unité d'Education pour la Santé, Université Catholique de Louvain:
http://www.md.ucl.ac.be/entites/esp/reso

Unité de Promotion Education Santé, Université Libre de Bruxelles:
http://www.ulb.ac.be/esp/promes

Walloon Directorate-General of Social Action and Health:
http://spw.wallonie.be/?q=dgo5

Walloon Institute for Mental Health:
http://www.iwsm.be

9.2.4 Other

Association of Public Care Institutions:
http://www.vov-info.be

Belgian Centre for Evidence-Based Medicine:
http://www.cebam.be

Belgian Centre for Pharmaco-therapeutic Information:
http://www.bcfi.be

Belgian Dutch Clinical Pathway Network:
http://www.nkp.be

Belgian Hospital Association:
http://www.hospitals.be

Belgian Pharmaceutical Industry Association:
http://www.pharma.be

Belgian Privacy Commission:
http://www.privacycommission.be

Brussels-Capital region:
http://www.bruxelles.irisnet.be/

CareNet:
http://www.carenet.be

Care Pathways:
http://www.zorgtraject.be

Centre for Health Services and Nursing Research:
http://www.czv.kuleuven.be

Centre for Independent Information on Pharmaceuticals:
http://www.farmaka.be

Centre for Research and Information of Organizations of Consumers (CRIOC):
http://www.oivo-crioc.org

Centre of Expertise on Dementia:
http://www.dementie.be

Christian Association of Sickness Funds:
http://www.cm.be

Council of University Hospitals:
http://www.univ-hospitals.be

Domus Medica (Dutch-speaking GPs):
http://www.domusmedica.be

Federation of Centres for Ambulatory Rehabilitation:
http://www.revalidatie.be

Flemish Association of Care Institutions:
http://www.zorgnetvlaanderen.be

Foundation against Cancer:
http://www.cancer.be

French-speaking Association of Care Institutions:
http://www.afis.be

French-speaking Association of Nurses in Emergency:
http://www.afiu.be

German-speaking community:
http://www.dglive.be

Higher Institute of Labour Studies:
http://www.hiva.be

Independent Association of Sickness Funds:
http://www.mloz.be

Liberal Association of Sickness Funds:
http://www.mut400.be

Neutral Association of Sickness Funds:
http://www.mutualites-neutres.be

Observatory of Health and Welfare Brussels:
http://www.observatbru.be

Order of Physicians:
http://www.ordomedic.be

Professional Union of Insurance Companies:
http://www.assuralia.be

Psychiatric Minimum Data Set:
http://www.uhasselt.be/mpg

Scientific Organization of General Practitioners (French-speaking GPs):
http://www.ssmg.be

Socialist Association of Sickness Funds:
http://www.fsmb.be

Test-Achats:
http://www.test-achats.be

9.3 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.

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 Organisation for Economic Co-operation and Development (OECD) and the World Bank. The OECD health data contain over 1200 indicators for the 31 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 (HFA) database. The Health for All database contains more than 600 indicators defined by the 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 January 2010 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 health technology assessment and research and development.
5. Physical and human resources: deals with the planning and distribution of infrastructure and capital stock; the context in which information technology 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.

9.4 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.

9.5 ABOUT THE AUTHORS

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9.6 THE HEALTH SYSTEMS IN TRANSITION PROFILES

9.6.1 A series of the European Observatory on Health Systems and Policies

The Health Systems in Transition (HiT) country profiles provide an analytical description of each health care system and of reform initiatives in progress or under development. They aim to provide relevant comparative information to support policy-makers and analysts in the development of health systems and reforms in the countries of the WHO European Region and beyond. The HiT profiles are building blocks that can be used:

- to learn in detail about different approaches to the financing, organization and delivery of health services;
- to describe accurately the process, content and implementation of health reform programmes;
- to highlight common challenges and areas that require more in-depth analysis; and
- 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 countries of the WHO European Region.

9.6.2 How to obtain a HiT

All HiT country profiles are available in PDF format at www.healthobservatory.eu, where you can also join our listserve for monthly updates of the activities of the European Observatory on Health Systems and Policies, including new HiTs, books in our co-published series with Open University Press, Policy briefs, the *EuroObserver* newsletter and the *Eurohealth* journal.

If you would like to order a paper copy of a HiT, please write to:

info@obs.euro.who.int

9.7 HIT COUNTRY PROFILES PUBLISHED TO DATE:

Albania (1999, 2002[ag])

Andorra (2004)

Armenia (2001[g], 2006)

Australia (2002, 2006)

Austria (2001[e], 2006[e])

Azerbaijan (2004[g], 2010[g])

Belarus (2008[g])

Belgium (2000, 2007, 2010)

Bosnia and Herzegovina (2002[g])

Bulgaria (1999, 2003[b], 2007[g])

Canada (2005)

Croatia (1999, 2007)

Cyprus (2004)

Czech Republic (2000, 2005[g], 2009)

Denmark (2001, 2007[g])

Estonia (2000, 2004[gj], 2008)

Finland (2002, 2008)

France (2004[cg])

Georgia (2002[dg], 2009)

Germany (2000[e], 2004[eg])

Hungary (1999, 2004)

Iceland (2003)

Ireland (2009)

Israel (2003, 2009)

Italy (2001, 2009)

Japan (2009)

Kazakhstan (1999[g], 2007[g])

Kyrgyzstan (2000[g], 2005[g])

Latvia (2001, 2008)

Lithuania (2000)

Luxembourg (1999)

Malta (1999)

Mongolia (2007)

Netherlands (2004[g], 2010)

New Zealand (2001)

Norway (2000, 2006)

Poland (1999, 2005[k])

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Republic of Korea (2010)

Republic of Moldova (2002[g], 2008[g])

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Slovakia (2000, 2004)

Slovenia (2002, 2009)

Spain (2000[h], 2006)

Sweden (2001, 2005)

Switzerland (2000)

Tajikistan (2000, 2010[gl])

The former Yugoslav Republic of Macedonia (2000, 2006)

Turkey (2002[gi])

Turkmenistan (2000)

Ukraine (2004[g])

United Kingdom of Great Britain and Northern Ireland (1999[g])

Uzbekistan (2001[g], 2007[g])

Key
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When noted, they are also available in other languages:
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[b] Bulgarian
[c] French
[d] Georgian
[e] German
[f] Romanian
[g] Russian
[h] Spanish
[i] Turkish
[j] Estonian
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