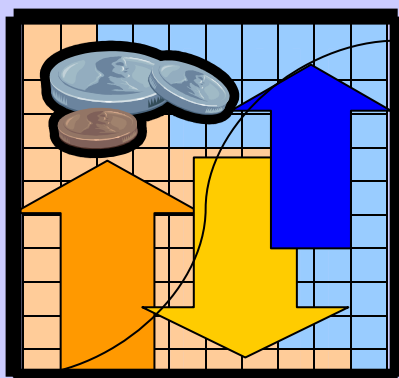




**World Health  
Organization**

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## **Financing long-term care programmes in health systems**

**With a situation assessment in selected  
high-, middle- and low-income countries**

***DISCUSSION PAPER***

***NUMBER 6 - 2007***

*Department "Health System Financing" (HSF)  
Cluster "Health Systems and Services" (HSS)*

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**With a situation assessment  
in selected  
high-, middle- and low-income countries**

*by*

*Jorine Muiser and Guy Carrin*



World Health  
Organization  
*GENEVA*  
*2007*

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## **Executive summary**

This document explores how long-term care is financed in high- and middle-income countries. It also discusses possibilities for low-income countries to increase the level of funding to important programmes of this kind. Following the guidelines of the system of National Health Accounts, long-term care services are considered part of the health or the social system. Health system related long term care services include nursing and personal care or support with activities of daily living, like bathing, eating and dressing; those related to the social system are instrumental activities of daily living, like cleaning, preparing meals, transport and other social activities.

In the past, long-term care was provided almost exclusively by the direct families of elderly or disabled people. Only when no family networks were available were people in need admitted to hospitals or specialized institutions. In the 1970s, as a result of ageing and of the increase in noncommunicable diseases, the demand for chronic, medical care programmes started to grow in high-income countries. This caused an escalation of costs in the 1980s and made health authorities seek to substitute hospital care by less expensive home and community-based programmes. As in the same period informal caregiver capacity decreased in many of these countries, due to shrinking household sizes and more people working outside the home, the demand for home-based long-term care augmented substantially. Home based medical and long-term care has proven to increase health system efficiency and patient satisfaction. Integrated programmes have even shown to reduce the need for other services, like emergency or acute care. As a result, long-term care is now covered by public financing schemes in most high-income countries, unlike developing countries where needs are at least as high.

On the basis of the most recent country profiles, the proportion of the population requiring long-term care is estimated to be higher on average in low-income than in middle- and high-income countries. In low-income countries, this is not primarily due to ageing, but to the high prevalence of chronic communicable diseases, such as acquired immunodeficiency syndrome (AIDS), physical and mental disability caused by war and violence, and the increase in noncommunicable diseases in general. Most of these conditions affect people in the productive age groups reducing informal caregiver capacity even more than in high-income countries. However, long-term care is covered by public financing schemes very little in middle- and generally not at all in low-income countries. In the latter, if family or community networks are unable to provide long-term care, it is purchased on the private market or underprovided. This affects the efficiency of the health system by raising the levels of unmet or poorly met needs and increases the risk of catastrophic spending.

The discussion about long-term care financing presented in this document is based on the WHO health financing framework. It helps to explore how the financing functions (collection, pooling, purchasing) can support the development of long-term care programmes based on actual need. The framework is applicable in high-, middle- and low-income countries. Case studies are presented that apply the framework to two countries in each of these groups.

## **Introduction**

Until the 1970s across the world, long-term care was provided by the direct families of people with disability or chronic disease primarily. Formal long-term care was generally limited to institutional care for the poor and destitute who were not taken care of by their families. However, since then, there has been a growing demand for home-based long-term care. In high-income countries, this has resulted in an expansion of benefit packages covered by public financing schemes, but in most middle- and low-income countries it increased the provision of private services that are affordable only for a few.

The demand for long-term care programmes started to rise across the world during the second half of the twentieth century. This was the result of both demographic drivers and the epidemiological transition from predominantly acute to chronic conditions. The developments are taking place differently in different countries and country groups. In high-income countries, long-term care needs are primarily related to the growing proportion of elderly in the population; in middle- and low-income countries, it is mainly due to the high prevalence of chronic communicable diseases, such as acquired immunodeficiency syndrome (AIDS) and tuberculosis, and to physical and mental disability caused by war, violence and accidents. In these countries, the informal caregiver capacity is also affected by the high adult mortality rates due to AIDS and natural or man-made disasters.

In high-income countries since the 1980s, in a bid to control costs and facilitated by technological advances, medical chronic care programmes are being developed increasingly in the home and community environment. This has enabled health authorities to discharge people with functional dependencies from hospital, reserving the limited numbers of beds in long-term care institutions principally for people with full dependency or no family support. It has influenced patients' preferences and further increased the demand for home-based long-term care. Chronic care programmes, including long-term care, are now covered, at least partially, by public health financing schemes in most countries of the Organisation for Economic Co-operation and Development (OECD). In middle- and low-income countries, however, home- and community-based chronic care programmes may be increasingly included in public financing schemes, but these do generally not include proper long-term care provisions.

In the coming decennia, the demand for long-term care is expected to further augment across the world. This will affect the global health policy debate in various ways: firstly, governments will be further encouraged to invest in health promotion and prevention programmes in order to reduce chronic disease and disability, and thus the demand for health care in general, including long-term care; secondly, governments will be encouraged to increase investments in the development of cost-effective home and community-based care programmes, including long-term care; and thirdly, there will be increasing pressure on governments to include home-based (long-term) care programmes in publicly financed benefit packages, in order to increase access to these services in a fair and equitable way.

This document describes the development of long-term care programmes in high-, middle- and low-income countries, with a focus on the financing function. The aim is to

learn lessons for the benefit of countries where long-term care programmes are yet to be developed.

The first section describes the need for high-, middle- and low-income countries to increase the allocation of government resources to long-term care. Demographic and epidemiological trends are described and dependency ratios presented. In addition, examples are presented from countries that substituted institutional by home-based care and acute by long-term care beds reallocating available funding to chronic and long-term care programmes. Furthermore, there is a discussion about the problems of fragmented health systems and a comparison of long-term care expenditure data between countries.

In the second section, a tool is presented for use by policy-makers in monitoring the performance of their health financing scheme, including long-term care. The tool can also be used to design such a scheme, whenever relevant. In the third and last section of the paper, this tool is applied to selected high-, middle- and low-income countries.

## **1. The rationale for an increased allocation of resources to long-term care**

### **1.1 What is long-term care and how is it referred to in the system of National Health Accounts?**

Historically, public health systems have focused mainly on short-term health care for acute conditions. This is partly because communicable diseases were the main cause of morbidity and mortality, but also because long-term hospital care was generally too expensive an option. Care for chronically ill or disabled people was primarily given by the patients' direct families. Where the family was too poor or otherwise unable to deliver care, government or religious and other charities stepped in. Nursing homes for destitute elderly and sanatoria for tuberculosis patients were among the earliest long-term care institutions in most parts of the world.

Today, long-term care is provided not only in the form of institutional care, but increasingly in the home or community environment. The aim of this latter type of care, which often combines medical, nursing and social services, is to help chronically ill and disabled people to live a relatively normal life for as long as possible. In most countries, long-term care programmes form part of both the health and the social system.

Following the guidelines of the system of National Health Accounts (OECD, 2000, 2005b), health-system-related long-term care is defined as the range of services needed to assist people who are dependent on help for activities of daily living (ADL) (OECD, 2005a). It refers to long-term nursing and personal care aimed at supporting people with physical, functional or mental restrictions. The services may be provided in residential institutions, day-care centres or the home. Activities of daily living include a range of self-care activities, such as bathing, dressing, eating, getting in and out of bed or chair, moving around, using the toilet, and controlling bladder and bowel movements. Caregivers also monitor the status of patients in order to avoid further worsening of ADL status (OECD, 2005a). Long-term nursing and personal care excludes basic medical and social services, but is often provided in combination with these. Basic medical services

include help with wound dressing, pain management, medication, health monitoring, prevention, rehabilitation and palliative care. Social services are lower-level care, such as home help or help with instrumental activities of daily living (IADL), including home-making, meals, transport and social activities. The latter are also reported in the system of National Health Accounts, but in a separate rubric (OECD, 2005b). Chronic care is a broader concept, which refers to a partnership between patients and families, health care teams, and community supporters (WHO, 2002c), including medical, nursing and social programmes.

In discussing long-term care programmes it is increasingly difficult to establish clear boundaries between health and social services. As further discussed in section 1.6, this is a result of the (recommended) trend towards the integration of services (chronic care programmes), including health, nursing and social care. However, this blurring of boundaries may cause problems in terms of professional standards and responsibilities. As an example, in Thailand, the number of agencies that train people to act as private caregivers for elderly people and children in their homes is currently increasing. The Ministry of Education registers and oversees the performance of these agencies. The Nursing Council has, however, raised concerns over the quality of care and possible violation of professional nursing standards (WHO, 2003).

The integration of services also complicates the system of National Health Accounts, which aims to develop uniform definitions and reporting schemes to facilitate comparison of expenditure over time and between countries (see Section 2). The trend towards integrated services does not seem to help this process: in a number of countries, the border between institutional and home-based care is becoming unclear, which according to a recent OECD study, hinders international comparability (OECD, 2005b: 14).

### **How long is long-term?**

Another reason why international comparison is difficult is because different countries use different criteria when registering long-term care expenditure. In Germany, statutory insurance for long-term care covers people who require care for more than six months, while the normal health insurance covers nursing care, social services and medical expenses lasting less than six months. In Lithuania, inpatient infirmary care is covered by municipal budgets for three months, to support patients after discharge from an acute care facility. After three months, the costs have to be paid out-of-pocket. In the Netherlands, hospital care is considered to be long-term after 365 days, when coverage is transferred from the regular social health insurance scheme (Health Insurance Act) to the Exceptional Medical Expenses Act. The latter is a separate act that covers long-term and high-cost health care. In other words, as a way to find financing mechanisms, countries do not primarily refer to health care functions to distinguish long-term care, but rather to the duration of care needs more in general.

### **Who needs long-term care?**

According to the OECD, the demographic trend of ageing populations is the main reason for the increased demand for long-term care in high-income countries. In a recent publication, the Organisation stated that the demand for long-term care grows exponentially with age, and that the bulk is concentrated on persons aged 80 years and

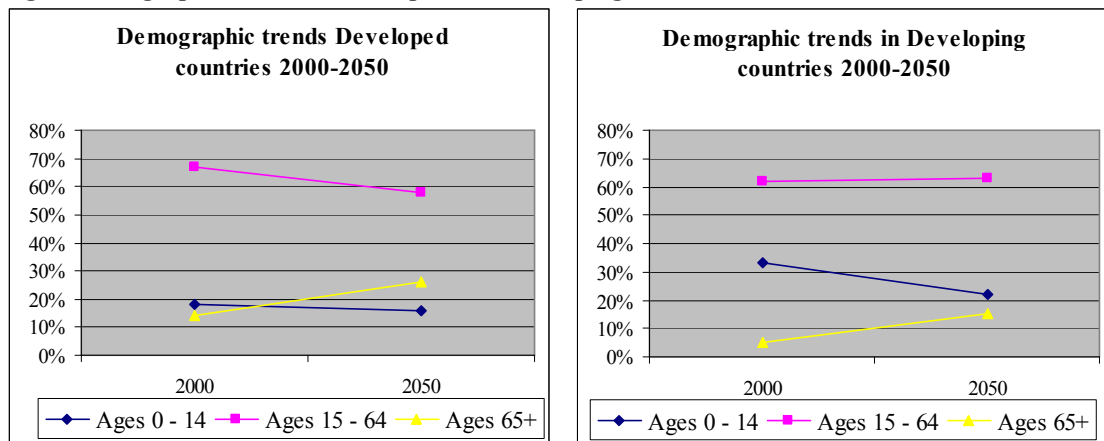
older (OECD, 2005a). However, care needs vary between individuals and countries, and over time. In lower-income countries, long-term care is relevant for people in all age groups with chronic communicable diseases, such as human immunodeficiency virus (HIV) infection, AIDS and tuberculosis, physical and mental disability due to war and violence, or noncommunicable conditions. This paper argues that to live a decent life people need long-term care who have a certain level of disability, no matter the cause. Therefore, it should be covered by public financing schemes for all of those whose family and community networks are not able to provide it.

## 1.2 Demographic trends

### Ageing populations

The demographic composition in high-income countries has changed dramatically since the mid-twentieth century. Economic, social and medical advances have produced spectacular gains in life expectancy, communicable diseases have been brought under control, and fertility rates have gone down. As a result, the segment of the elderly in society has grown. Middle- and low-income countries are also experiencing demographic changes and increasing life expectancy, but the process is slower than in high-income countries. In fact, some of the gains made in the 1970s were lost again as a result of HIV/AIDS, particularly in sub-Saharan Africa. Nevertheless, over the next 50 years, populations are expected to age across the world. Fig. 1 presents expected demographic trends between 2000 and 2050 in developed and developing countries.

**Fig. 1. Demographic trends in developed and developing countries, both sexes**



Source: US Census Bureau (2006).

### Different definitions of old age

Today, there are still important differences in (healthy) life expectancy between countries and regions. As a result, there are also differences in the definition of “elderly”: in high-income countries, the age of retirement, usually 60 or 65 years, is generally taken as the beginning of old age, while in sub-Saharan Africa 50 years is used as the cut-off point (Kowal, Rao & Mathers, 2003). Furthermore, in high-income countries, the elderly are often disaggregated into “younger”, “older” and “oldest old”, for example, in discussions about limitations in functional capabilities and support requirements (Forte & Bowen, 1997; Wittenberg et al., 2002).

### **Decreasing household sizes and the role of volunteer caregivers**

Ageing is not the only demographic indicator used to predict demand for long-term care: the latter is also linked to the availability of informal care in a society. The demand for formal long-term care is expected to increase when household sizes decrease or when household members become more active outside the home.

In order to project demand for long-term care, the participation of women in the workforce has been used as a proxy for household caregiver capacity (WHO, 2002a). However, a study found that an increase in mortality rates among vulnerable groups during economic shocks in Mexico was not caused by increased participation of women in the labour market (and hence decreased availability of caregivers). Rather, the effect was related to a change in income (Cutler et al., 2000). The study indicated that, when women work more outside the home, their caregiver role may be taken over by other informal caregivers, from either within or outside the household.

In this context, a recent OECD study explored possibilities for “younger elderly” to care for the “older elderly” in their community, in order to release family members in productive age groups from their caregiver duty (Lundsgaard, 2005). Where this may be an option in some countries, it may not be feasible where there are high adult mortality rates. From a series of case studies in developing countries, Brodsky, Habib & Hirschfeld (2004) concluded that “...in developing countries...the family remains, despite all the changes, the predominant source of care for those needing care in the home. However, there are areas and sub-population groups in developing countries where more expansive long-term care services are required because of the breakdown of the informal system whether due to the overwhelming impact of the AIDS epidemic or to migration of younger groups from rural areas to cities. As a result, traditional family support systems have been affected at a much faster pace in some developing countries than in the industrialized countries”. In other words, in countries where family networks are affected by HIV/AIDS and migration, replacement by other informal caregivers is problematic, which reinforces the argument to scale up long-term care programmes in these countries.

### 1.3 Epidemiological transition

In high-income countries, until the mid-twentieth century, the burden of disease was mainly due to acute communicable diseases; by the end of the century, chronic noncommunicable diseases had almost completely taken over. Injuries also became an important cause of mortality and morbidity. At the International Forum on Children's Development in Beijing, for example, injuries were reported to be the leading cause of death in children living in countries that have gone through the epidemiological transition (UNICEF, 2005). The Global Burden of Disease Study in 2000 (Murray et al., 2001) showed the impact of the epidemiological transition on mortality and morbidity rates in the world population (Tables 1 and 2). Today, in high-income countries, 14 of the 15 leading causes of mortality, which together account for over 50% of deaths, are chronic conditions. In middle- and low-income countries, 9 of the 15 leading causes of mortality are chronic conditions, and account for nearly 40% of deaths. Similarly, in high-income countries, the 15 leading causes of morbidity are chronic conditions, and account for over

half of all disability adjusted life years (DALYs) lost; in middle- and low-income countries, the figures are 8 out of 15, and nearly 30% of DALYs. Fig. 2 illustrates trends in the leading causes of death for males and females worldwide, between 1990 and 2000. The proportion of deaths due to chronic disease has increased across the world from 27.7% in 1990 to 37.6% in 2000.

**Table 1. Leading causes of death, global estimates, 2000**

High-income countries	Percentage of deaths	Middle- and low-income countries	Percentage of deaths
Ischaemic heart disease*	17.9	Ischaemic heart disease*	11.5
Cerebrovascular disease*	10.7	Cerebrovascular disease*	8.9
Trachea, bronchus and lung cancer*	5.6	Lower respiratory infections	7.3
Lower respiratory infections	4.7	HIV/AIDS*	6.1
Chronic obstructive pulmonary disease*	3.5	Perinatal conditions	5.1
Colon and rectum cancer*	3.2	Chronic obstructive pulmonary disease*	4.7
Diabetes mellitus*	2.3	Diarrhoeal diseases	4.4
Stomach cancer*	2.0	Tuberculosis	3.4
Breast cancer*	2.0	Road traffic accidents*	2.4
Alzheimer and other dementias*	1.8	Malaria	2.3
Hypertensive heart disease*	1.6	Hypertensive heart disease*	1.7
Road traffic accidents*	1.6	Measles	1.6
Self-inflicted injuries*	1.5	Trachea, bronchus and lung cancer*	1.6
Prostate cancer*	1.5	Self-inflicted injuries*	1.5
Cirrhosis of the liver*	1.5	Cirrhosis of the liver*	1.4
<b>All chronic conditions mentioned above</b>	<b>56.7</b>	<b>All chronic conditions mentioned above</b>	<b>39.8</b>

\* Counted as chronic condition.

Source: Murray et al. (2001), Table 12: 19.

**Table 2. Leading causes of DALYs lost, global estimates, 2000**

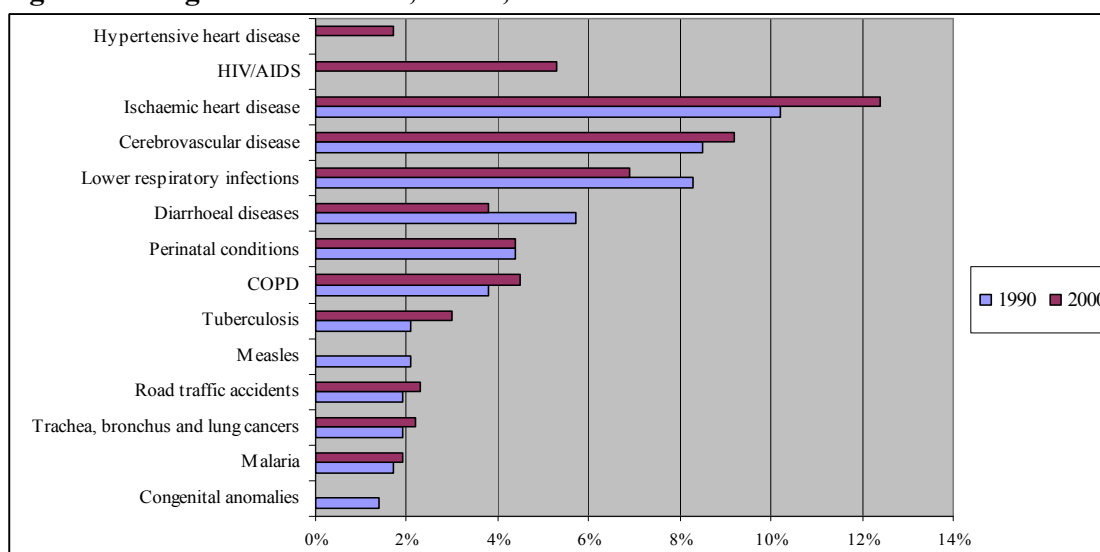
High-income countries	DALYs lost (%)	Middle- and low-income countries	DALYs lost (%)
Unipolar depressive disorders*	8.8	Lower respiratory infections	6.8
Ischaemic heart disease*	6.7	Perinatal conditions	6.7
Alcohol use disorders*	5.4	HIV/AIDS*	6.6
Cerebrovascular disease*	4.9	Meningitis	4.6
Alzheimer and other dementias*	4.3	Diarrhoeal diseases	4.6
Road traffic accidents*	3.1	Unipolar depressive disorders*	4.0
Trachea, bronchus and lung cancer*	3.0	Ischaemic heart disease*	3.5
Osteoarthritis*	2.7	Malaria	3.0
Chronic obstructive pulmonary disease*	2.5	Cerebrovascular disease*	2.9
Hearing loss, adult onset*	2.5	Road traffic accidents*	2.8
Diabetes mellitus*	2.4	Tuberculosis	2.6
Self-inflicted injuries*	2.0	Congenital anomalies*	2.3
Colon and rectum cancers*	1.8	Chronic obstructive pulmonary disease*	2.3
Asthma*	1.6	Measles	2.0
Breast cancer*	1.6	Cirrhosis of the liver*	2.0
<b>All chronic conditions</b>	<b>53.3</b>	<b>All chronic conditions</b>	<b>26.4</b>

\* Counted as chronic condition.

Source: Murray et al. (2001), Table 13: 19.

The epidemiological transition is not related to ageing alone. It is a consequence of both the successful control of communicable diseases and the increase in environmental hazards linked to the modern methods of production, as well as overconsumption and unhealthy lifestyles. Today, people across the world, including young adults and children, rich and poor, are exposed to risk factors for noncommunicable diseases, such as obesity, smoking (including passive smoking), and alcohol and drug abuse.

**Fig. 2. Leading causes of death, world, 1990 and 2000**



Sources: Murray et al. (2001); [http://www.hsph.harvard.edu/organizations/bdu/GBDseries\\_files/gbdsun2.pdf](http://www.hsph.harvard.edu/organizations/bdu/GBDseries_files/gbdsun2.pdf).

In various middle-income countries, the epidemiological transition is following a pattern similar to that in high-income countries. In Mexico, for example, infectious diseases were responsible for 60% of all deaths in the 1950s, but for only 28% by 1998. By then, more than 60% of all deaths were caused by chronic-degenerative problems (Brodsky, Habib & Hirschfeld, 2004).

**Table 3. Leading causes of DALYs lost, WHO African Region, 2000**

All age groups	DALYs lost (%)	People 60 years and over	DALYs lost (%)
HIV/AIDS*	17.8	Ischaemic heart disease*	9.4
Malaria	10.3	Cerebrovascular disease*	8.4
Lower respiratory disease	8.4	Lower respiratory disease	6.0
Perinatal conditions	6.3	Cataracts	3.7
Diarrhoeal diseases	6.1	Chronic obstructive pulmonary disease*	3.6
Measles	4.6	Trachoma*	3.6
Tuberculosis	2.4	Diarrhoeal disease	3.4
Whooping cough	1.9	Tuberculosis	2.4
Road traffic accidents*	1.8	Cirrhosis of the liver*	2.2
Protein-energy malnutrition	1.6	Alzheimer, other dementias*	1.8
<b>All chronic conditions mentioned above</b>	<b>19.6</b>	<b>All chronic conditions mentioned above</b>	<b>29.0</b>

\* Counted as chronic.

Source: Kowal, Rao & Mathers (2003): Table 2.1, Table 2.2: 17.

However, in low-income countries, more complicated patterns are emerging: noncommunicable diseases are rising while the burden of communicable diseases is still high. In these countries, there is a high prevalence of chronic conditions across age groups, related to: communicable (HIV/AIDS, tuberculosis) and noncommunicable diseases; malnutrition; mental illness due to war, violence and natural disasters; and injuries, self-inflicted, or due to war, violence or accidents. By 2020 in developing countries, 22% of deaths will be due to communicable diseases, 43% to noncommunicable diseases, 14% to mental disorders and 21% to injuries (WHO, 2002c). Thus, 78% of deaths (more, if HIV/AIDS is included) will be from conditions that are potentially associated with long-term care needs. Table 3 shows the leading causes of lost DALYs for WHO's African Region. Six of the ten leading causes of morbidity in older people were noncommunicable diseases, and accounted for 29% of DALYs lost. In all age groups, communicable diseases are still predominant, but HIV/AIDS and accidents cause 19.6% of morbidity.

#### 1.4 Dependency ratios

Dependency ratios for 2000 and 2050 have been estimated for 171 countries. Other studies have used age-related ratios, such as elderly and parent support ratios<sup>1</sup>, when projecting long-term care needs (Brodsky, Habib & Hirschfeld, 2003). But in the study referred to in this paper, dependency was related to the level of disability. Two sets of dependency ratios were calculated across age groups; both reflect the total number of dependent people divided by the population aged 15–59 years<sup>2</sup>; the first based on the two severest disability categories from the Global Burden of Disease (GBD) Study (1990), and the second on the three severest categories. For a description of the methodology used to calculate the ratios, see *Current and future long-term care needs* (WHO, 2002b).

Table 4 shows country group averages of the dependency ratios for high-, middle- and low-income countries, as well as the ranges, for the years 2000 and 2050. As shown, dependency ratios are expected to increase most significantly in high- and middle-income countries. However in 2000, the ratios are highest in low-income countries and expected to grow more slowly than in the other country groups. In some low-income countries, dependency ratios are even projected to decrease between 2000 and 2050, which may be due to current high levels of mortality and morbidity associated with HIV/AIDS, and the expectation that these will decrease over the next 50 years. Fig. 3 illustrates the expected trends in average dependency ratios for high-, middle- and low-income countries. Fig. 4–8 show the expected dependency ratios for 2000 and 2050 in all high-, middle- and low-income countries and territories for which dependency ratios have been calculated.

The projections are based on a number of assumptions: “It must be stressed that the figures presented are estimates which are subject to error. The projections into the future

<sup>1</sup> Elderly support ratio: the number of people aged 65 years and over per 100 people aged 20–64 years.

Parent support ratio: the number of people aged 80 years and over per 100 people aged 50–64 years (Brodsky, Habib & Hirschfeld, 2004: 7).

<sup>2</sup> WHO country profiles on long-term care: [http://www.who.int/chronic\\_conditions/countryprofiles/en/index.html](http://www.who.int/chronic_conditions/countryprofiles/en/index.html) (retrieved December 2006).

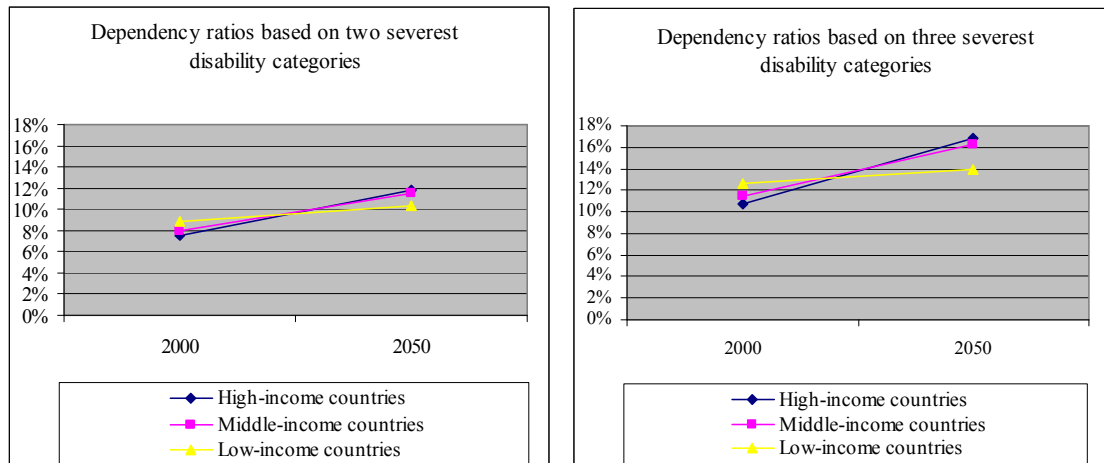
are determined only by how the size and structure of the population is expected to change and not by any possible changes in disease prevalence (which might be influenced by prevention, cure, or rehabilitation) (WHO, 2002b).” The predicted increases are expected to take place if other factors, such as the design of social and health systems, remain the same. In this document, these dependency ratios are used as an indicator of long-term care needs at the country level.

**Table 4. Dependency ratios, 2000 and 2050**

	No. of disability categories	Year	Country group averages	Lowest ratio	Highest ratio
<b>High-income countries</b>	2	2000	7.6	6.4	9.9
		2050	11.8	8.4	17.3
	3	2000	11.5	9.2	13.6
		2050	17.3	12.2	23.6
<b>Middle-income countries</b>	2	2000	8.0	6.5	11.6
		2050	11.4	8.2	17.3
	3	2000	11.3	9.3	15.8
		2050	16.1	11.4	23.6
<b>Low-income countries</b>	2	2000	8.9	6.9	10.4
		2050	10.3	7.5	12.8
	3	2000	12.4	10.3	14.5
		2050	13.8	10.5	16.8

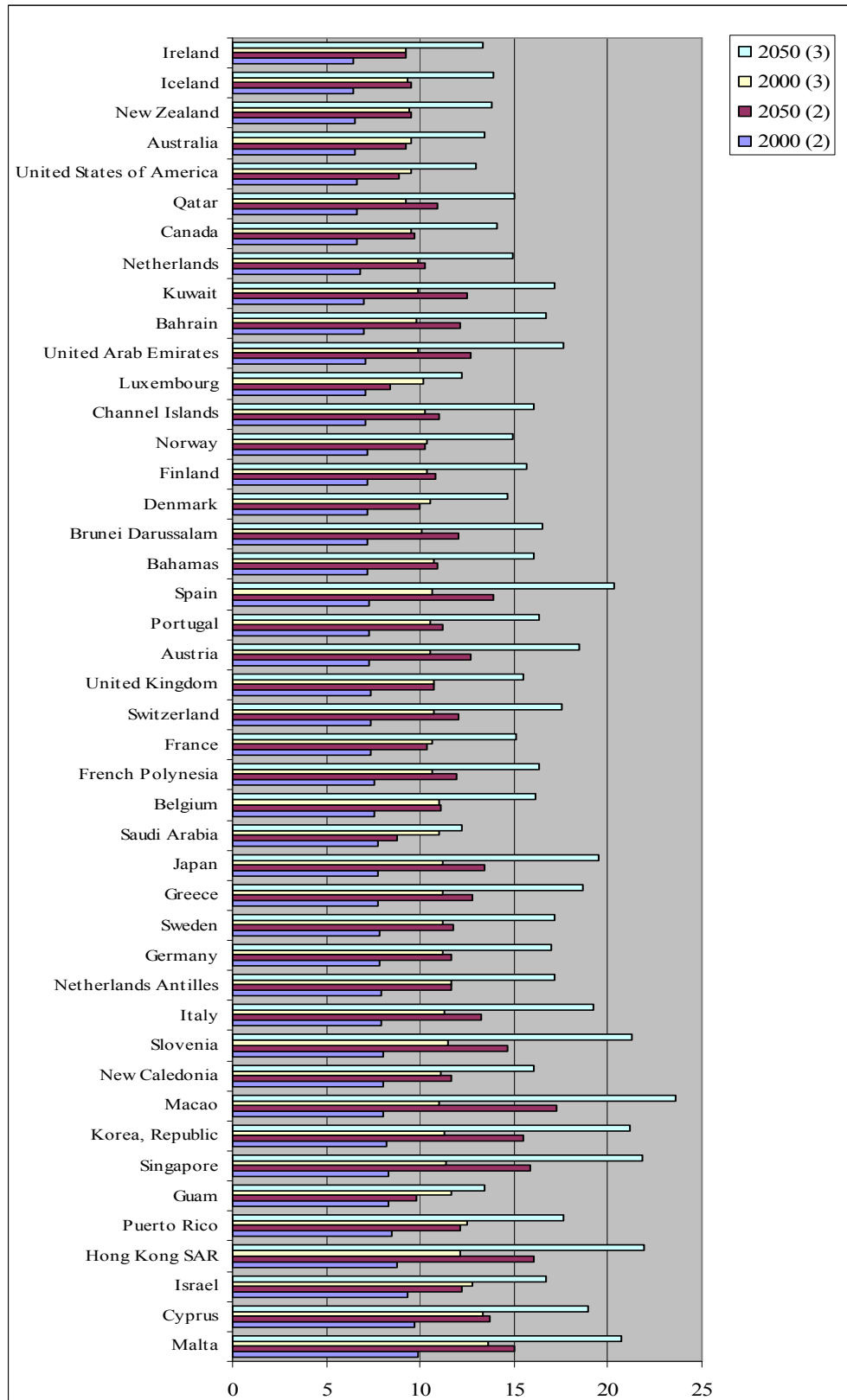
Source: WHO (2006a).

**Fig. 3. Trends in average dependency ratios, based on the 2 and 3 severest GBD disability categories, 2000–2050**

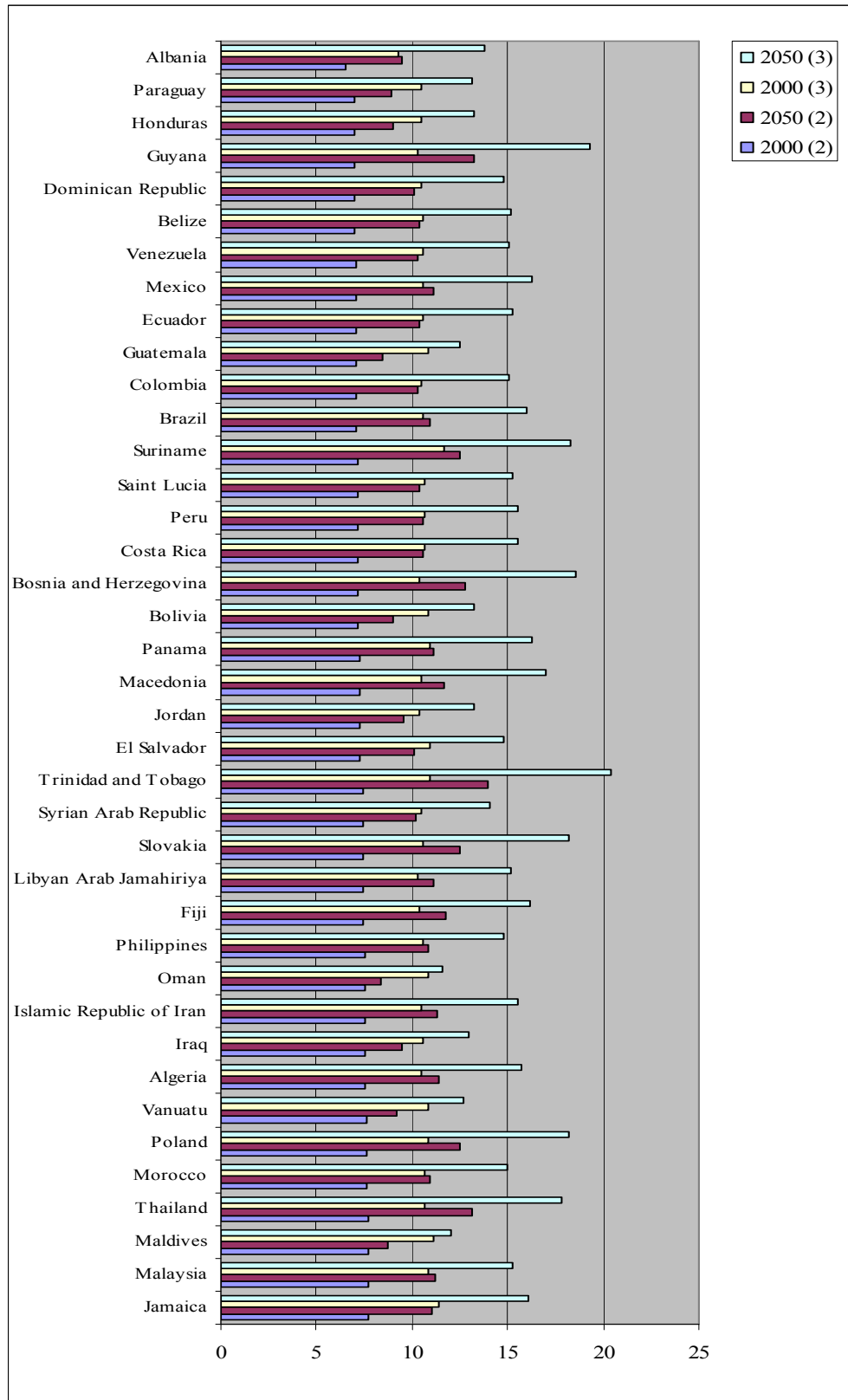


Source: WHO (2006a).

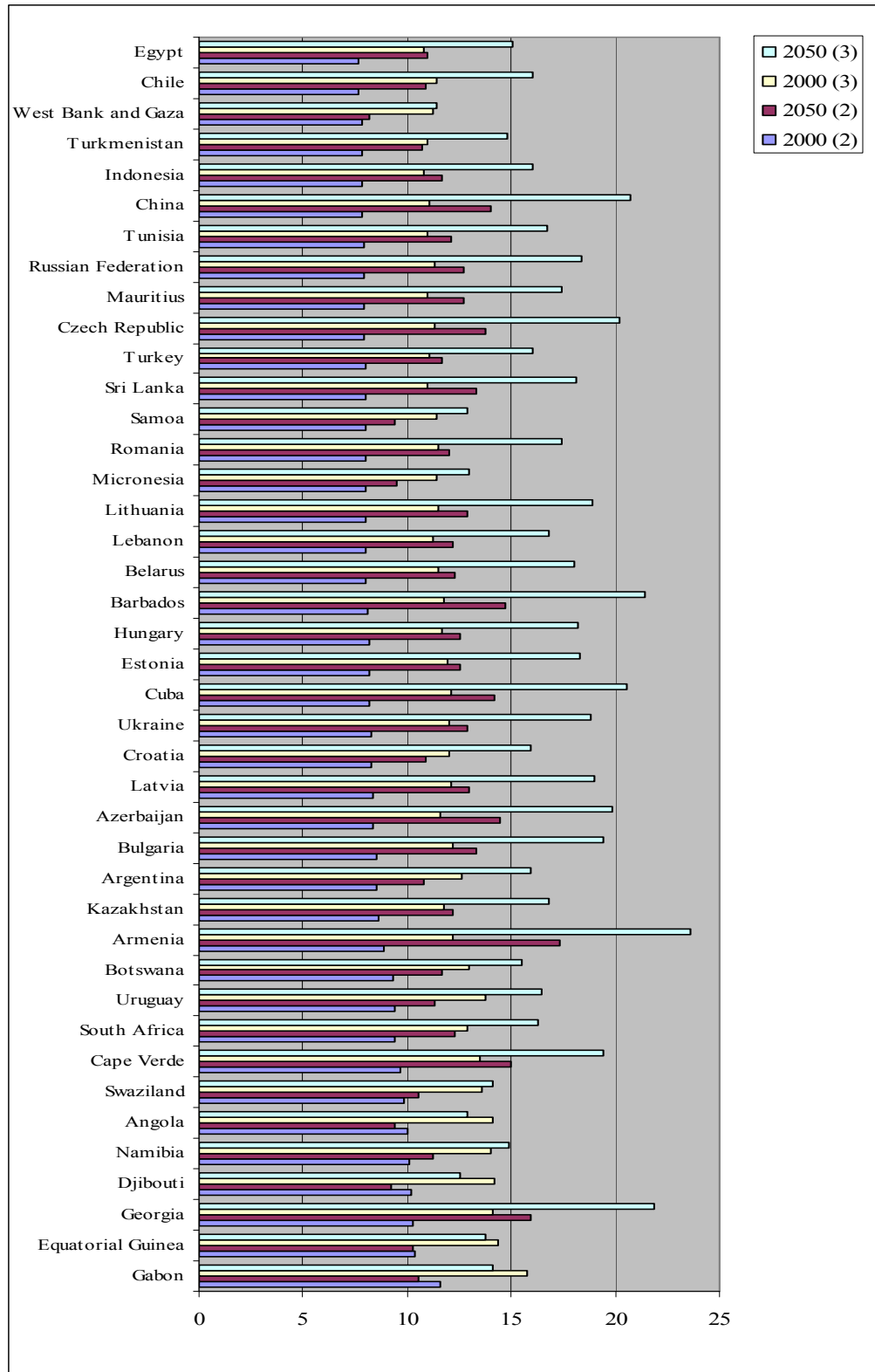
**Fig. 4. Dependency ratios in high-income countries and territories**



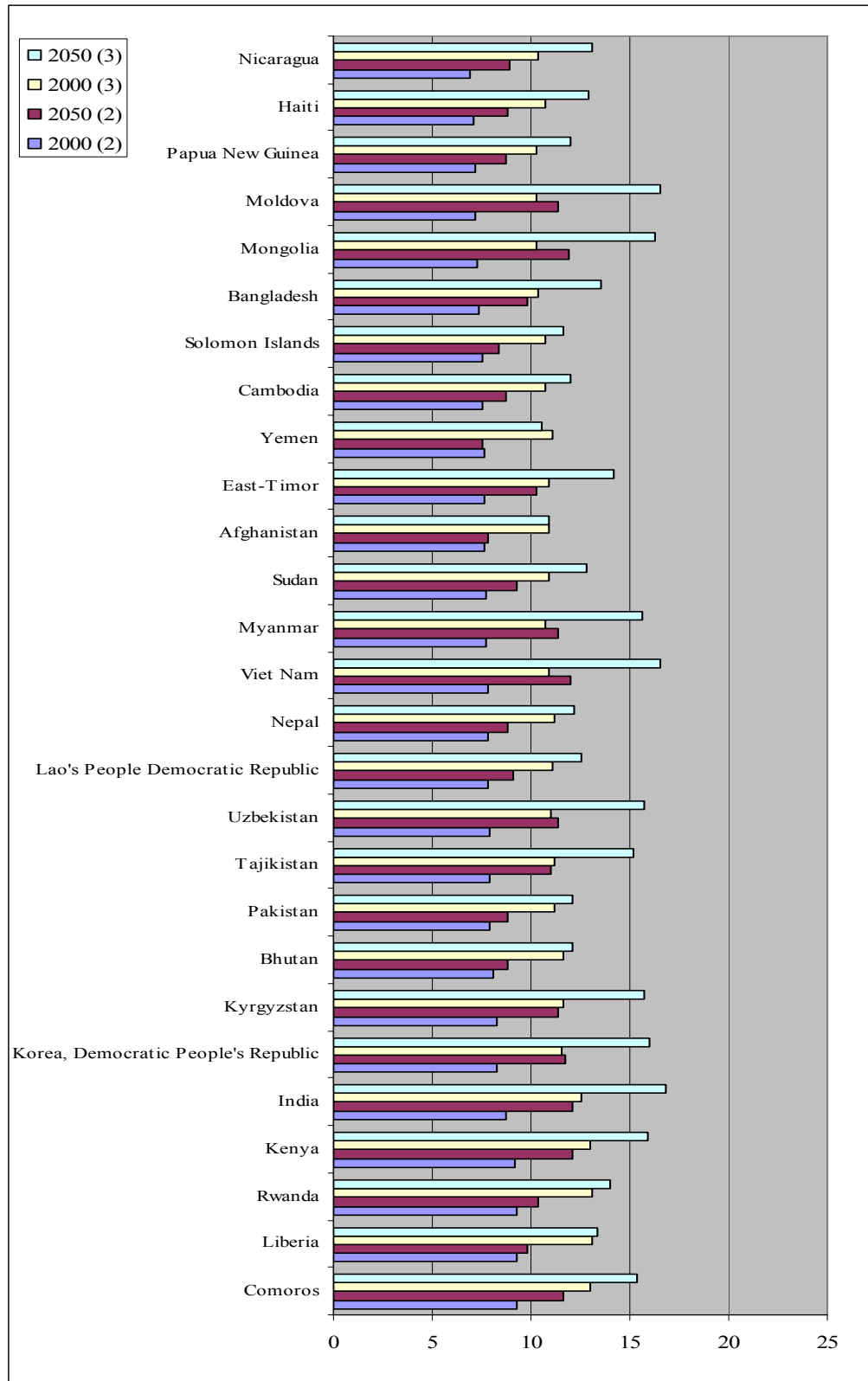
**Fig. 5. Dependency ratios in middle-income countries and territories (1)**



**Fig. 6. Dependency ratios in middle-income countries and territories (contd)**



**Fig. 7. Dependency ratios in low-income countries and territories**



**Fig. 8. Dependency ratios in low-income countries and territories (contd)**

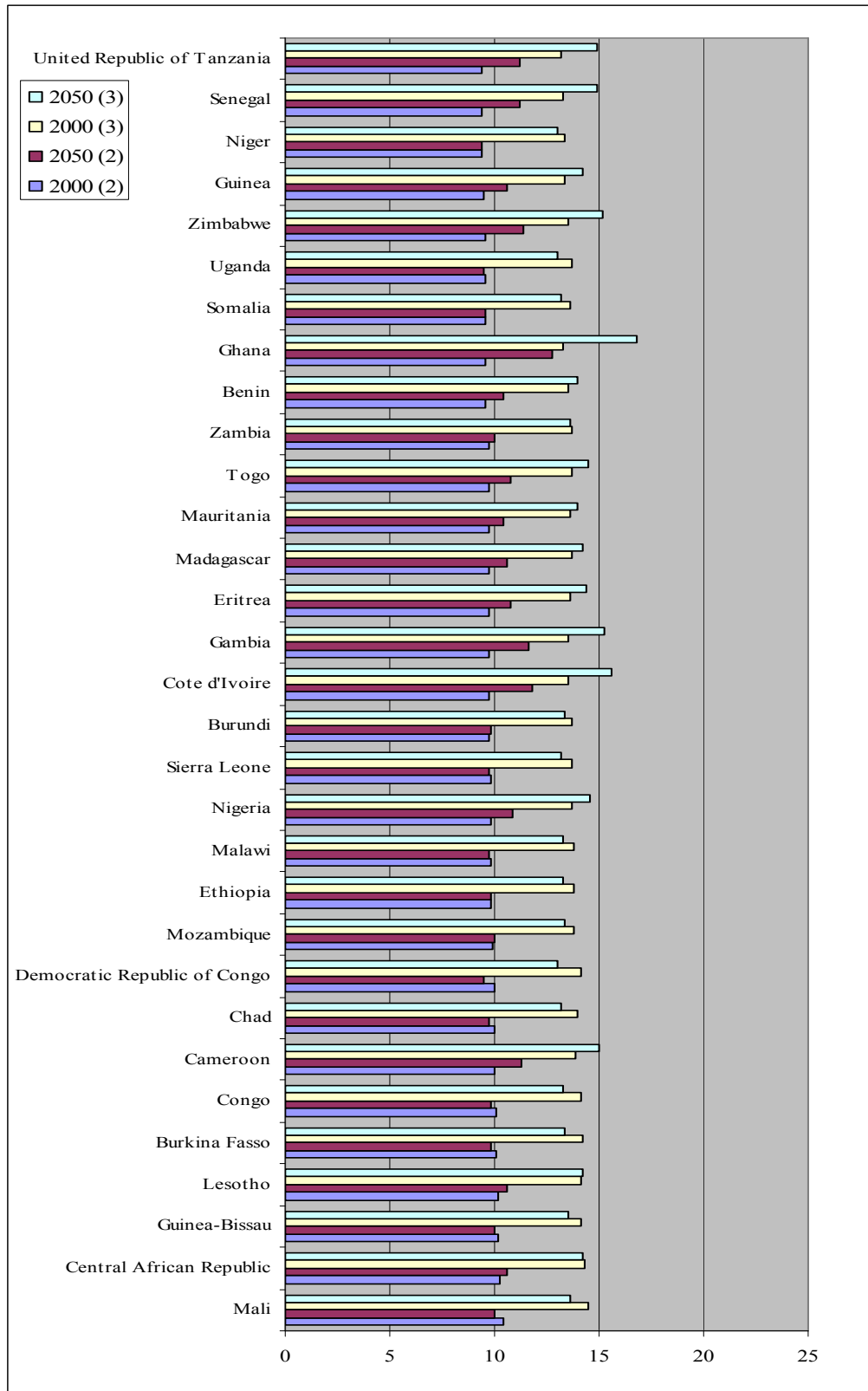


Table 5 shows the countries – mostly low-income but some middle-income – for which dependency ratios are expected to remain the same or decrease between 2000 and 2050. There are 17 such countries when two disability categories are applied, and 22 based on three disability categories. In all other countries for which dependency ratios have been calculated – 171 in total – the ratios are expected to increase over the next 50 years.

**Table 5. Countries for which dependency ratios are projected to remain the same or decrease between 2000 and 2050**

Country	Dependency ratio based on 2 severest GBD disability categories		Country	Dependency ratio based on 3 severest GBD disability categories	
	2000	2050		2000	2050
<b>Middle-income</b>			<b>Middle-income</b>		
Angola	10	9.4	Angola	14.1	12.9
Djibouti	10.2	9.2	Djibouti	14.2	12.5
Gabon	11.6	10.5	Gabon	15.8	14.1
Equatorial Guinea	10.4	10.3	Equatorial Guinea	14.4	13.8
<b>Low-income</b>			<b>Low-income</b>		
Burkina Faso	10.1	9.8	<i>Afghanistan</i>	10.9	10.9
Chad	10	9.7	Burkina Faso	14.2	13.4
Congo	10.1	9.8	<i>Burundi</i>	13.7	13.4
Democratic Republic of Congo	10	9.5	<i>Central African Republic</i>	14.3	14.2
Guinea-Bissau	10.2	10	Chad	14	13.2
Ethiopia	9.8	9.8	Congo	14.1	13.3
Malawi	9.8	9.7	Democratic Republic of Congo	14.1	13
Mali	10.4	10	Guinea-Bissau	14.1	13.5
Niger	9.4	9.4	Ethiopia	13.8	13.3
Sierra Leone	9.8	9.7	Malawi	13.8	13.3
Somalia	9.6	9.6	Mali	14.5	13.6
Uganda	9.6	9.5	<i>Mozambique</i>	13.8	13.4
Yemen	7.6	7.5	Niger	13.4	13
<i>For countries in italics, dependency ratios remain the same or decrease only when 3 GBD categories are applied.</i>			Sierra Leone	13.7	13.2
			Somalia	13.6	13.2
			Uganda	13.7	13
			Yemen	11.1	10.5
			<i>Zambia</i>	13.7	13.6

### 1.5 Other determinants of demand for long-term care: socioeconomic factors, political environment and health system development

#### **Universal coverage, including long-term care**

During the 1960s and 1970s, economic growth and favourable social and political conditions contributed to the development of the welfare state in many developed countries. This influenced the health policy debate, placing issues like equity and universal coverage high on the agenda. The debate was supported by growing evidence that traditional health financing systems, based on direct payments by patients, failed to

protect people against the financial risks of illness and catastrophic health expenditure.<sup>3</sup> The context in which universal coverage was ultimately achieved was one with a high level of social solidarity and the presence of a legitimate government that effectively played its role as steward. Governments were given the authority to expand their (compulsory) tax- or insurance-based health financing schemes and to cover the health risks of the entire population, including the poor and vulnerable.

In the beginning, long-term care was not included in these public health financing schemes, even though the financial risks for households with chronically ill patients are particularly high (Xu et al., 2003). This changed when chronic conditions started to dominate the health burden in these countries. The 1941 health insurance scheme in the Netherlands did not include chronic conditions, but in 1968, the Netherlands was the first country to adopt a special social insurance scheme, the AWBZ (*Algemene Wet Bijzondere Ziektekosten*) or Exceptional Medical Expenses Act, which covers the entire population for high-cost care, including long-term care and disability (den Exter et al., 2004; Brodsky, Habib & Mizrahi, 2000). Similar reforms were implemented in other high-income countries.

In low- and middle-income countries, macroeconomic factors are dramatically less favourable (see Annex 1), and the capacity of governments to achieve social goals is often compromised. They may have low legitimacy or play a weak role as steward; within these countries, there may also be a lack of social solidarity. As a consequence, advances in health systems development, in terms of access, universal coverage and financial protection, have been limited in these countries. Even in those countries that achieved universal coverage of essential health services, the benefit package is often restricted and the level of out-of-pocket payments relatively high.

Today, nevertheless, there is a growing consensus across the world that countries have a duty to provide long-term care and social support for disabled people. It is considered a basic human right, and has been formalized in international agreements.<sup>4</sup> In Thailand, a law on the rehabilitation of the disabled was enacted in 1991 (Brodsky, Habib & Hirschfeld, 2004). In the Netherlands, the concept of “compensation duty” indicates the legal duty of municipalities to guarantee a level of functionality that is as normal as possible for each disabled person in their community (CG-Raad, 2006).

### **Increased demand related to substitution: allocative efficiency**

In addition to socioeconomic and political factors, health system development as such has increased the demand for long-term care. After the Second World War, health system development in Western European countries focused heavily on expansion. This changed in the 1970s and 1980s, when universal coverage was achieved and policy-makers acknowledged the risk of cost escalation. Cost containment was enhanced through budget controls and increased allocative efficiency, i.e. seeking optimal health outcomes with the least costly mix of health interventions (Liu, 2003). This was pursued, in part, through the

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<sup>3</sup> Payments over 40% of the household income remaining after subsistence needs have been met (Xu et al., 2003, p. 112).

<sup>4</sup> The World Programme of Action concerning Disabled Persons (1982), The International Plans of Action on Ageing (1982, 2002), the International Day of Older Persons (2003).

substitution of institutional by home-based care, and acute care by long-term care beds (Box 1).

**Box 1. Pursuing allocative efficiency through substitution**

In a comparative study, Brodsky, Habib & Mizrahi (2000) found that making cost savings through substitution was part of the rationale for governments to start long-term care insurance schemes: “Since the cost of an acute hospital stay is a very significant component of total health expenditures, policymakers have tried to reduce hospitalization of the elderly. One problem is the difficulty in discharging from an acute care hospital a disabled elderly patient who needs long-term care, but for whom there is no appropriate institutional or community solution. Authors of the long-term care laws in the different countries expected that these laws would help to reduce hospitalizations.”

In Japan, the government started to develop public long-term care programmes a few years ago, triggered by the fact that “due to the decreasing ability of families to care for their elderly members”, there had been a radical increase in hospitalization rates for the elderly. Until recently, hospitalization was the only option for care of the elderly that was covered through health insurance. When it became clear that this was an expensive, cost-ineffective option, the law on long-term care insurance was passed (Ichien, 2000).

Substitution policies were also implemented in Denmark, where the number of beds in psychiatric hospitals declined substantially from the early 1980s. Between 1987 and 1996, the number of people in nursing homes also fell from 50 000 to 36 500, and there was a large increase in the number of home nurses and home helps employed by municipalities (Vallgarda, Krasnik & Vrangbaek, 2001). In Slovakia, substitution of acute by chronic care programmes was part of the 1990 health reforms. The aim was to improve the health system’s allocative efficiency: “the agencies for nursing home care were recognized recently as a cost-effective substitution for hospital care and their number has increased rapidly” (Hlavačka, Wágner & Riesburg, 2004).

A study in the Ukraine found that home- and community-based care programmes, in combination with medical and social services, are more cost-effective than institutional programmes. Furthermore, the programmes even reduced the need for other services, like emergency and acute care: “... from a cost-effectiveness perspective, the most advantageous were either those institutions with home-based long-term health and social care units and rehabilitation units within their structures, or those which used non-traditional forms of long-term hospitalization (in-home hospitals and day centres); these were able to reduce the number of emergency aid calls by 2.5 times and the number of expensive hospitalizations by 3 times” (Brodsky, Habib & Hirschfeld, 2004). Other examples are provided in Box 1.

Long-term care programmes are assumed to be cost-effective and to produce cost savings elsewhere in the health system due to their ability to provide secondary prevention. The programmes contribute to preventing falls, improving adherence to treatment, and encouraging healthy behaviour, for example (Box 2).

**Box 2. Long-term care as a tool for secondary prevention: the example of cardiovascular disease**

“When a patient suffers a stroke or a heart attack, receives successful treatment in an acute care facility and returns home, he or she remains extremely vulnerable to a repeat attack. Scientific evidence shows that four medications and cessation of tobacco use can reduce the chances of these recurrences by as much as 80%. Guidance regarding medication, lifestyle changes, self-management and family care would enhance the likelihood of translating this evidence into action.”

Source: S. Mendis, personal communication, 2005.

The above mentioned experiences are important for those countries where long-term care programmes are yet to be developed. In low-income countries cost-effectiveness is particularly relevant as resources are limited: “... the developing world is ageing at much lower income levels than that which characterized the same demographic transitions in the industrialized world. ... With the added difficulty of facing a 'double burden of disease' at very low levels of income, countries will have to be especially cost-effective and efficient when developing [long-term care] services” (WHO, 2002a).

***Increased demand related to chronic and social care programmes***

Substitution of institutional by home-based care is not only an economic principle; it also helps to improve people’s quality of life and helps chronic patients and disabled people to stay at home and live as normal a life as possible, for as long as possible. Advances in medical technology have supported this process, thus pushing the development of home-based medical care and, consequently, the demand for home-based long-term care. Box 3 uses the example of home dialysis to describe some benefits of this type of care.

**Box 3. Benefits of home dialysis**

Home dialysis provides many patients with a wide range of lifestyle and clinical benefits. It can be tailored to accommodate many treatment regimes and provides a level of flexibility not possible at dialysis centres.

*Lifestyle benefits*

- Dialysis treatments can be arranged around the work schedule.
- It saves time.
- Patient involvement is increased.

*Clinical benefits*

- Quality of life is improved.
- Nocturnal dialysis is possible.
- Patients sleep better.
- Fatigue and nausea are reduced.
- Need for medications is reduced.
- Patients are hospitalized less frequently.

Source: Davita at Home (2007).

But home-based care also has its difficulties, particularly when care needs are complex and continuous. A number of problems, reflecting the burden of caring for children with complex medical needs at home, are cited in Box 4. These include problems associated with volunteer caregivers who are not insured against the risks of caring. In Germany, for

example, family members serving as caregivers at home are covered by statutory accident insurance and statutory retirement insurance, financed by the sickness fund administering the long-term care insurance of the person in need. It is not clear whether this also applies to potential volunteer replacements.

**Box 4: Problems associated with complex home care**

“Although the children’s use of medical devices either improved or maintained their health and quality of life in many ways, there were also negative effects on their and their families’ participation in school, employment, social and family life. Lack of sleep, due to the need to care for the child and attend to devices during the night, was a common and serious problem for parents. Many of these effects were due, not just to the use of the device, but to the lack of well-coordinated and skilled support from services. While the population of children who have complex medical needs is growing and many of these children are now cared for at home there are few non-parent carers available who are trained and insured to provide this care and thus parents, and in some cases siblings, bear the brunt of care.”

Source: Heaton et al. (2003).

Despite these problems, the current policy focus in many high-income countries is to facilitate caring for chronic patients in the home environment (RVZ, 2005). A further increase in the demand for formal, home-based long-term care programmes is therefore expected. A number of technological innovations are also helping elderly and disabled people to stay at home for longer; the development of “smart houses” or “domotics” offers technological aids, such as tele-care and tele-alarms for the elderly, tactile indicators for the visually impaired, text telephone and video-telephones for the hearing-impaired, hands-free equipment for the physically impaired, and, for example, a technologically structured environment for the cognitively impaired (Smart Homes, 2007). This trend is likely to continue and expected to further increase the demand for home-based long-term nursing and personal care.

In middle-income countries, home- and community based chronic care programmes are also becoming more common, as illustrated in Box 5. In some countries (e.g. Costa Rica, Indonesia, Lebanon), the programmes include training for informal caregivers but, as yet, publicly financed long-term nursing care or assistance with daily activities remains relatively rare (except for some restricted programmes for the poor in Lithuania, the Republic of Korea and Ukraine).

<b>Box 5. Chronic and long-term care in middle-income countries</b>	
China	Home bed programmes focus on medical care. The fee is covered by the medical health insurance in Shanghai, and in some other provinces by nongovernmental organizations (NGOs). However, home-care workers hired to assist with daily living are usually paid out-of-pocket.
Costa Rica	Social support services provided by the Health Insurance Fund ( <i>Caja Costarricense de Seguro Social</i> ) in 1991 included, among other things, services for people of 60 years and over (personal services, such as home assistance and training of relatives). Medical home-care programmes for the elderly are now developed by various hospitals in the metropolitan area. These include training for informal caregivers, but no support with daily living activities. Such care is provided only by the private sector.
Indonesia	Most home care (incl. personal care) is provided by family members and sometimes neighbours. Few home-care programmes have been developed at the local level, and those that exist are based mainly on volunteers trained by health professionals. The latter refers to programmes of public health nursing, developed by the Ministry of Health and Social Welfare that aim to assist families in caring for the elderly and chronically ill.
Lebanon	Both the Ministry of Health (MOH) and the Ministry of Social Affairs (MOSA) participate in the care of the elderly and disabled populations. The MOH is concerned with medical needs, while the MOSA focuses on support at home and by family members. Both Ministries work through programmes developed with nongovernmental religious organizations, and both have home and institutional care programmes. Medical personnel providing long-term care are trained and provided by the Ministries and the NGOs. Family members are self-trained or coached by the health professionals who provide care. Furthermore, a number of private agencies provide nursing care at home.
Lithuania	Since the enactment of the 1996 Social Services Law, municipalities are responsible for social service provision, including institutional care for the elderly, the disabled, and children with special needs (e.g. orphans), and home care. Social workers and nurses play a leading role in social service provision. Social care also includes care in an infirmary for patients who have been treated in a hospital for an acute event, such as stroke. The cost of infirmary care is covered by municipal budgets for a 3-month period. If need continues for more than 3 months, the services must be paid out-of-pocket. Home care, including personal care (grooming, bathing, meals), is provided only for the most disabled groups. Funding is said to be insufficient to meet the current needs.
Mexico	There are several medical and prevention-oriented programmes for the elderly, run by the government and by NGOs. Furthermore, medical home care programmes are being developed for people with chronic disease, but these are reportedly excessively medicalized. The programmes include family participation, but no long-term nursing care.
Republic of Korea	Comprehensive medical and social long-term care services, including personal care, e.g. grooming, bathing, meals, and respite care and support for caregivers, are covered by the National Health Insurance Fund depending on people's income. The programme benefits disadvantaged elderly, disabled people and patients with chronic diseases. There is reportedly a substantial level of unmet need.
Sri Lanka	Long-term care programmes take the form of community-based rehabilitation programmes, operated by the Ministry of Social Services, which works mainly with volunteers and NGOs. Medical home care covered by the tax-based health financing scheme is reportedly limited. Long-term nursing care is provided by the family or the private sector.
Thailand	The tax-based Baht scheme and other insurance funds cover acute care and prevention and health promotion, as well as residential care for destitute and poor elderly. Rehabilitative and long-term care services are not included. Nursing care is increasingly purchased from the private sector, or provided by the family.
Ukraine	Home-based services are provided by polyclinics (but not universally) and social service units. Home care is provided by social workers from the territorial and domestic social service centres, those performing alternative (non-military) national service, and volunteers. In a number of villages, social care and assistance with activities of daily

	living for elderly people living alone, and who are in need of long-term care, are organized by the district people's deputy council, the council of veterans and volunteers, financed from a local budget and donations from private individuals.
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Source: Brodsky, Habib & Hirschfeld (2004).

***Increased demand related to AIDS treatment and de-medicalization programmes***

With the increase in HIV/AIDS treatment programmes, particularly in low-income countries, a need is emerging for the development of a proper care continuum for these patients, including long-term care (Box 6).

<p><b>Box 6. Care for AIDS patients according to the chronic disease model</b></p> <p>Ideally, care for people with suspected AIDS should start with voluntary counselling and HIV testing. However, only 10% of people who need testing in low- and middle-income countries have access to the services, and most are therefore unaware of their serological status. Care should include psychological, social, and economic support, as well as broad-based medical care incorporating nutritional advice, prevention and treatment of opportunistic infections, and palliative care. In many countries, this continuum does not yet exist.</p> <p>Source: Furber et al. (2004).</p>
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In this respect, Afzal & Wyatt (1989) have argued that institutional long-term care is important for AIDS patients, because they frequently survive episodes of acute illness but remain severely incapacitated. In addition, many such patients are homeless, or their families and friends are unwilling or unable to care for them.

While this is probably also the case in many African countries, the demand for home-based long-term care for AIDS patients is also expected to increase. A study in Malawi found that in a group of patients enrolled in a home-based care community project, 95% were infected with HIV, while 5% had other chronic conditions. Overall, 15% were able to continue normal activity, and 72% were able to leave the house. However, 44% needed help for normal living (activities of daily living), 34% with washing, 17% with dressing, 9% with eating, 35% with walking, and 28% with using the toilet (Bowie et al., 2006).

In addition,, the demand for home-based care for AIDS patients is expected to further increase as a result of the ongoing de-medicalization of HIV/AIDS treatment programmes: “The escalating demand for long-term care runs the risk of becoming unsustainable for the health systems, with the potential crowding-out of most non-AIDS patients. Such prospects put into question the adequacy of a ‘medical paradigm’ for ART [antiretroviral therapy] in high burden HIV/AIDS countries. Given the HRH [human resources for health] constraints, there is a need for innovative, de-medicalized delivery models, based primarily on the communities and on the capacity and resourcefulness of the people living with HIV/AIDS themselves, supported by professional back-up when required” (Van Damme, Kober & Laga, 2006).

***Decreased demand related to prevention, health promotion and successful ageing***

Finally, there are also factors that may help to reduce the demand for long-term care, such as prevention and health promotion programmes. Studies in the United States have shown

that disability rates have declined among the oldest as a result of such programmes – although rates have increased among younger age groups, mainly linked to increasing obesity (OECD, 2006b). This indicates that health promotion and prevention should target all age groups. Similarly, HIV/AIDS prevention programmes and road safety campaigns will eventually reduce demand for long-term care in countries where such health risks are high.

The Global Burden of Disease Study (1990) found that people in the high-income, low-mortality populations of the established market economies not only live longer than people elsewhere in the world, but also remain healthier for longer: “In recent years, researchers have been divided between those who say that ill health is 'compressed' into the last few years of life in these populations, and those who argue that longer life merely exposes people to a longer period of poor health. The new results suggest older people in the developed world are healthier than their counterparts in developing countries” (Global Burden of Disease Study, 1990). This is assumingly associated with the performance of the health and social systems in these countries, among other things, or with the concept of successful ageing (Box 7).

**Box 7. Successful ageing**

Successful ageing is related, in large part, to the performance of the health and social system. Disease prevention programmes, healthier lifestyles, improved social and economic conditions, as well as better health care and rehabilitation can cause a “compression of morbidity”, shortening especially the period between the onset of disability and death. If so, successful ageing would have an impact on long-term care needs and costs.

Source: WHO (2002a).

In other words, to control the demand for long-term care, middle- and low-income countries should increase their focus on disease prevention and health promotion programmes, taking into account their specific health risks.

## 1.6 Fragmentation and health system integration

The World Health Report in 2000 (WHO, 2000) recommended that policy-makers, when monitoring the performance of health systems, focus on four core functions: stewardship, service delivery, financing and resources development. Murray & Frenk (2000) added the level of health system integration as an indicator of performance, and compared different health systems on the basis of their level and type of integration. They distinguished horizontal and vertical integration, concluding that vertical integration exists when one entity is responsible for more than one function, and that horizontal integration refers to population coverage. The concept of fragmentation is used in health financing, for example, to describe single versus multiple funding systems, but also refers to institutional integration versus fragmentation with respect to the different health care functions.

In many high-income countries, long-term care programmes are fragmented from other health care services. This is because the programmes were developed in a later phase and in separate institutions. In many countries, long-term care programmes are also financed

from separate sources. Separate schemes are found in both insurance- and tax-based systems. Austria, Germany, Israel, Japan and the Netherlands have adopted special laws to create a separate insurance scheme for long-term care. In Denmark, long-term care is predominantly financed at the municipal level from local taxation. Slovakia is a middle-income country that managed to integrate long-term care in the general benefit package, which is financed from insurance contributions, topped up with a substantial proportion of general taxation. In Lithuania, long-term care programmes are financed from municipal budgets.

The advantage of maintaining a separate fund for long-term care is that the resources cannot easily be diverted to serve other purposes. It may also be easier to manage the funds transparently (which may increase people's willingness to pay) and to apply specific policies. Eligibility criteria, for example, are often applied to long-term care programmes, but not to general health care schemes.

However, health system fragmentation is also frustrating for patients, who may experience difficulties finding the services or repeating their story, for providers who may be unable to offer the quality they pursue and for administrators who cannot attain maximum efficiency. It may also discourage middle- and low-income countries to allocate funds to long-term care in view of their already existing financial constraints. And finally, it may reduce opportunities for cost-effectiveness studies, while empirical evidence points to integrated long-term care as a way to improve health system performance. To overcome health system fragmentation, the OECD developed the continuum-of-care approach. It is aimed at more coordination between the services required by patients and families at any point in time, including when care is received at home, as well as better management of transitions between services and service settings, as patient needs change over time (OECD, 2005a).

### ***Pursuing integrated care***

A number of high-income countries are attempting to overcome inefficiency problems caused by health system fragmentation, for example, by encouraging third parties to purchase disease-oriented or integrated care packages. In Germany, the government has created a special fund for the development of disease management programmes (DMP), encouraging health insurers to negotiate cost-effective integrated care packages for chronic patients with health care providers. The programmes, in which both the DMP doctor (general practitioner) and the patient play a key role, have shown results, in terms of increased patient satisfaction, within a short period of time (van Lente, 2006). So far, the programme focus has been on the integration of curative and rehabilitation services, and not on long-term nursing care, which is covered by a separate insurance fund and organized in a separate institution. However, this has been recognized as an efficiency problem (van Lente, 2006) and, according to a recent international comparative study, discussions have started in Germany about the integration of the statutory health and long-term care insurance schemes (RVZ, 2005).

Other examples of the trend towards a more structural integration of long-term care programmes within the general health system are found in Denmark and the Netherlands, where nursing home residents are encouraged to choose their own general practitioner

rather than being attended by a special provider working for the institution, as used to be the case. Similarly, rather than physiotherapy being offered as part of the institutional services, residents are more and more encouraged to seek reimbursement for the services they receive through their general health insurance scheme<sup>5</sup>. In the Netherlands, some of the problems related to using separate funds to finance health and long-term care programmes were already signaled in the Dutch Simons plan of the 1990s. This plan, which was implemented in 2006 after some adjustments, argued that “to guarantee a health system that provides high quality care and remains accessible for all also in the future, the separation of financial flows (health care insurance, long-term care insurance and government funding) should be abolished; this is the only way to facilitate substitution of care and to make the health system more efficient” (Boot & Knapen, 2001). In Slovakia, social care is integrated in the health financing scheme, which collects its revenue from health insurance contributions and the government budget. Catastrophic expenditure in Slovakia is calculated to be zero (Xu et al., 2003).

Glendinning et al. (2004) presented a series of recommendations to policy-makers in the United Kingdom, focused on increasing technical efficiency, based on experiences in the United States. They concluded, among other things, that “models of care management that improve the integration of acute and long-term health and social care for people with complex needs often demonstrate increased efficiency. Such models usually involve the pooling of public subsidies from separate funding streams.” The authors added that integrated health information systems were essential for technical efficiency.

De Roo et al. (2004) refer to the quality of life (QoL) perspective when describing the environment in which long-term care programmes should be ideally developed. They list seven factors that are dominant in determining quality of life: income, physical condition and self-determination, home ownership and housing satisfaction, community-neighbourhood relationships, leisure, boredom, and mental health. From this perspective, the authors argue that health care is too narrow a perspective from which to approach long-term care issues. They found that several Western European countries with a corporatist tradition<sup>6</sup> were using a social insurance approach to long-term care, building on the institutionalization of health care insurance. They concluded that, to be effective and efficient in answering the needs for QoL services, such insurance has to be coordinated at a legal, administrative and operational level with other welfare state arrangements (income support programmes and other social services) through a system of network management. In this respect, the Alliance for Health and the Future recently published a guide for policy-makers on integrated care (Lloyd & Wait, 2006). It encourages high-income countries to integrate health and social services.

Countries that are developing long-term care programmes should take into account the experiences from other countries with health system fragmentation. If they want to build cost-effective and durable systems, they should plan ahead and regularly monitor developments across the health and social systems, in the public and the private sector.

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<sup>5</sup> This information comes from a conversation with an administrator in a long-term care institution in the Netherlands.

<sup>6</sup> Governance structures characterized by a public-private mix.

## 1.7 Expenditure on long-term care

Little information is yet available regarding appropriate funding levels for long-term care. According to the OECD, current expenditure in its member states is around 1–2% of gross domestic product (GDP) on average, and expected to increase to 3–4% of GDP in 2050 (OECD, 2006b).

Since 1998, the National Health Accounts include categories for expenditure on long-term care at country level. So far, 18 countries have reported on a regular basis, but the levels of expenditure vary significantly: in 2003, expenditure on long-term care as a proportion of total health expenditure ranged from 0.9% in Poland to 18% in Switzerland. Table 6 shows expenditure on long-term care (including public and private expenditure) as a percentage of total health expenditure in those 18 countries. The significant differences between these countries are largely the result of differences in reporting, which – because of the trend towards integrated services and other factors – is still a complex issue. It has been suggested that long-term nursing and personal care should be distinguished from medical and health-related social services, and that home-based and institutional care should be reported under separate categories (OECD, 2005b). However, various countries find it difficult to make these distinctions and continue to report long-term and social care programmes under one category. This is case, for example, for Denmark, where long-term care is defined as social care. It is a devolved responsibility of the municipalities and includes nursing care, social welfare allowances (sickness allowances and disability pensions) and housing for mentally disabled and homeless people (Vallgarda, Krasnik & Vrangbaek, 2001).

**Table 6. Expenditure on long-term care as a percentage of total health expenditure**

Country	Year					
	1998	1999	2000	2001	2002	2003
<i>High-income countries</i>						
Australia	7.7	7.9	7.3	7.5	7.5	7.5
Canada	9.7	12.2	12.0	11.6	11.5	11.4
Denmark	17.8	18.3	18.3	17.9	17.5	17.2
Finland	8.5	8.3	8.3	8.1	8.1	8.1
France	3.2	3.3	3.3	3.4	3.6	3.8
Germany	7.7	7.8	7.9	7.9	7.9	8.0
Iceland	12.7	12.6	13.4	13.2	14.7	14.8
Japan	7.5	9.3	10.1	11.4	12.3	12.3
Luxembourg	6.1	6.1	6.3	7.1	5.9	6.8
Netherlands	8.2	8.2	8.2	8.6	8.4	8.4
Norway	14.8	15.2	15.7	15.6	15.6	15.3
Spain	1.9	1.9	1.8	1.8	1.8	1.8
Switzerland	17.4	17.1	17.4	17.6	18.0	18.0
United States	7.9	7.6	7.4	7.3	7.0	6.8
<b>Average (high-income countries)</b>	<b>9.4</b>	<b>9.7</b>	<b>9.8</b>	<b>9.9</b>	<b>10.0</b>	<b>10.0</b>
<i>Upper-middle-income countries</i>						
Czech Republic	2.8	2.8	2.7	2.6	1.8	1.8
Hungary	2.1	1.9	1.9	1.5	1.6	1.6
Poland	0.8	0.8	0.8	0.8	0.8	0.9
Uruguay	2.5	2.5	2.6	2.6	2.6	2.6
<b>Average (upper-middle-income countries)</b>	<b>2.1</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>	<b>1.7</b>	<b>1.7</b>
<b>Overall average</b>	<b>7.7</b>	<b>8.0</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>8.2</b>

\* Percentages in italics have been added by the authors to avoid distortions in the averages caused by missing data.

Source: WHO (2006c).

The variation in expenditure is more remarkable among high-income than upper-middle-income countries. In the latter group, fewer resources are involved. The decreasing trend in the Czech Republic may be a reporting anomaly, as the number of home-care agencies reportedly increased from 27 in 1991 to 483 in 2002 (Rokosová & Háva, 2005).

## **2. Designing & monitoring long-term care programmes: A framework for analysis**

Long-term care financing follows the same principles as health system financing in general. It is the process by which revenues are collected from primary and secondary sources, accumulated in fund pools, and allocated to provider activities (Murray & Frenk, 2000). The purpose is to make funding available, to set the right financial incentives for providers, and to ensure that all individuals have access to effective services, reducing or

eliminating the possibility that an individual is unable to pay for care or impoverished as a result of trying to do so (WHO, 2000).

In this section, we present a framework for the analysis of a health financing scheme including long-term care. It is based on the framework designed by Carrin & James (2005) to support countries pursuing universal coverage through social health insurance (Box 8).

<b>Box 8. Key performance indicators for the health financing functions</b>	
<i>Health financing functions</i>	<i>Performance indicators</i>
Revenue collection	Population coverage Method of finance
Pooling	Composition of risk pool(s) Fragmentation of risk pooling Management of risk pool(s)
Purchasing	Benefit package Provider payment mechanisms Administrative efficiency

Source: Carrin & James (2005).

As outlined in *The World Health Report 2000* (WHO, 2000), the health financing functions have the following main targets:

- (i) to generate sufficient and sustainable resources for health,
- (ii) to use these resources optimally, and
- (iii) to ensure that everyone has financial accessibility to health services.

The targets represent the immediate outcomes of the health financing functions, and contribute to achieving the broader health system goals (improved health, fair financing and responsiveness). As such, the financing functions, if designed properly, contribute to improved health system performance, including long-term care.

As described in Section 1, demographic and epidemiological trends, translated in dependency ratios, as well as other determinants, such as socioeconomic factors, the political environment and health system development, determine the demand for long-term care at the country level. Countries may find the following framework useful in designing and monitoring their financing scheme. The framework represents an expansion of the one presented by Carrin & James (2004).

### Revenue collection

<b>Box 9. Revenue collection for integrated long-term care</b>		<b>Benchmark/target</b>
Population coverage	Percentage of the population covered by prepayment schemes (and per socioeconomic group)	100% for essential care
Method of finance	Ratio of prepaid contributions to total health care costs (and per socioeconomic group)	70%
	Percentage of households with catastrophic spending (and per socioeconomic group)	
	Out-of-pocket payments as a proportion of total health expenditure	Out-of-pocket payments <15% of total health expenditure

### ***Population coverage***

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

The percentage of the population covered for long-term care services is a crucial performance indicator. The more people covered, the more are protected against the financial risks of care needs due to disability. Similarly, the more people covered, the more funds collected and the higher the redistributive capacity of the scheme. However, the level of protection offered by prepayment schemes does not only depend on population coverage; schemes with limited benefit packages also provide little protection. This issue is addressed under the “ratio of prepaid contributions” and “benefit package”.

The way in which countries achieved universal coverage for long-term care largely depended on their existing health financing scheme. In most of countries, long-term care was covered in a later phase than curative, preventive and rehabilitative care. Box 10 describes the introduction of long-term care insurance in Germany. Slovakia, on the contrary, achieved universal coverage for health and long-term care simultaneously.

#### **Box 10. The introduction of mandatory long-term care insurance in Germany**

In Germany, statutory health insurance already existed when the long-term care insurance scheme was launched on 1 January 1995. The law extended health insurance to cover long-term care, and all Germans participating in a sickness fund, including mandatory and private health insurance funds (approximately 98% of the population), were obliged to take out long-term care insurance from the same fund. As a result, long-term care insurance in Germany immediately achieved the same level of coverage as health insurance.

Source: Busse & Riesburg (2004).

When analysing population coverage, it is important to consider dependants and specific socioeconomic groups that might be excluded from the scheme, such as minorities, refugees and immigrants (legal or illegal). In Germany, the highest-income groups are allowed to opt out of the compulsory health and long-term care schemes. This may compromise social solidarity and the redistributive capacity of the scheme on the one hand, but increase the willingness of the rich to join in, on the other. In Slovakia, all formal employees are obliged to make contributions, while the government guarantees universal coverage, including for long-term care, paying the premiums of dependants and lower-income groups (Box 11).

#### **Box 11. Dependants and others financed by the government in Slovakia**

Some health insurance schemes include coverage for dependants, without requiring them to pay a membership premium. Dependants may be defined, for example, as unemployed spouses and children up to the age of 18, or only children to a certain age. In tax-based systems, dependants are automatically included. In Slovakia, the scheme is insurance-based, while the government finances the premiums of dependent children, their caregivers, pensioners, job applicants without other allowances, persons with disability benefits, and military reservists.

Source: Hlavačka, Wágner & Riesburg (2004).

Achieving universal coverage for long-term care may be politically difficult in countries with limited intergenerational solidarity. It may be particularly hard to convince young and healthy people to contribute to schemes that finance programmes primarily targeted at the elderly. In such cases, countries may start the scheme with only partial coverage and expand in a later phase. The Japanese scheme, for example, currently provides coverage for specific age groups only (Box 12).

**Box 12. Japan covers long-term care for specific age groups only**

In Japan, coverage for long-term care is limited to two groups of people: those aged 40–65 years and those aged 65 years and above. These groups pay an income-related contribution, which makes up 50% of the total fund for long-term care. The government provides the other 50% from public funds. The design of the scheme represents a concession to younger generations, who contribute only indirectly through taxation. The limited coverage and contributions affect the amount of funds available and restrict the number of people protected against the risks of long-term care needs.

Source: Kemporen (2005).

In 2005, the WHO Member States agreed to set a target for the coverage of essential health services of 100%, i.e. universal coverage (WHO, 2005c). Long-term care programmes may not be essential in all countries in the same way. In some countries, the availability of informal care givers may be greater, for example. Furthermore, some services may be considered essential for certain groups only, in which case eligibility criteria may be applied. Annex 2 compares long-term care financing schemes in a number of high-income countries.

***Method of finance***

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

Long-term care can be financed from different sources, as other health care services. The method chosen influences the extent to which the population is protected against the financial risks of long-term care needs and the level of fairness in financial contribution: the higher the ratio of prepaid contributions to total health care costs, including long-term care, the higher the level of financial protection; the higher the ratio of proportional<sup>7</sup> or progressive<sup>8</sup> contributions, the higher the level of fairness.

Prepaid contributions, like health insurance premiums or allocations from general tax revenue, allow selected services to be provided free, or nearly free, at the point of delivery. In this way, they provide financial access to the services and protect members against the risk of catastrophic health expenditure due to illness or incapacity. In contrast,

<sup>7</sup> All income groups pay the same proportion of their income.

<sup>8</sup> Higher-income groups pay a bigger proportion of their income.

financing schemes that are predominantly based on out-of-pocket payments, including direct patient payments, user fees and co-payments, increase the risk of catastrophic health expenditure. Schemes that are exclusively based on such payments are regressive<sup>9</sup> and unfair, as they place the greatest financial burden on the poor and vulnerable who often use the services most. Insurance schemes predominantly based on nominal contributions (flat rates) are also regressive. Based on an analysis by Carrin & James (2005), the target for prepaid contributions as a proportion of total health expenditure is cautiously set at 70%. This target may vary over time and place, depending on the priorities defined by the country.

Raising sufficient public funds for long-term care poses increasing problems for most countries. In this respect, there are advantages and disadvantages related to tax- and insurance based systems. In single fund tax-based systems, for example, it is easier to provide coverage for all. On the other hand, it may be harder to consistently obtain sufficient funds to cover a full package of long-term care, as acute care services often take priority. A separate health insurance scheme specifically covering long term care needs may better facilitate the collection of dedicated funds for long-term care. In such a case, consumers will also have a clearer understanding of how the funds are used, which is believed to have a positive impact on people's willingness to pay. Furthermore, specific rules, for example related to eligibility or co-payments can be tailored specifically to the needs of long-term care. However, fragmented health (financing) systems reportedly lead to efficiency problems that will be discussed under the pooling function.

When additional resources are needed for long-term care, governments may increase the level of co- and direct payments or, introduce medical saving accounts (United States). Such measures reduce the proportion of prepaid contributions to total health expenditure and increase the risk of catastrophic spending, in particular for less affluent population groups. Other options are to reallocate funds, introduce substitution and reorganization programmes, increase insurance contributions or tax payments, or introduce earmarked taxes. Earmarked, dedicated or sin-taxes are levied on unhealthy products, such as alcohol and cigarettes. The scheme has proven successful in various countries as an instrument to increase funding and to influence consumer behaviour simultaneously. However, it has shown to have limitations in the Netherlands, where the commercial sector successfully pushed the government to reduce alcohol taxes (after they had been increased), because the population started to buy alcohol in neighbouring countries. Earmarked taxes are often used to finance prevention and health promotion programmes, but introduced in Germany to increase funding for long-term care.

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
People with long-term care needs generally run a higher risk of incurring catastrophic health expenditure: “When out-of-pocket payments are required, households with elderly, handicapped, or chronically ill members are generally more likely to be confronted with catastrophic health spending than others. This is both because they usually have a greater need for health services and because they lack financial resources. In the absence of

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<sup>9</sup> All income groups pay the same nominal amount. This represents a greater proportion of lower incomes and a smaller proportion of higher incomes.

effective protection mechanisms, these groups face continuing risks of both financial hardship and ill-health” (Xu, 2005). As mentioned above, the method of finance influences the extent to which people are protected against the risk of catastrophic health expenditure.

The predominance of prepaid contributions (for example, at 70%) in total health expenditure does not necessarily guarantee that families will not incur catastrophic health expenditure due to long-term care needs. Some people may be excluded from the scheme, and, if co-payments or direct payments are applied, these may cause catastrophic spending. To protect people with the lowest incomes, some countries have put in place specific social security measures, usually financed from general tax revenue. Still, even if a full range of protection measures exists, there is no guarantee that all groups make proper use of them. Therefore, the extent to which catastrophic health expenditure occurs in a country, including due to long-term care needs, should be continuously monitored.

- *Out-of-pocket payments as a proportion of total health expenditure*

The maximum level of out-of-pocket payments as a proportion of total health expenditure that a country can apply without compromising financial protection has been cautiously set at 15% (Xu, 2005). Again, this target is approximate and varies over time and place. The effectiveness of this target also depends on the financing scheme and other measures in place.

With respect to long-term care, out-of-pocket payments should be closely and regularly monitored, also after seemingly minor amendments to the scheme. For example, many countries with public financing schemes for long-term care do not include the costs of food and accommodation. These are generally paid for by patients on a means-tested basis and in some countries, reimbursed by social programmes for people with insufficient means. The impact of these provisions should be monitored. Furthermore, to contain long-term care expenditure, countries often apply benefit package rationing, budget control, or increase the levels of co-payments. This may also increase the level of out-of-pocket payments. In Germany, cost control is implemented through the “pay-as-you-go” principle. It requires insurance funds to balance income and expenditure each year and not to spend more than their available resources. Coverage is therefore limited to a maximum amount per person. However, this may imply a risk for people purchasing additional care needs on the private market and augment the level of out-of-pocket payments.

### ***Pooling***

<b>Box 13. Pooling for integrated long-term care</b>		<b>Benchmark/target</b>
Type of membership	Ratio of compulsory membership to total membership	At least formal-sector employees
Composition and fragmentation of pools	If horizontal fragmentation exists, the capacity of the risk equalization scheme to control risk selection	High
Management of pools	Availability of efficiency incentives for risk pools	High

### ***Type of membership***

- *Ratio of compulsory to total membership*

Previous experience has shown that universal coverage requires a mandatory element. Whether this is politically feasible depends largely on the level of social solidarity in a country. The target for this indicator refers to at least formal-sector employees (Carrin & James, 2005). As mentioned earlier, compulsory membership to the long-term care insurance scheme is aged-based in Japan.

### ***Composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of the risk equalization scheme to control risk selection*

Tax-based systems have a single fund (Thailand) or, after decentralization, multiple funds at the district or municipal level (Denmark). Countries with social health insurance also have either a single (Costa Rica) or a multiple fund system (Germany, the Netherlands). In any of these systems, funds for health care are pooled and redistributed with the aim to provide social and financial protection for the largest possible number of people (extending coverage).

Funds for long-term care are, in tax- and insurance based systems, sometimes integrated into the general health care financing scheme (Slovakia) or organized separately (Denmark, Germany, the Netherlands). As mentioned above, this may have advantages, but also disadvantages compromising the pooling function for health care overall. In Germany, for example, it is predicted that there will be a continual increase in the elderly population's need for prevention, therapy, and rehabilitative and nursing care while, on the other hand, less need for curative medical interventions in the population as a whole (HiT, 2004). However, the segmentation of funds for long-term and general health care respectively makes it less easy, though not impossible, to cross-subsidize the different types of care. The same occurs in tax-based systems where funds for general health and long-term care are pooled separately (as in Denmark). As mentioned earlier in this paper, fragmented health (financing) systems have been recognized to cause efficiency problems in a variety of ways. To overcome these, various high-income countries, like Germany, have started to develop integrated care programs and strategies to integrate general health and long-term care financing schemes.

People with chronic conditions are considered high-risk or high-cost patients. In a tax-based multiple fund system, decentralized funds with a relatively high number of chronic patients and no proper compensation scheme, will not be able to offer the same quantity or quality of services as funds with lower-risk groups. In social health insurance schemes with multiple funds, the absence of compensation for the increased costs associated with chronic patients will function as an incentive to apply risk selection. If long-term care is integrated in the general benefit package for health, therefore, risk equalization, including for long-term care needs, may increase equity. In separate schemes, risk equalization with respect to long-term care is less common; instead, eligibility criteria are often applied to control demand and safeguard an acceptable level of equity.

Risk equalization between different funds can be implemented on the basis of *ex ante* (prospective) or *ex post* (retrospective) adjustment mechanisms. In retrospective risk

adjustment, health insurance funds are compensated afterwards for all or most of the costs they have incurred in serving and protecting their clients. If administrative costs are included, this mechanism effectively turns a multiple fund scheme into a single fund (Carrin & James, 2004). Such an arrangement provides no incentives for the funds to behave more efficiently. Prospective risk adjustment, on the other hand, compensates health insurers at forehand on the basis of previously agreed risk adjusters. Insurers receive or make compensation payments for their members on the basis of criteria, such as age, sex and health status; these criteria can be increasingly refined. Prospective risk adjustment in schemes with multiple funds gives insurers an incentive to act efficiently; it creates a level playing field (within the legal boundaries set by the government in terms of the quality and quantity of the benefit package), that allows them to behave efficiently and save costs. Prospective risk adjustment thus provides sickness funds with more incentives for effective preventive care than retrospective models (van de Ven, 2003). In tax-based systems, prospective risk adjustment in combination with targets and performance-related payments, for example, can also work as an incentive for more efficient behaviour.

### ***Management of pools***

- *Availability of efficiency incentives for risk pools*

Single funds run a risk of growing inefficiency (bureaucracy), unless specific targets are legally implemented and reinforced. In multiple fund schemes, efficiency incentives can be built in, for example, by stimulating competition among insurers.

### **Purchasing**

<b>Box 14. Purchasing for integrated long-term care</b>		<b>Benchmark/target</b>
Benefit package	Degree of comprehensiveness of the benefit package in relation to the disease burden	High
	Degree of stakeholder ownership in negotiation process and quality assurance	High
	Availability of consumer incentives, including eligibility (exemption) criteria, and consumer-directed care	In accordance with objectives
Provider payment mechanisms	Availability of provider payment mechanisms to encourage use of appropriate care level (including substitution)	In accordance with objectives
	If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services	In accordance with objectives
Administrative efficiency	Percentage of expenditure on administrative costs	< 7%

### ***Benefit package***

- *Degree of comprehensiveness in relation to the disease burden*

Purchasing takes place at the national, district, local or household level. Strategic purchasing can be organized through incentive schemes. Regulation of the benefit

package, prices, quality, and provider payment mechanisms is a key determinant of the outcome and quality of the purchasing process. This interactive process determines the type, quality and costs of health care available in a country at any given time. The benefit package represents the services that health care providers are expected to supply and that are covered by public health financing schemes.

In high-income countries, the process of defining the benefit package generally involves determining which services to exclude from the package, given that increasing costs make it impossible for governments to guarantee all health interventions. Conversely, in low- and middle-income countries, the process usually focuses on which services to include, i.e. on establishing essential packages of interventions, given that mechanisms must be found to finance the most cost-effective health interventions for the whole population, including the poor. According to Liu (2003), in practice the process often stops at the stage of definition, and implementation is difficult. In addition, little is known about the extent to which the implementation of essential packages improves allocative efficiency (Liu, 2003). In view of the current demographic and epidemiological transition, the process of defining the benefit package should be flexible, allowing chronic care needs to be included, whenever necessary.

- *Degree of stakeholder ownership in negotiation process and quality assurance*

It can be argued that the process of defining and monitoring the benefit package is improved by an appropriate level of stakeholder involvement. When the level is low, there is a higher risk that some needed or appropriate services will not be included, or that there will be opposition when it comes to implementation. The participation of health care providers and insurers, on the one hand, is important to ensure that the composition of the package is both technically appropriate and financially feasible. The participation of consumer or patient organizations, on the other hand, is crucial, as they will monitor the quality of services and provide information about needs and preferred treatment alternatives. In this respect, it is important that patient rights, including those of chronic patients and disabled people, are formally instituted.

- *Availability of consumer incentives, including eligibility (exemption) criteria, and consumer-directed care*

The benefit package may include incentives to increase or decrease utilization rates and influence consumer behaviour. Co-payments, no-claim or low-claim bonuses, or deductibles may be used to control demand and to counter the effect of moral hazard (people adopting high-risk behaviour or making increased demands because they know they are insured). Exemptions from co-payments or direct payments can be used to increase utilization rates by certain groups or for certain services. Furthermore, reductions of premiums or tax payments and bonuses can be used to reward healthy lifestyles or to sanction people with high-risk behaviour, such as smokers (Carrin & James, 2005).

There is little evidence so far of the effectiveness of consumer incentives in changing behaviour. In the Netherlands, insurers are now experimenting with subsidizing fitness courses or reimbursing part of the cost of low-cholesterol products to encourage healthy lifestyles. Some measures, however, are controversial; in the United States, private

insurers have started to apply higher premiums to smokers. The fairness of such policies is disputed, all the more so since some evidence indicates that smoking might be genetically determined (Fuchs, 2006; Associated Press, 2006).

Governments generally prefer to invest in public awareness campaigns (non-financial incentives) to foster people's responsibility for preserving their health, or to apply financial incentives in the form of earmarked taxes, as mentioned above. Germany recently introduced financial incentives (reduced premiums) to encourage patients to use family doctors as the first point of contact, and chronically ill patients to participate in specially designed integrated care programmes. Such incentives may encourage rational consumer behaviour.

#### Eligibility criteria

Eligibility criteria are applied to long-term care in many high-income countries. The aims are to control demand and contain costs, by setting an upper limit to entitlements, and to ensure that scarce resources are used for those who are most in need. In this respect, it is crucial that proper decision-making takes place on what services are essential, which should be included in the benefit package and who should have access to them. Eligibility criteria for long-term care are usually based on age, health, functional status, availability of informal care and income. They are increasingly used in tax-based systems as well, especially for institutional care. In Lithuania, the Republic of Korea and Ukraine, for example, public coverage of long-term care is provided only to destitute people. In Germany, specialized authorities are responsible for applying strict eligibility criteria. In the Netherlands, holistic evaluations are made by regional and local institutions to determine the need for publicly financed long-term care.

#### Consumer-directed care, personal budgets (cash benefit) and vouchers

In tax-based systems, purchasing is increasingly devolved to lower administrative levels, which are closer to the clients. In insurance-based systems, purchasing is delegated to the sickness funds. Local authorities and insurance funds thus function as relatively autonomous third-party payers in a growing number of countries. The next step in this process is consumer-directed care, in which households and consumers purchase their own care, for example through a system of personal budgets (cash benefit). The aim is to increase the efficiency and responsiveness of the programmes, and to increase consumer choice. In Africa and Latin America, voucher systems or conditional cash programmes are increasingly common, aimed at encouraging poor people to use prioritized services. In the future, such schemes could become relevant for long-term care as well.

#### ***Provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

The way in which health care providers, individuals or institutions, are paid affects both the cost and quality of care. Different payment mechanisms are: fee-for-service; daily payment; payment per case; capitation; budgets; and salaries. Each mechanism has its strengths and weaknesses in terms of quality and efficiency. For example, the first three may provide incentives for the overproduction of services, the last three for their underproduction (Carrin & Hanvoravongchai, 2003; Liu, 2003). In principle, provider

payment mechanisms can be used to encourage efficient referral patterns, quality of services and equity, and to support policy choices, such as substitution, including prioritization of primary, home and community-based care.

In most countries to date, long-term care providers, including home nurses, are hired by municipal or private agencies and paid a salary. This does not necessarily encourage improved outputs, in terms of quality or quantity. Reforms in this respect could lead to more efficient behaviour. In general health care, countries increasingly apply a combination of mechanisms in order to meet multiple goals. In Denmark, for example, general practitioners receive a fee-for-service to encourage the production of personal services, plus a capitation payment to ensure a base income and to finance services for which they cannot charge a fee. Furthermore, capitation and salary payments are increasingly combined with performance-related-payments to encourage the production of cost-effective services like prevention and health promotion.

In Germany, providers of ambulatory long-term care receive a fee-for-service, while institutional care is paid on the basis of a fixed daily rate. Both of these mechanisms are associated with overservicing, which may be controlled through capitation payments for ambulatory care and some form of prospective payment for inpatient care. Capitation payments, however, may cause a reduction in quality of care and time spent per patient. As mentioned above, this could be corrected through an additional performance-related bonus to reward chronic illness management, including long-term care, for example.

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

Many high-income countries are dealing with the consequences of vertical fragmentation. In Germany, for example, statutory long-term care insurance is strictly separate from statutory health insurance and there is limited or no possibility to transfer funds between the two in response to changing care needs. In Denmark, long-term care is financed predominantly at the municipal level, while primary and secondary health care is financed by counties. Nursing care, as a health care function, is financed by the counties, but implemented at municipal level. Health system fragmentation may compromise efficiency and lead to duplication. Specific incentives may be needed to improve coordination or integration of services.

Long-term care programmes are generally organized across the health and social systems. This may also compromise access to different services, particularly for chronic patients. Special incentive schemes can be designed to encourage providers, insurers and consumers to work closely together, avoid duplication and improve accessibility.

### ***Administrative efficiency***

- *Percentage of expenditure on administrative costs*

In order to increase the social benefit of long-term care programmes, incentives should be incorporated in the scheme to contain administrative costs. The percentage allocated to this item should be continuously monitored. Carrin & James (2005) argue that countries in the early stages of health system development may have higher administrative costs. However, empirical evidence shows that administrative cost savings can be realized over

time. A target of 7% of total expenditure going to administrative costs seems feasible and realistic.

### 3. Performance assessment of financing of long-term care programmes in selected countries

#### 3.1 Introduction to the country studies

In this section the framework described in Section 2 is applied to six countries, selected as representative for a number of countries. The countries and their health financing schemes are given in Box 15.

Box 15. The six selected countries and their health financing schemes

High-income countries	Middle-income countries	Low-income countries
<b>Germany:</b> multiple health insurance funds; separate scheme for long-term care	<b>Slovakia:</b> multiple health insurance funds, including long-term care, plus general government expenditure	<b>Nicaragua:</b> three-tier scheme with private health care, formal sector health insurance plus general government expenditure
<b>Denmark:</b> decentralized tax-based scheme; long-term care implemented by municipalities	<b>Thailand:</b> tax-based scheme for informal sector and those not covered by formal-sector schemes, plus formal-sector insurance schemes	<b>Rwanda:</b> voluntary health insurance schemes plus general government expenditure

Table 7 shows demographic data for the six countries. The segment of the population older than 60 years, life expectancy and healthy life expectancy at birth increase with increased development of the economy; fertility rates generally decrease.

Table 7. Demographic indicators in the selected countries

	Population ≥ 60 years (%)		Life expectancy at birth (years)		HALE* at birth, 2002 (years)		Total fertility rate per woman aged 15–49 years	
	1993	2003	Male	Female	Male	Female	1993	2003
<b>Germany</b>	20.5	24.4	76	82	70	74	1.3	1.4
<b>Denmark</b>	20.0	20.7	75	80	69	71	1.7	1.8
<b>Slovakia</b>	15.1	15.7	70	78	63	69	1.8	1.3
<b>Thailand</b>	6.9	9.0	67	73	58	62	2.1	1.9
<b>Nicaragua</b>	4.4	4.7	68	73	60	63	4.8	3.7
<b>Rwanda</b>	3.8	4.1	43	46	36	40	6.7	5.7

\* Healthy life expectancy; average number of years that a person can expect to live in full health, taking into account years lived in less than full health as a result of disease or injury.

Sources: WHO (2005b, Annex Table 1; 2005d).

Table 8. Total mortality per 100 000 population, all age groups, 2002

	Communicable diseases	Noncommunicable diseases	Injuries
<b>Germany</b>	42	907	39
<b>Denmark</b>	44	967	61
<b>Slovakia</b>	33	834	55
<b>Thailand</b>	206	393	73
<b>Nicaragua</b>	142	280	57
<b>Rwanda</b>	1200	285	102

Source: WHO (2005e).

Table 8 shows total mortality rates in the selected countries; Tables 9 and 10 compare the prevalence of noncommunicable and communicable diseases, and Table 11 shows the prevalence of obesity in the population over 15 years of age.

**Table 9. Mortality and morbidity indicators for communicable diseases**

	Under-5 mortality rate, 2003 (per 1000 life births)	Prevalence of AIDS in adults aged 15–49 years, end 2003 (%)	Falciparum malaria incidence, 2004 (per person, per year)	Tuberculosis (per 100 000 population)	
				New smear-positive cases	Prevalence
Germany	5	0.1	0	4	8
Denmark	5	0.2	0	4	8
Slovakia	8	< 0.1	0	11	24
Thailand	26	1.5	0.01–0.09	63	142
Nicaragua	38	0.2	0.01–0.09	28	63
Rwanda	203	5.1	0.33–0.41	161	374

Sources: WHO (2005d); UNAIDS (2004); Global Fund (2004).

**Table 10. Disability data for selected chronic noncommunicable diseases**

	DALYs lost per 1000 population		Smoking prevalence among over-18s, 2003 (%)		Diabetes prevalence among over-20s, 2000 (%)	Legal status of smoking in public buildings, 2004
	Heart disease (2002)	Stroke (2003)				
			Men	Women		
Germany	6	4	39.0	30.9	4.1	Restricted
Denmark	5	4	40.3	36.9	3.8	Restricted
Slovakia	12	5	42.3	28.0	3.9	Banned
Thailand	6	5	32.2	2.7	3.8	Restricted
Nicaragua	8	7	-	-	2.9	Restricted
Rwanda	10	12	-	-	0.9	Not regulated

Source: Mackay & Mensah (2004).

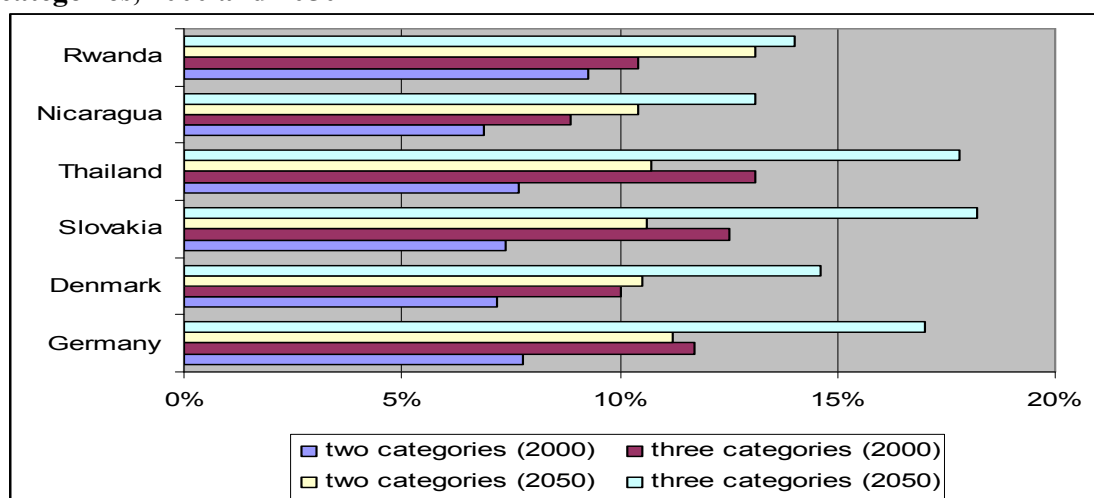
**Table 11. Prevalence of obesity (body mass index  $\geq 30$  kg/m<sup>2</sup>) in people older than 15 years (%)**

	2002		2005		2010	
	Male	Female	Male	Female	Male	Female
Germany	19.7	19.2	20.9	20.4	22.9	22.1
Denmark	9.6	6.4	10.6	7.1	12	8.3
Slovakia	no data	no data	no data	no data	54.0	62.9
Thailand	no data	no data	no data	no data	28.3	39.9
Nicaragua	no data	no data	no data	no data	59.4	73.1
Rwanda	no data	no data	no data	no data	8.1	21.7

Source: WHO (2005e).

As outlined in Section 1, average dependency ratios in 2000 were lowest in high-income countries and highest in low-income countries. By 2050, they are expected to be highest in high-income countries, slightly lower in middle-income countries, and lowest in low-income countries. Fig 9 shows the dependency ratios of the six selected countries for 2000 and 2050. Table 12 compares these with the country group averages. Dependency ratios are highest in Rwanda in both 2000 and 2050, based on two disability categories, and in Thailand and Slovakia, respectively, based on three categories. Nicaragua has the lowest dependency ratios in all cases.

**Fig. 9. Dependency ratios, based on the two or three severest GBD disability categories, 2000 and 2050**



Source: WHO (2006a).

**Table 12. Dependency ratios in the selected countries compared with country group averages, 2000 and 2050**

	Dependency ratio				Country group average dependency ratio			
	2000		2050		2000		2050	
	2 disability categories	3 disability categories	2 disability categories	3 disability categories	2 disability categories	3 disability categories	2 disability categories	3 disability categories
<b>Germany</b>	7.8	11.7	11.2	17.0	<b>7.6</b>	<b>11.5</b>	<b>11.8</b>	<b>17.3</b>
<b>Denmark</b>	7.2	10.0	10.5	14.6	<b>8.0</b>	<b>11.3</b>	<b>11.4</b>	<b>16.1</b>
<b>Slovakia</b>	7.4	12.5	10.6	18.2				
<b>Thailand</b>	7.7	13.1	10.7	17.8				
<b>Nicaragua</b>	6.9	8.9	10.4	13.1				
<b>Rwanda</b>	9.3	10.4	13.1	14.0				

Source: WHO (2006a).

The country studies elaborated below were done largely on the basis of secondary literature, and may not reflect all up-to-date information available for each country. The aim was to illustrate how the framework can be used. It is acknowledged that more accurate studies should involve the participation of all stakeholders and be based on more primary sources.

### 3.2 Germany

#### *Dependency ratios and degree of priority to long-term care*

Long-term care is prioritized in Germany in relation to expectations based on dependency ratios and other indicators. The German population is ageing and noncommunicable diseases are the main cause of mortality. The prevalence of the risk factor obesity is

nearly twice that in Denmark, and dependency ratios are also higher. Among 44 high-income countries and territories, Germany has the 14th highest dependency ratio. The number of one-person households, long-term chronic-degenerative diseases, the need for prevention, therapy, rehabilitation and nursing care for the elderly, and the demand for health services focused on noncommunicable diseases across age groups are all expected to increase in the near future. The need for curative medical interventions, however, is expected to decrease.

**Revenue collection: population coverage**

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

Health care financing is insurance-based. Statutory health care and long-term care are covered by separate schemes (*gesetzliche Kranken- und Pflegeversicherung*). In 2003, 98% of the population participated in prepayment schemes: 88% contributed to the statutory schemes (10% on a voluntary basis) and 10% had private health insurance, including 4% who were civil servants with free governmental care and complementary private insurance. About 2% of the population was covered by other, sector-specific governmental schemes (military, people doing alternative social service, police, social welfare, and assistance for asylum-seekers), and 0.2% did not participate in the statutory schemes. This included people from the highest-income groups, who are allowed to opt out of the schemes.

**Revenue collection: method of finance**

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

Health care coverage is predominantly based on prepaid contributions (87.1%). In 2002, 78.5% of total health expenditure was from public sources, of which 87.4% was from statutory insurance schemes, including 7% for long-term care, and 8.6% from private health insurance. Nearly 10%<sup>10</sup> was from general taxation and around 10% was out-of-pocket payments, including co-payments and direct payments. Contributions to the health and long-term care insurance schemes are 14.2% and 1.7% of monthly gross income, respectively, up to a maximum level. The contributions are shared by employers and employees on a 50-50 basis. Dependants with a monthly income below a certain level are automatically insured without paying contributions. Of the 88% of the population covered by the statutory scheme, about 62% are contributing members.

Box 16. Sources of health care expenditure in Germany, 2002

General government expenditure on health as percentage of total government expenditure: 17.6%  
 General government expenditure on health as percentage of total expenditure on health: 78.5%  
 Social security expenditure on health as percentage of general government expenditure on health: 87.4%  
 External resources: 0  
 Private expenditure on health as percentage of total expenditure on health: 21.5%  
 Private prepaid plans as percentage of private expenditure on health: 39.9%  
 Private prepaid plans as percentage of total expenditure on health: 8.6%  
 Out-of-pocket expenditure as percentage of private expenditure on health: 48.2%

<sup>10</sup> (78.5-(87.4\*78.5/100)).

Out-of-pocket expenditure as percentage of total expenditure on health: 10.4%

Source: WHO (2006b).

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
Catastrophic health expenditure occurs in 0.03% (0.02–0.04%) of households. Data are not available per socioeconomic group.

- *Out-of-pocket payments as a proportion of total health expenditure*  
Out-of-pocket payments are 10.4% of total health expenditure. Children and adolescents up to 18 years of age are exempted from co-payments. Other members of sickness funds are exempted from co-payments for benefits covered by statutory health insurance, if the total is more than 2% of their gross household income per annum. This percentage goes down to 1% for patients with a serious, defined, chronic illness. Current reforms aim to increase the level of co-payments. In the long-term care scheme, co-payment rises with the level of care, which has led to disagreement between patients, providers and insurance funds about the appropriate level of care. Food and lodging are financed directly by the consumers, whether they stay at home or in an institution. Beneficiaries of institutional care pay 25–50% of the average cost of care from their pension fund and other individual sources of income. For those who cannot pay, the social welfare system pays the share not covered by long-term care insurance, depending on income.

#### ***Pooling: type of membership***

- *Ratio of compulsory membership to total membership*  
Membership of the statutory health insurance scheme is compulsory up to a defined level of income. People with a higher salary and with children may participate voluntarily in the statutory scheme. Those without children may opt for a private scheme or remain uninsured. Membership of the long-term care insurance scheme is compulsory for all members of health insurance funds, including those in private schemes, which together account for 98.8% of the population.

#### ***Pooling: composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

Germany had over 200 insurance funds in 2004. Since 1994 there is a full risk-structure compensation (RSC) scheme, which compensates for differences in contributions of members due to differences in their income and, on the expenditure side, for differences in age, sex, disability to work and entitlement to sickness allowances. The mechanism calculates average costs for 670 risk groups defined by risk adjusters using standardized costs. In 2001, the RSC scheme was reformed to compensate better for differences in the morbidity structure. Furthermore, a high-risk pool and separate RSC categories were introduced for disease management programmes. These programmes are developed by insurance companies contracting providers, and approved by the Federal Joint Committee and the Ministry of Health. The aim is to develop integrated care programmes to improve service provision, while containing costs, for patients with selected chronic conditions. In

2003, 10.9% of statutory health insurance revenues were redistributed among the funds. Long-term care is not part of the RSC scheme. Strict eligibility criteria are applied instead.

***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

Long-term care insurers are encouraged to operate efficiently on a pay-as-you-go basis: funds must balance annual income and expenditures, or risk incurring debt. This system guarantees cost control, but may restrict the funds' capacity to meet all needs.

***Purchasing: benefit package***

- *Degree of comprehensiveness in relation to the disease burden*

Long-term nursing care is provided either in the home or in an institution. It is considered part of social care, which also includes mental health care and care for the physically and mentally disabled. It is defined on the basis of duration of treatment. People are entitled to long-term care benefits when care is expected to be necessary for at least 6 months. Basic care, social services, medical care and prescription drugs are covered by the statutory health insurance, as is nursing care shorter than 6 months. The benefit package of the health insurance scheme is comprehensive, and includes chronic disease. The long-term care benefit package focuses on disease prevention, rehabilitation, and services at home. It aims to encourage the development of services that avoid unnecessary institutionalization. The benefits are graded according to type, frequency and duration of the need for nursing care:

- Grade I: support is necessary for at least two activities in the areas of body care, eating and mobility (at least once a day) as well as housekeeping (at least several times a week), with an overall average duration of at least 90 minutes daily.
- Grade II: support is necessary at least three times day, with an overall average duration of at least 3 hours daily.
- Grade III: support is necessary around the clock, including nights, with an overall average duration of at least 5 hours daily.

Specific incentives include allowances to private homes to accommodate care needs, up to a maximum amount. In addition, family members serving as caregivers at home can attend training courses free of charge, and short-term care is provided during holidays of caregivers. The caregiver is also covered by statutory accident insurance and statutory retirement insurance, financed by the sickness fund administering the long-term care insurance of the person in need. For people who choose institutional nursing care, benefits are available for day or night clinics, and old age or special nursing care homes. Furthermore, there is an option of personal budgets for people having professional ambulatory long-term care. Current health sector reforms aim to further increase consumer choice.

- *Degree of stakeholder ownership in negotiation process and quality assurance*

Stakeholder involvement in Germany is relatively high. The government plays a strong stewardship role to safeguard equity across the *Ländern* (regions) and to overcome differences between the eastern and western parts of the country. The benefit package,

including for long-term nursing care, is defined by a Federal Joint Committee, which represents all legitimized actors and stakeholders in the health sector, including payers, providers and consumers. It excludes the government, which ultimately approves the package. There is a high participation of stakeholders in monitoring through various provider and consumer organizations. The legal rights of consumers are reinforced through the legal system and, for example, the Patient Ombudsman. The government actively encourages patient involvement.

- *Availability of consumer incentives, including eligibility (exemption) criteria*

There is a wide variety of prevention and health promotion programmes at the national and regional level. Since 2004, health insurance funds also offer patients who actively protect their health an exemption from co-payments or reduced premiums. This includes patients who participate in a quality assured prevention programme, family doctor system, a programme for chronically ill patients or an integrated care programme (disease management programme). There is an increasing focus on patient involvement in decision-making processes, patient rights and choices, and the provision of information to patients.

In contrast to the statutory health insurance, long term care benefits are available only on application by the insured member. Eligibility criteria, establishing need, are applied by Medical Review Boards, consisting of representatives of sickness and long-term care funds. These Boards may place applicants into one of three categories or may deny coverage. Eligibility criteria are based on standard need requirements for services that are expected to be necessary for at least six months, including personal hygiene, eating, mobility, and housekeeping. Applicants have the right to challenge the decision of the Medical Review Board, through their sickness fund or by filing a legal case.

### ***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

The German system is a family doctor system, and the general practitioner (GP) is the gatekeeper to specialist and hospital care. In disease management programmes, the GP is the first responsible health professional. In terms of long-term nursing care, ambulatory care providers are paid on a fee-for-service basis, and institutional care on a daily rate. Both provider payment mechanisms have a weak capacity for cost-containment and may encourage (over)production (potential risk of supplier-induced demand, extended lengths of stay and increased numbers of admissions).

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

Vertical fragmentation exists and, since recently, more efficiency and effectiveness are being pursued through two pilot programmes. The first is the disease management programmes (DMP), introduced with the RSC reform in 2001. The aim is to reduce risk selection among funds through a separate category for chronically ill patients participating in a DMP. However, while the programmes aim to increase the quality of service provision and to contain costs for patients with selected chronic conditions, they

may lead to a further vertical fragmentation of the health system. A recent evaluation of a DMP for patients with diabetes showed that nearly 40% of the beneficiaries did find the quality of services improved after the start of the programme.

In the second pilot programme, insurers are encouraged to negotiate integrated care contracts with providers. These are disease-centred programmes, and include acute hospital care and rehabilitative care. During a two-year trial period, sickness funds are allowed to specially allocate 1% of their resources for ambulatory physicians and hospital care, once integrated care contracts have been concluded. The funds have to be paid back if not fully used. Evidence shows that the incentives have attracted interest among hospitals.

As yet, no incentives exist to improve collaboration between long-term nursing care and, for example, health care providers involved in DMPs, but discussions on how to include long-term care have started. There is coordination between long-term care services provided through the health and social sectors.

***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*

Administrative efficiency is increased by the exclusion of administrative costs from the RSC scheme. Furthermore, since 2004, administrative expenditure per insurance fund member cannot be more than 10% above the national average. Currently the national average is 5.6%. Long-term care is not included. Cost containment in this domain is enhanced through the pay-as-you-go scheme.

3.3 Denmark

***Dependency ratios and degree of priority to long-term care***

Long-term care is prioritized in Denmark in relation to the needs for long-term care expected on the basis of dependency ratios and other indicators. The Danish population is ageing more slowly than the German population; life expectancy and healthy life expectancy are slightly below those in Germany and fertility rates slightly higher. Mortality due to noncommunicable disease and injuries is somewhat higher than in Germany; the prevalence of heart disease and that of diabetes are lower; the prevalence of smoking is higher, but that of obesity is half to one-third lower. Dependency ratios are relatively low in Denmark: they are second lowest of the six countries included in this study, and 16th lowest out of 44 high-income countries and territories.

***Revenue collection: population coverage***

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

Health care financing, including long-term care, is tax-based in Denmark and, in principle, the system provides universal coverage.

***Revenue collection: method of finance***

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

The scheme is predominantly based on prepaid contributions (84.5%).

Box 17. Sources of health care expenditure in Denmark, 2002

General government expenditure on health as percentage of total government expenditure: 13.1%  
 General government expenditure on health as percentage of total expenditure on health: 82.9%  
 Social security expenditure on health as percentage of general government expenditure on health: 0  
 External resources: 0  
 Private expenditure on health as percentage of total expenditure on health: 17.1%  
 Private prepaid plans as percentage of private expenditure on health: 9.4%  
 Private prepaid plans as percentage of total expenditure on health: 1.6%  
 Out-of-pocket expenditure as percentage of private expenditure on health: 89.8%  
 Out-of-pocket expenditure as percentage of total expenditure on health: 15.4%

Source: WHO (2006b).

In 2002, 82.9% of total health expenditure, including long-term care, was financed through taxes at national, county and municipal level; 1.6% was financed through private health insurance. Around 15.4% is out-of-pocket and co-payments for pharmaceuticals, spectacles, hearing aids, doctors, dentists, hospitals and nursing homes. The health financing scheme is based on progressive contributions. In 1999, the county and municipal tax rate varied from 28.6% to 33.5%. Personal income tax in 1999 ranged from 10.9% to 12%; the average level of county personal income tax was 11.5%.

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
 Catastrophic health expenditure occurs in 0.07% (0–0.14%) of households. Data are not available per socioeconomic group.

- *Out-of-pocket payments as a proportion of total health expenditure*

Out-of-pocket payments are 15.4% of total health expenditure. Specific population groups are exempted from co-payments. Chronically ill patients with a permanent and high use of drugs can apply for full reimbursement of expenditure above an annual ceiling. Pensioners who cannot afford to pay for drugs can apply to their municipality for financial assistance. Patients with a low income also receive partial reimbursement, on a case by case basis, under the Social Security Pensions Act and the Social Assistance Act. Co-payments for visits to general practitioners and hospitals have been discussed as a tool to control demand, but rejected because of concerns about reducing use by the poor. Co-payments are applied to nursing homes and protected housing schemes, which are financed by the inhabitants, depending on their financial situation.

***Pooling: type of membership***

- *Ratio of compulsory membership to total membership*

Health and social care are principally financed by compulsory tax payments, allowing coverage of 100% of the population.

***Pooling: composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

Denmark has a decentralized tax-based system. As the counties and municipalities act as third parties, it is analogous to a multiple fund system. Risk equalization exists: there is redistribution between counties and municipalities on the basis of differences in age distribution, the number of children in single-parent families, the number of rented flats, the rate of unemployment, the number of people with low education, the number of immigrants from countries outside the European Union, the number of people living in socially deprived areas and the proportion of single elderly people. Morbidity data are not included, which may compromise horizontal equity (there are indeed differences between services in different counties and municipalities, but so far the population does not consider this a problem). Pooling effectively takes place during the annual national budget negotiations, when agreements are made about resource allocations (global budgets), such as the recommended maximum level of county and municipal taxes, the level of government subsidies to the counties and municipalities, the level of redistribution or financial equalization between counties and municipalities, and the size of extraordinary grants earmarked for specific areas needing additional resources. The negotiations are used by the central government to influence decision-making at the county level, but are not legally binding.

#### ***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

In Denmark, counties and municipalities are fairly autonomous. There are no efficiency incentives, but there are targets for increased efficiency. These are not legally binding, however.

#### ***Purchasing: benefit package***

- *Degree of comprehensiveness in relation to the disease burden*

Long-term care falls under social care, which also includes social welfare allowances (sickness allowances and disability pensions), care outside hospitals for elderly people, disabled people and people with chronic diseases, including mental disorders, and community mental health centres. Nursing homes provide home-based and institutional care, which is financed and purchased at the municipal level. Economic compensation (comparable to the sick allowance) is paid to relatives who care for terminally ill patients, subject to medical certification.

The number of nursing homes, protected housing, and geriatric departments in county hospitals increased in recent years. Nursing home inhabitants are individually registered with a general practitioner. With GP support and home help, many chronically or terminally ill patients can now stay at home, avoiding or delaying institutionalization. A special scheme exists for assessment and management of elderly people living in the community: people aged 75 and above receive two preventive visits a year from a municipal case manager, who evaluates their needs and helps them plan for independent living. If formal care is needed, a care plan is designed and a contract made for needed services; in case of disagreement the client can appeal. Home-help workers and nurses

coordinate their services and the home-care team monitors the process. Back-up consultation is provided by hospital-based geriatric specialists or teams. The collaboration between municipalities and general practitioners is said not to be optimal.

- *Degree of stakeholder ownership in negotiation process and quality assurance*  
Stakeholder involvement in Denmark is relatively high. The benefit package is defined at county and municipal levels. The system has caused some regional inequities in service provision, but this seems to be acceptable to the population. As long-term care is financed largely on the basis of local taxation, the decision-making process takes place close to the population and the system is quite responsive to local needs. Increased patient involvement and free choice are promoted and patients' rights are reinforced by law. The Patients' Board of Complaints, an independent public authority, was established to reinforce the obligation of doctors to inform patients of their condition and of different treatment options, and not to initiate or proceed with treatment against the patient's will (except for treatment mandated by law).

- *Availability of consumer incentives, including eligibility (exemption) criteria*  
Disease prevention and health promotion were previously the exclusive responsibility of the government and specialized institutions, but since 1993 county and municipal councils also receive funding for such services. There are no financial incentives to encourage healthy behaviour at the individual level, and no earmarked taxes. Some taxes are motivated by a concern for health, e.g. excise duties on motor vehicles, energy, spirits and tobacco products. In the 1990s, the central government introduced a green excise duty on the consumption of polluting or scarce goods, such as water, oil, petrol and electricity.

Eligibility for social care is decided by a special municipal service. Long-term care needs are assessed by home care managers (see above).

#### ***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

Patients must register with a general practitioner of their choice within 10 km of their home. GPs are self-employed and operate wholly in the public system, acting as gatekeepers to specialists and hospitals. GPs receive a fee-for-service to encourage the production of personal services, plus a capitation payment to ensure a basic income and finance services for which they cannot charge fees. Professionals delivering municipal long-term care services are paid a fixed salary. This increases the risk of underproduction and does not encourage increased efficiency or better quality.

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

The Danish system is highly decentralized and fragmented. The Ministry of the Interior and Health is the principal health authority. The counties are responsible for primary care, including general practitioners and specialists, and the municipalities for other aspects of primary health care, such as nursing homes, home nurses, health visitors and municipal

dentists. Primary and secondary care are financed at the county level; municipal services are financed by local taxes. The coordination between GPs and hospitals is said not to be optimal: GPs do not monitor patients who are hospitalized, and are not always informed when they are discharged. Irrespective of its duration, nursing care is defined as primary health care; nursing homes are considered to be providing social services. No incentives exist to improve collaboration between GPs and home nurses at the municipal level. Privately contracted services include long-term inpatient care in nursing homes, day care centres and social services for chronically ill and elderly people.

***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*

There are targets for administrative costs. In an effort to increase efficiency, contracting with private non-profit agencies is becoming more common. Some additional services, such as catering and cleaning, have been contracted out to private for-profit firms.

3.4 Slovakia

***Dependency ratios and degree of priority to long-term care***

Long-term care is prioritized in Slovakia in view of the needs expected on the basis of dependency ratios and other indicators. The population is ageing more slowly than in Germany and Denmark, but much faster than in the other three countries studied. Life expectancy and healthy life expectancy are slightly below the levels in Germany and Denmark. Current fertility rates are the lowest of the six countries. Mortality due to noncommunicable diseases and injuries is slightly lower than in Germany and Denmark; under-5 mortality and prevalence of tuberculosis are slightly higher. Heart disease is responsible for twice as many lost DALYs as in Germany and Denmark, stroke slightly more. Smoking is slightly more prevalent in men, less so in women; Slovakia is the only one of the six countries to have banned smoking in public buildings. Diabetes prevalence is similar to that in Germany and Denmark; obesity prevalence is very high. Dependency ratios based on two disability categories are lower than the average for middle-income countries in 2000, but higher in 2050. In terms of dependency ratios, Slovakia ranks 25th lowest out of 80 middle-income countries.

***Revenue collection: population coverage***

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

Slovakia has an insurance-based health financing system, which covers a basic package of health care and includes nursing, rehabilitation, psychological and spa treatment (so-called subsequent care), as well as “special care” (psychiatric care and care of persons with alcohol or drug dependence). Community care is financed either from the government budget or from direct payments. The government also covers the insurance premiums for people who have less than a specified level of income, dependent children and their caregivers, pensioners, job applicants not receiving an allowance, people receiving disability benefits, and army reservists. Coverage is considered universal.

***Revenue collection: method of finance***

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

The scheme is predominantly based on prepaid contributions (89.4%). In 2002, general government expenditure on health represented 89.4% of total health expenditure, of which 92.7% was social security expenditure. The remaining 10.6% of total health expenditure was from private sources, in the form of out-of-pocket payments. Contributions to the insurance funds are income-related and largely proportional. However, as these are applicable to people earning between specified minimum and maximum amounts, the system has a regressive component: the wealthiest pay a smaller proportion of their income than the majority of the population. Voluntary insurance schemes offer coverage for co-payments and direct payments, but represent a negligible part of the market.

Box 18. Sources of health care expenditure in Slovakia, 2002

General government expenditure on health as percentage of total government expenditure: 10.3%  
 General government expenditure on health as percentage of total expenditure on health: 89.4%  
 Social security expenditure on health as percentage of general government expenditure on health: 92.7%  
 External resources: 0  
 Private expenditure on health as percentage of total expenditure on health: 10.6%  
 Private prepaid plans as percentage of private expenditure on health: 0  
 Private prepaid plans as percentage of total expenditure on health: 0  
 Out-of-pocket expenditure as percentage of private expenditure on health: 100%  
 Out-of-pocket expenditure as percentage of total expenditure on health: 10.6%

Source: WHO (2006b).

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
 Catastrophic health expenditure occurs in 0.00% (0.00–0.00%) of households.

- *Out-of-pocket payments as a proportion of total health expenditure*

Out-of-pocket payments represent 10.6% of total health expenditure. Co-payments are required for non-essential services, such as acupuncture, sterilization, abortion, cosmetic surgery, spa treatment and psychoanalysis. In 2003, co-payments were also introduced for some primary and secondary care services (per visit), and for hotel and food services. The co-payments are kept by the health facility and used to top up the income of the health providers. Of the co-payments due for prescriptions, 25% is retained by the health provider and 75% is transferred to the insurance fund. Social care institutions that offer long-term care services also charge co-payments. Specialized long-term care institutions are free of charge.

***Pooling: type of membership***

- *Ratio of compulsory membership to total membership*

Mandatory health insurance was introduced in 1994, including for long-term care. Formal-sector employees with more than a certain level of income (about 40% of the insured population) pay a mandatory contribution. The government pays health insurance contributions on behalf of the remaining 60%.

### ***Pooling: composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

The health financing scheme was originally designed on the basis of three mandatory and two voluntary schemes, but since 2004, all five health insurance funds are private, potentially for-profit companies, operating in a framework of regulated competition. The funds operate under the financial control of the Office for Supervision in Health Care. They all work throughout the country and must accept all applicants. Adverse selection has been a problem since mandatory health insurance was introduced. To control this, the risk-equalization scheme has been reformed several times, from one based on two age groups only (under and over 60 years of age) to one based on 17 age groups and sex. Health status is not currently included in the scheme.

### ***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

The first risk equalization scheme reallocated 60% of income, the current scheme 85%. This provides insurance funds with an incentive to manage the remaining 15% efficiently.

### ***Purchasing: benefit package***

- *Degree of comprehensiveness of the benefit package in relation to the disease burden*

The benefit package (2005) focuses on regulating service delivery and cost containment. It proposes a diagnosis-related reimbursement scheme with two basic categories: a list of priority diseases, or diagnostic entities, that are fully reimbursed from public health insurance, and a list of diagnostic entities that are partially reimbursed and subject to co-payment. Health care benefits in Slovakia are historically comprehensive. They include social care, which comprises long-term inpatient care, day care centres and social services for the elderly, and care for patients with chronic illness or other groups with special needs, such as those with learning disabilities, mental illness or physical disabilities. Social care is divided into so-called subsequent, special and community care. Since the 1990 reforms, programmes for the management and control of chronic diseases have been developed and a substantial number of highly specialized health care facilities built, for example, for dialysis, cardiovascular disease and cancer. A policy on substitution has been implemented, partly because the health structures inherited from the communist era were poor and needed to be replaced. Consequently, three acute care hospitals were closed and several others transformed into almost exclusively long-term care facilities, affecting over 6000 acute care beds. The number of staff in acute facilities was reduced, while that in alternative services, such as day treatment, ambulatory surgery and home care, was expanded. Because of bureaucratic difficulties, there are still waiting lists. Home nursing care was first pilot-tested in 1996 with the aim of supporting primary care delivery. Between 1997 and 2003, the number of home-care agencies increased from 2 to 173. The health care benefit package also includes social benefits for caregivers of patients with disabilities.

- *Degree of stakeholder ownership in negotiation process and quality assurance*

The benefit package and the level of co-payments are defined by a categorization committee, which has representatives from the health insurance companies, Ministry of Health and health professionals. Patient or consumer groups are not represented.

- *Availability of consumer incentives, including eligibility (exemption) criteria*

Health promotion and disease prevention are traditionally a priority in the Slovakian health system, and are financed from the government budget. There are no specific incentives to encourage healthy lifestyles. However, since 2004 the insurance funds have been operating in a framework of regulated competition, and may therefore introduce such incentives. Furthermore, although individuals are considered responsible for their health, the Ministry of Health is obliged to provide conditions suitable for the best possible health of the population. Eligibility for long-term care is established by the categorization committee. Private sector involvement in provision and financing of long-term care is increasing.

***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

Recent reforms have focused on establishing the gatekeeper function of GPs. Provider payment mechanisms have changed several times since the start of health sector reforms. Since 1998, providers of inpatient and outpatient care are paid on the basis of capitation. The maximum rates for GPs vary for children/adolescents and adults, but do not further differentiate by age (e.g. elderly), region or any other variable. In 2001, alongside the age-structured capitation, a fee-for-service payment for preventive care, including early detection of cardiovascular disease and cancer, was introduced as an incentive for primary care physicians to increase provision of these services. No differentiated payment mechanisms are in place related to long-term care. As mentioned above, there has been a shift from inpatient to outpatient care, home care and day treatment. For example, nursing care was defined as a subcategory of health care, with the intention to encourage the further development of home and community care, which is mostly delivered by qualified nurses. In 2005, the government redefined the legal status of health professionals, allowing nurses and midwives to become independent providers of health care services.

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

Since the early 1990s, the health system has been reformed from a fully state-owned system to a decentralized one, in which third-party insurers, as well as regions and municipalities, play an important role. The central government now has a stewardship role, safeguarding equitable access, controlling the insurance companies and defining the benefit package. It owns and manages a limited number of institutions and provides selected public health services. Since 2002, service provision has been based on contractual arrangements between providers and health insurance companies. The focus is on the development of so-called elastic networks of providers who are responsible for providing at least the services included in the benefit package. The package includes

nursing care, although community care is financed separately. Specific incentives to increase coordination between community care and the general health services may be required.

***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*

No information is available.

### 3.5 Thailand

***Dependency ratios and degree of priority to long-term care***

Long-term care is not a priority in Thailand in view of the needs expected on the basis of dependency ratios and other indicators. The population is ageing faster than in Germany, Denmark and Slovakia, but the proportion of elderly people is still significantly smaller. Life expectancy and healthy life expectancy are lower than in those three countries and slightly lower than in Nicaragua. Fertility rate is higher than in Germany, Denmark and Slovakia, but significantly lower than in Nicaragua. Thailand has a double burden of disease, but noncommunicable diseases are the main cause of death. Injuries represent a more important cause than in the other countries included in the study, except Rwanda. Under-5 mortality is much higher in Thailand than in Germany, Denmark and Slovakia, but lower than in Nicaragua and much lower than in Rwanda. The prevalence of AIDS in adults is second-highest of the six countries, after Rwanda; malaria is endemic and the prevalence of tuberculosis is relatively high. Rates of heart disease and stroke, in terms of DALYs lost, are similar to those in Germany, Denmark and Slovakia, and lower than in Nicaragua and Rwanda. Smoking is lower in men than in the other countries and very low in women. The prevalence of diabetes is the same as in Denmark, slightly below Germany and Slovakia. Obesity is half that in Slovakia, but higher than in Germany and much higher than in Denmark. For 2000, dependency ratios are third highest, based on two disability categories, and highest based on three disability categories. For 2050, they are third and second highest, respectively. Thailand ranks 36th lowest out of 80 middle-income countries and territories in terms of dependency ratios.

***Revenue collection: population coverage***

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

The Thai health system is predominantly financed from taxation. Universal coverage was achieved in 2002 with the introduction of the Universal Coverage Scheme (UCS). Currently, there are three public health financing schemes: the Social Security Scheme (SSS), the Civil Servant Medical Benefit Scheme (CSMBS) and the Universal Coverage Scheme (UCS), the last of which covers 75% of the population.

***Revenue collection: method of finance***

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

Health care coverage is predominantly based on prepaid contributions (74.0%). In 2002, general government expenditure on health represented 69.7% of total health expenditure, of which 21.8% was social security expenditure and 0.2% was from external resources. In addition, 30.3% of total health expenditure was from private sources, of which 75.8% was out-of-pocket payments. Under the UCS, medical treatment in participating government and private hospitals is provided for 30 Baht (approximately US\$ 0.75) a visit. Budgets are allocated to health care providers on a per capita basis. The UCS is, in principle, regressive (a flat payment per visit, not based on capacity to pay). However, it is less regressive than the previous system, which was predominantly financed from unregulated out-of-pocket payments. Because most people in Thailand work in the informal sector, the possibilities to collect sufficient revenue on the basis of income-related contributions are limited.

Box 19. Sources of health care expenditure in Thailand, 2002

General government expenditure on health as percentage of total government expenditure: 16.8%  
 General government expenditure on health as percentage of total expenditure on health: 69.7%  
 Social security expenditure on health as percentage of general government expenditure on health: 21.8%  
 External resources: 0.2%  
 Private expenditure on health as percentage of total expenditure on health: 30.3%  
 Private prepaid plans as percentage of private expenditure on health: 14.2%  
 Private prepaid plans as percentage of total expenditure on health: 4.3%  
 Out-of-pocket expenditure as percentage of private expenditure on health: 75.8%  
 Out-of-pocket expenditure as percentage of total expenditure on health: 23.8%

Source: WHO (2006b).

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
 Catastrophic health expenditure occurs in 0.80% (0.70–0.89%) of households. Data are not available per socioeconomic group.

- *Out-of-pocket payments as a proportion of total health expenditure*  
 Out-of-pocket payments represent 23.8% of total health expenditure, which indicates that the benefit package is limited and that a significant number of services are purchased on the private market.

***Pooling: type of membership***

- *Ratio of compulsory membership to total membership*  
 The UCS is mandatory for all Thai citizens who are not insured by another public insurance scheme. The CSMBS covers civil servants and their immediate family members, including spouse, parents and up to three children under the age of 20 years. It also covers retirees and their dependants. The SSS provides mandatory coverage to workers in the formal sector: since 1991, when it applied to firms with more than 20 workers, its coverage has increased, and since 2001 it is mandatory for firms with more than one worker and for the self-employed. The number of workers insured increased from 3.2 in 1991 to 8.0 million in 2004, excluding dependants.

***Pooling: composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

There are three separate funds in Thailand: the SSS, the CSMBS and the UCS. The main fund, UCS, operates as a single fund. There is no risk equalization between the schemes, which cover different population groups and have their own regulations and benefit packages.

***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

There do not seem to be specific efficiency incentives for risk pools, and there is no competition between the funds. Cost containment is pursued through the prioritization of primary care and through budget control.

***Purchasing: benefit package***

- *Degree of comprehensiveness of the benefit package in relation to the disease burden*

Since 1997, health is considered a basic right in Thailand. Since 2002, there is universal coverage and an obligatory gatekeeper system at the primary level. The health system has three pillars: personal care (National Health Security Office), public health services (Ministry for Public Health) and social welfare (Department of Social Welfare of the Ministry of Labour and Social Welfare), which includes all state-owned social services, including long-term care. Personal care is covered by the three different financing schemes. The CSMBS covers outpatient and inpatient care, including a private room, emergency services and drug expenses. It excludes non-essential services, such as cosmetic surgery and preventive services, except for annual health checks. Beneficiaries can seek care from any public health facility; expenses incurred at private clinics are not reimbursed. SSS insured workers are entitled to a comprehensive service package, including ambulatory and inpatient care. The scheme covers non-work-related illness, maternity, invalidity, a funeral grant, child benefits, old age pensions and unemployment benefits. Since recently, blood dialysis and antiretroviral therapy are also covered.

Under the UCS, primary care centres provide community health services. The package covers most health services, except cosmetic care, childbirth beyond two pregnancies, treatment for drug dependence, organ transplants, infertility treatment and certain other high-cost interventions. Personal preventive and health promotion services are part of the benefit package. In 1991, a law on the rehabilitation of the disabled was enacted, making available certain prosthetic supports. The growing need for long-term care is recognized in Thailand, particularly for HIV/AIDS patients and the elderly. Community-based care for HIV/AIDS patients is largely supported by external donor funds. The production of long-term care programmes for the elderly is encouraged since the development of the first and second National Long-term Plans for Older Persons in 1986 and 2001, respectively. Residential homes for destitute and homeless elderly have been financed by the government since 1956.

<p><b>Box 20. Care of the elderly in Thailand</b></p> <p>In Thailand, care for the elderly is provided through:</p> <ul style="list-style-type: none"> <li>• hospital-based rehabilitation services (but not everywhere, because of lack of funding and staff);</li> <li>• home care (all 92 provincial hospitals, but fewer than 10% of community hospitals). “Health-promoting hospitals” provide a continuum of services, from health promotion to rehabilitation. A new initiative refers to health teams providing continuous health care to people with chronic disease.</li> </ul>
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- emergency home care (up to 15 days);
- nursing care (private services);
- community self-help groups and civic groups working in health care (elderly and HIV/AIDS patients);
- mobile units (social workers, nurses, specialists who visit the elderly);
- temples, social service centres, social organizations;
- rehabilitation services in the community;
- institutional and residential care.

Sources: Brodsky, Habib & Hirschfeld (2004); Jitapunkul, Chayovan & Kespichayawattana (2002).

Box 20 lists a number of services that provide some components of long-term care for the elderly in Thailand. These services are not available everywhere and are not always included in the benefit package. Most of the activities, e.g. nursing home, residential and day-care services, are organized by for-profit private hospitals or religion-linked, not-for-profit, nongovernmental organizations.

- *Degree of stakeholder ownership in negotiation process and quality assurance*  
Civil society has long been involved in health in Thailand, first in the form of village health volunteers and communicators, and later through the participation of community members in formal administrative structures and grass-roots organizations. Since the adoption of the 1997 Constitution, representatives of civil society groups are legally accepted members of many administrative committees. During the past 20 years, civic movements have become part of social and political movements in Thailand. In the health sector, these are supported by newly established bodies in the Ministry of Public Health, such as the Health Care Reform Office, the Health System Reform Office and the Health Systems Research Institute. Civic groups have become the prime movers in many health development initiatives, including the National Health Security Act and the National Health Act (which was the basis of the UCS).

- *Availability of consumer incentives, including eligibility (exemption) criteria*  
Prevention and health promotion are part of the health system in Thailand, but there are no incentives to encourage healthy lifestyles at the individual level. Eligibility for public nursing homes is established by the government: only poor and destitute elderly are eligible.

***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

Thailand has a kind of family doctor or gatekeeper system. Patients must register with a Contracted Unit for Primary Care (CUP) to obtain a universal health card. This card must be shown, together with a national identity card, when a person applies for health services through governmental or private health service providers registered under the scheme. Access to hospital care requires CUP referral, except in the case of accidents and emergencies. Health care providers are paid on a capitation basis. They also receive performance-related payments for outpatient care and there is a case-based payment system, using Diagnosis-Related Groups (DRG), with a global budget for inpatient care. These payment mechanisms do not apply to long-term care, as defined here, which is mainly purchased on the private market.

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

As mentioned above, the Thai health system is vertically fragmented into personal care, public health services and social welfare, which includes all state-owned social services. The coordination between the different institutions is said to be suboptimal, which compromises efficiency. There is a focus on the development of integrated care programmes at the primary and secondary level, including disease prevention and health promotion. These include nutritional, dental, and mother and child health programmes, provided through community services (involving village volunteers), and outreach services and innovative home- or community-based programmes developed by community, general and regional hospitals. Furthermore, reportedly to overcome the so-called traditional, bureaucratic boundaries between health and social services, “home helpers” were introduced some years ago. This led to the foundation of a school for such helpers, which, as mentioned earlier, has been criticized by the Nursing Council because of concerns about the quality of care and violation of professional nursing standards.

***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*

No information is available.

### 3.6 Nicaragua

***Dependency ratios and degree of priority to long-term care***

The population over 60 years of age is relatively small and not yet increasing very rapidly. Life expectancy and healthy life expectancy are slightly higher than in Thailand, but fertility rates are nearly double. Mortality due to communicable and noncommunicable diseases and injuries is lower than in Thailand; the prevalence of noncommunicable diseases is lower than in all other selected countries, but similar to that in Rwanda. Under-5 mortality is higher than in Thailand, but much lower than in Rwanda. The prevalence of AIDS in adults is as low as in Denmark; malaria is endemic, but the prevalence of tuberculosis is less than 50% of that in Thailand. Heart disease and stroke have a relatively high impact in Nicaragua in terms of lost DALYs. Diabetes is relatively low, but the risk factor obesity is projected to be more prevalent in Nicaragua by 2010 than in the other five countries. Dependency ratios are below the averages for low-income countries in 2000 and close to the averages in 2050. In 2000, Nicaragua ranks lowest of 58 low-income countries and territories, and has the lowest dependency ratios of the six countries included in this study.

***Revenue collection: population coverage***

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

The current health system has three tiers. Universal coverage is provided by the publicly funded services provided by the Ministry of Health (*Ministerio de Salud*, MINSa). About 8% of the population – salaried workers in the government and industry and their families – are also covered through an income-related contribution to the Nicaraguan Social Security Institute (*Instituto Nicaragüense de Seguridad Social*, INSS). Others who are willing to pay can also participate in this scheme. Finally, the wealthiest 2% of the

population uses the private sector and, if necessary, purchases specialized treatment abroad.

**Revenue collection: method of finance**

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

The proportion of prepaid contributions is 51.1%. Private expenditure on health is almost half of total health expenditure, which means that the population is highly vulnerable to catastrophic health expenditure.

Box 21. Sources of health care expenditure in Nicaragua, 2002

General government expenditure on health as percentage of total government expenditure: 15.2%  
General government expenditure on health as percentage of total expenditure on health: 49.1%  
Social security expenditure on health as percentage of general government expenditure on health: 28.1%  
External resources: 9.3%  
Private expenditure on health as percentage of total expenditure on health: 50.9%  
Private prepaid plans as percentage of private expenditure on health: 4.0%  
Private prepaid plans as percentage of total expenditure on health: 2.0%  
Out-of-pocket expenditure as percentage of private expenditure on health: 96.0%  
Out-of-pocket expenditure as percentage of total expenditure on health: 48.9%

Source: WHO (2006b).

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
Catastrophic health expenditure occurs in 2.05% (1.76–2.34%) of households. Data are not available per socioeconomic group.

- *Out-of-pocket payments as a proportion of total health expenditure*

Only basic health care is free for all at the point of use. For other services, direct payments are required. This explains why out-of-pocket payments are high.

**Pooling: type of membership**

- *Ratio of compulsory membership to total membership*

The health financing system is tax-based: MINSa is fully financed through taxes. However, as there is a large informal sector, income tax revenue is limited (but growing). The main taxes are value-added tax (VAT) and other forms of taxation, such as corporate tax and import duties. In our scheme, these are not reported as compulsory contributions. As mentioned above, about 8% of the population (civil servants and industrial workers) participate in the mandatory social security scheme (INSS).

**Pooling: composition and fragmentation of pools**

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

MINSa is a single fund, but it devolves budgets to SILAIS<sup>11</sup> and hospitals that operate relatively autonomously. INSS<sup>12</sup> and the private insurance schemes operate

<sup>11</sup> *Sistema Local de Atención Integral en Salud* or Local System of Integrated Attention for Health, to which MINSa has devolved powers during the past decade. At the same time, private sector participation was encouraged and performance-based contracting agreements with hospitals, health centres and NGOs introduced.

independently. No risk equalization exists between different SILAIS and hospitals. As the SILAIS are allowed to keep their revenue in order to encourage efficiency and quality, interprovincial inequities are expected to increase and may need to be addressed in the future.

### ***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

Efficiency incentives are provided to hospitals through a bonus system that rewards increased productivity (number of inpatients as compared with average of previous three years), organization (establishment of medical departments), management (explicit formulation of a management plan), quality (rates of complaints, reinfection, etc.) and the inclusion of funds for operational costs (energy, utilities) in the devolved budgets.

### ***Purchasing: benefit package***

- *Degree of comprehensiveness of the benefit package in relation to the disease burden*

The Ministry of Health is the leading health service provider at both the primary and the secondary care levels. It has devolved powers to the *SILAIS* and the *Casas Base*.<sup>13</sup> The private health sector consists of eight hospitals, private medical and dental practices and clinics providing outpatient care, clinical laboratories, and diagnostic imaging centres. The Nicaraguan health system is largely focused on the management and control of communicable diseases, but the need for reform has been recognized. There are vertical programmes that promote care for the elderly and diabetes patients, the latter initiated by the Central America Diabetes Initiative (CAMDI). The Initiative estimates that, while the Nicaraguan population will grow by 33% by 2025, the proportion with diabetes will increase by 80%. In an address to the Second World Assembly on Ageing, the Minister for the Family confirmed that pensioners are covered by the INSS, but that around 85% of the elderly have no social security. MINSA is not specialized in gerontology. A *Consejo del Adulto Mayor* (Advisory Committee on Ageing) will be created to coordinate activities for the elderly at an interinstitutional level (INSS, MINSA, and others). Home-based long-term care is not a priority as a public programme. There are no programmes to support and monitor informal care, except for some conditional cash credit programmes, such as the Social Protection Network (Nigenda & González-Robledo, 2005), which focus on child health, including immunization and nutrition. Home-based care can be purchased in the private (formal or informal) sector.

- *Degree of stakeholder ownership in negotiation process and quality assurance*

The benefit package is defined by MINSA and INSS. Stakeholder involvement has increased over the past decade, specifically for health care providers, as hospitals and health centres operate more and more autonomously. However, the participation of consumers or patients in the health care decision-making process is low. In hospital performance agreements, the rate of patient complaints is used as an indicator of quality.

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<sup>12</sup> INSS no longer provides services, but purchases these through the *Empresas Médicas Previsionales (EMPs)*. These are generally private, accredited institutions financed by premiums of their members. Around 20 % of the EMPs belong to MINSA.

<sup>13</sup> Base houses: these constitute the first health care contact, through a community volunteer health worker or midwife trained by the Ministry of Health. According to the National Health Plan, the houses are organized by the community, with the purpose of promoting self-care and implementing disease prevention, health promotion and basic care through these community volunteers, in coordination with local health units (CARE Nicaragua, 2005).

The Regulations Office investigates and responds to complaints about the handling or treatment of patients in public health care facilities, and conducts audits of the quality of health care.

- *Availability of consumer incentives, including eligibility (exemption) criteria*  
MINSA is responsible for public health programmes, including those for the prevention and control of the main diseases. There are no incentives at the individual level. The introduction of “sin taxes” (on alcoholic beverages, cigarettes, etc.) is being considered.

***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

Health care providers in the public sector were previously poorly paid, but recently performance-based payment mechanisms were introduced, aimed at increasing the quality and efficiency of their work. There are incentives to encourage the production of private health care, but none to encourage consumers to use the appropriate level of care, to enhance substitution or to produce home-based long-term care.

- *If vertical fragmentation exists, availability of incentives to encourage integration/coordination with other services*

The health system is fragmented between MINSA, INSS and private organizations. There are no specific measures to promote coordination between the different service providers, and no incentives or mechanisms to integrate health and social services.

***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*  
No information is available.

### 3.7 Rwanda

***Dependency ratios and degree of priority to long-term care***

The population over 60 years of age is relatively small in Rwanda and not yet increasing rapidly. Life expectancy and healthy life expectancy are far below those of the other countries included in this study, while fertility rates are far higher. Communicable diseases are responsible for the major part of the burden of disease, but noncommunicable diseases are higher than in Nicaragua, and injuries represent a far higher burden than in the other five countries. Under-5 mortality is more than 10 times higher than in Denmark, Germany and Slovakia, while the prevalence of AIDS in adults is three times that in Thailand, and 25 times that in the other countries. The prevalence of malaria and of tuberculosis is higher than in Nicaragua and Thailand. Heart disease and stroke are responsible for more DALYs lost in Rwanda than in the five other countries, but diabetes prevalence is lowest there. Rwanda is the only country of the six studied that has no regulations about smoking in public buildings. Obesity projected for 2010 is relatively low, particularly in men. Dependency ratios in 2000 are slightly above the average for low-income countries when two disability categories are considered, and slightly below the average when three categories are considered. For 2050, they are above the average in both cases. Rwanda’s dependency ratios are the 25th lowest of 58 low-

income countries and territories. The country has the highest dependency ratios of the six countries included here for 2000 and 2050, based on two disability categories, but is 4th and 5th, respectively, based on three disability categories.

**Revenue collection: population coverage**

- *Percentage of the population covered by prepayment schemes (and per socioeconomic group)*

The system is traditionally tax-based, but has incorporated cost-recovery through user fees since the 1980s. In 2002, the main sources of revenue for the health system were external funding and out-of-pocket payments. The government supports the expansion of voluntary community health financing schemes (*mutuelles*) to decrease the proportion of out-of-pocket payments and increase access. It has started to design a national health insurance scheme aimed at achieving mandatory universal coverage within the next few years. Current coverage by the voluntary community health insurance schemes is around 30%.

**Revenue collection: method of finance**

- *Ratio of prepaid contributions to total health care costs (and per socioeconomic group)*

The proportion of prepaid contributions is 57.3%. Private health expenditure is lower than in Nicaragua. This may be an indication that people do not use the services because of the financial barriers imposed by cost-recovery.

**Box 22. Sources of health care expenditure in Rwanda, 2002**

General government expenditure on health as percentage of total government expenditure: 13.4%  
 General government expenditure on health as percentage of total expenditure on health: 57.2%  
 Social security expenditure on health as percentage of general government expenditure on health: 0.6%  
 External resources: 32.8%  
 Private expenditure on health as percentage of total expenditure on health: 42.8%  
 Private prepaid plans as percentage of private expenditure on health: 0.3%  
 Private prepaid plans as percentage of total expenditure on health: 0.13%  
 Out-of-pocket expenditure as percentage of private expenditure on health: 65.2%  
 Out-of-pocket expenditure as percentage of total expenditure on health: 27.9%

Source: WHO (2006b)

- *Percentage of households with catastrophic spending (and per socioeconomic group)*  
 Catastrophic health expenditure in Rwanda has not been calculated, but is expected to be relatively high, as a result of the high proportion of out-of-pocket payments.

- *Out-of-pocket payments as a proportion of total health expenditure*  
 Out-of-pocket payments are 27.9% of total health expenditure; this is high.

**Pooling: type of membership**

- *Ratio of compulsory membership to total membership*

The health financing system is tax-based. As there is a large informal sector, tax revenue comes mainly from VAT and import duties. In our scheme these are not reported as compulsory contributions. Membership of the *mutuelles* is not compulsory, but this may change under the new scheme.

***Pooling: composition and fragmentation of pools***

- *If horizontal fragmentation exists, the capacity of risk equalization to control risk selection*

There are multiple community health funds and a single tax-based fund. There is no risk equalization.

***Pooling: management of pools***

- *Availability of efficiency incentives for risk pools*

Not applicable.

***Purchasing: benefit package***

- *Degree of comprehensiveness of the benefit package in function of the disease burden*  
The health sector priorities identified in the Health Sector Strategic Plan (HSSP) 2005–2009 are: transmissible diseases (malaria, HIV/AIDS and sexually transmitted infections, tuberculosis, epidemic and disaster prevention, management and response), integrated management of childhood illnesses, expanded programme on immunization, reproductive health, nutrition, noncommunicable diseases (mental health, blindness and physical disability), environmental health and health promotion. With respect to HIV/AIDS, the focus is on preventive activities, the integration of treatment programmes, and the reinforcement of the entire system. Tuberculosis programmes will also be integrated in the basic health services. Nutrition activities will be planned, coordinated and supervised by a district health team: health facilities will provide nutrition services and supervise community health workers. Mental health is now included in the Essential Health Care Package, as well as eye care and services to prevent and treat physical disabilities, and to help the disabled to (re)integrate into society. There are non-financial incentives to encourage the involvement of the community in health, in terms of both epidemiological surveillance and care. Information, education and communication (IEC) activities are planned to promote behavioural change and increase intersectoral collaboration and community participation. Home-based long-term care is not included in the benefit package; there are no programmes to formally support and monitor informal care.

- *Degree of stakeholder ownership in negotiation process and quality assurance*

The benefit package is defined by the Ministry of Health. There are no formal structures through which other stakeholders can participate in the definition and monitoring of the benefit package.

- *Availability of consumer incentives, including eligibility (exemption) criteria*

In its Strategic Plan, the government focuses strongly on community participation through health committees, community health workers and community financing schemes. There are no incentives at the individual level. Exemption schemes exist, but are not standardized or reinforced.

### ***Purchasing: provider payment mechanisms***

- *Availability of provider payment mechanisms to encourage use of appropriate care level*

The genocide in 1994 severely damaged the health infrastructure in Rwanda. The current government has maintained its role as provider in an effort to expand the public sector network, but has also started to strengthen its role as steward and regulator. It has introduced contracting and has started to encourage private sector provision alongside the existing network of religious and traditional health care providers. In recent years, the government has received extensive support from international organizations to rebuild and further develop the system. With respect to provider payment mechanisms, performance-based payment schemes are emerging. There are incentives to encourage the production of private health care, but not to produce home-based long-term care services, or to encourage substitution.

- *If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services*

The health system is fragmented into public and private services, and no specific measures are in place to encourage coordination between the different services and service providers. There are no specific incentives or mechanisms to integrate health and social services.

### ***Purchasing: administrative efficiency***

- *Percentage of expenditure on administrative costs*

No information is available.

## 3.8 Comparative analysis

Dependency ratios, as well as other determinants, indicate that long-term care needs are growing across the world. On average, dependency ratios based on the two or three severest disability categories are currently highest in low-income countries, but will be highest in high-income countries by 2050. The ranges for the three country groups are wide; in Ghana, for example, ratios are currently in the highest range (like many low-income countries), and expected to remain high in 2050 (unlike many other low-income countries).

Long-term care programmes in many high-income countries are fairly mature, mainly focused on the elderly, and often developed separately from other health services. In these countries, the integration of long-term care into chronic care programmes is expected to increase the efficiency of the health and social systems.

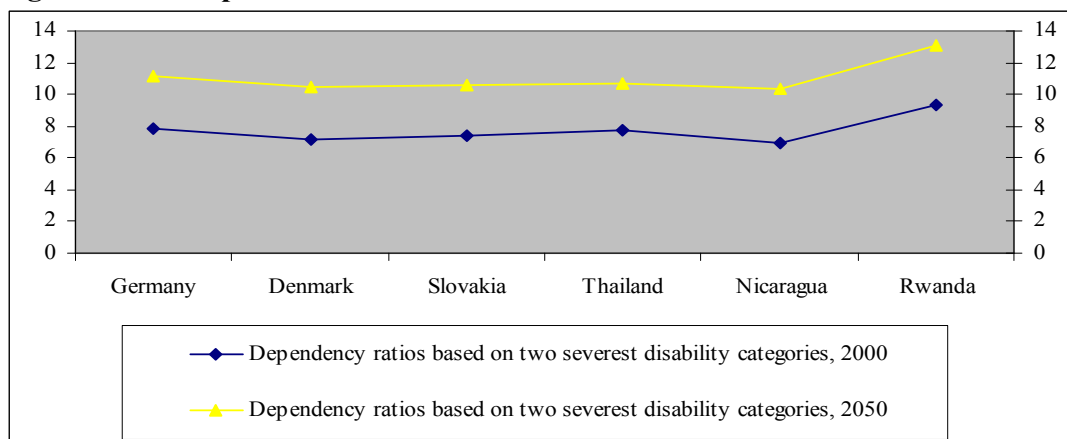
In middle- and low-income countries, various developments are taking place. In Slovakia, chronic and long-term care programmes are to a large extent integrated in the health financing scheme and benefit package. The programmes include a variety of home-based and institutional services, which have different levels of co-payments and direct payments. In Thailand, long-term care is growing in the private sector, targeting the affluent elderly, while public programmes provide institutional care for the poor.

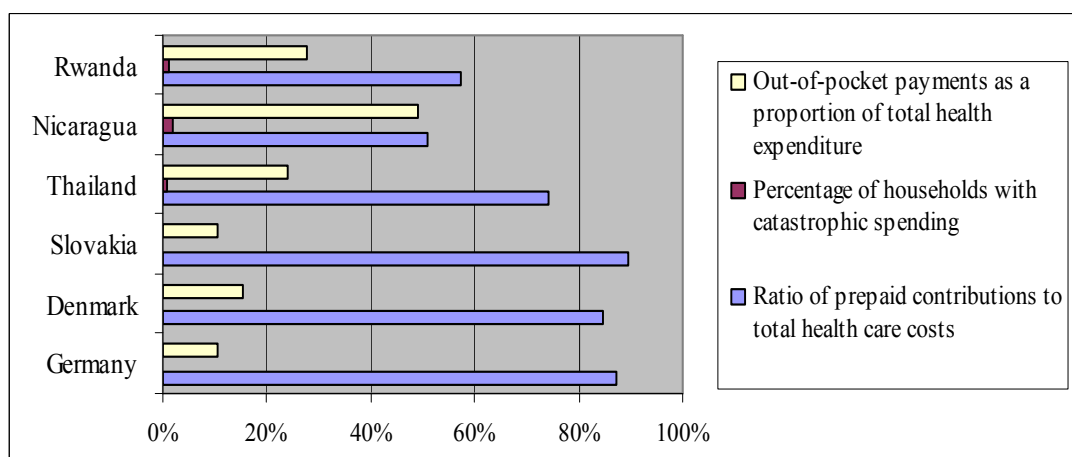
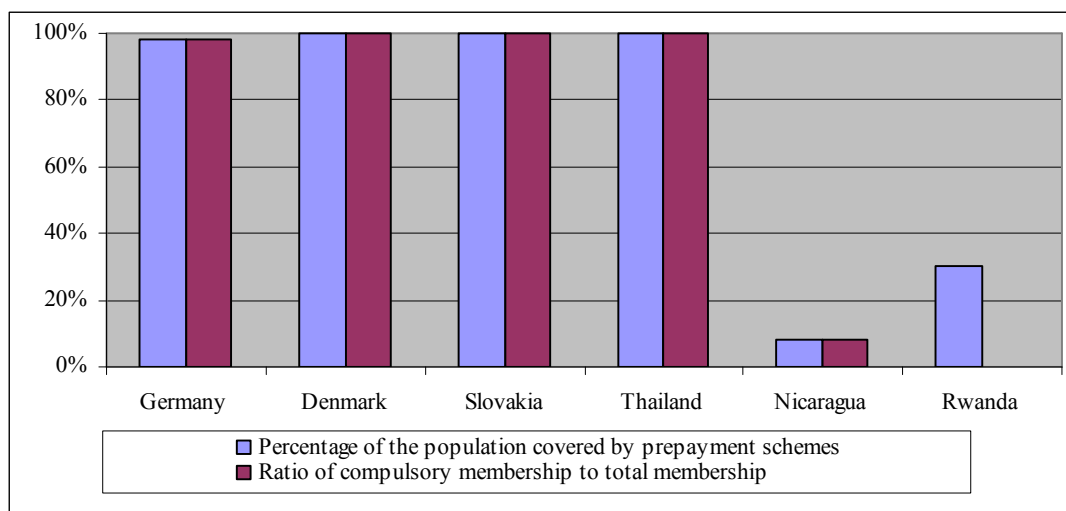
HIV/AIDS treatment and care programmes may eventually push the development of chronic care programmes, including long-term care. In Nicaragua, diabetes and other noncommunicable diseases are triggering the development of integrated care programmes; home-based long-term care is available only in the private sector. In Rwanda, chronic care is primarily associated with the needs of people disabled by war or violence, blind people and those with chronic communicable disease, such as tuberculosis and HIV/AIDS. Home-based long-term care is limited to the private sector. Table 13 provides a summary overview of the country study findings, while Fig. 10 illustrates selected performance indicators.

In general terms, the country studies indicate that governments in low- and middle-income countries are becoming more aware of the need to develop special programmes for people with chronic conditions. However, home-based long-term care is not usually included in public health financing schemes. It should be recognized that, if such services are provided only by the private sector, the financial performance of the health system may be affected, increasing the level of out-of-pocket payments. Long-term care services purchased out-of-pocket are accessible only to those who can afford to pay, and may further compromise the financial capacity of low-income households. The development of public long-term care programmes in relation to need, on the other hand, is expected to contribute to the development of a more comprehensive and efficient health system.

It is recognized that additional resources are needed to develop public long-term care programmes. However, the substitution of acute and institutional care by home- and community-based long-term care services may be an option, as has happened in Slovakia. Furthermore, middle- and low-income countries could learn from the experiences in high-income countries, providing support to the informal sector and to local NGOs, thus increasing the opportunities for, and impact of, community participation and volunteer work, where possible. Finally, long-term care programmes need to be developed in accordance with local customs and values and according to local health priorities, and taking into account available resources and skills.

**Fig. 10. Selected performance indicators for the six countries**





#### 4. Conclusion

Following the guidelines of the National Health Accounts, long-term care in this paper referred to services that are part of the health or the social system. Dependency ratios, including all age groups, were used, among other determinants, to estimate long-term care needs at the country level and an analysis was presented of how long-term care is financed across the world. In different countries, different triggers are currently making governments aware of the need to develop chronic care programmes. In a number of middle- and low-income countries, these programmes are increasingly provided in the home and community environment, but only a few include publicly financed long-term care. This document has presented the rationale for governments and donors to increase the level of public resources going to long-term care, arguing that – in the face of changing care needs – health systems with well organized long-term care programmes, implemented at the appropriate level, are well placed to address those more cost-effectively.

With respect to financing of long-term care, this study has highlighted a number of issues. Firstly, fragmented health financing schemes have shown to be an obstacle for optimal health system performance in some high-income countries. Middle- and low-income countries should focus more on the financing function as a tool to support health care organization, including long-term care. Secondly, the level of stakeholder involvement in decision-making processes is low in many countries. Particularly consumers are underrepresented in middle- and low-income countries. To increase health system efficiency, including long-term care, patient organizations should be technically and legally empowered to claim their rights as consumers, purchasers and providers of care. Thirdly, provider payment mechanisms for long-term care are often not strategically designed. Reform in this respect could increase efficiency. Fourthly, there is a lack of evidence about the impact of long-term care programmes on health system performance, including the potential of substitution and reorganization. More research is needed to understand how the programmes can achieve their highest potential. Analyses should include the impact of prevention and health promotion programmes on health system efficiency, considering long-term care as a tool for secondary prevention. Fifthly, more research is needed to understand the impact of consumer incentives on health systems efficiency. Sixthly, particularly in low-income countries, even when coverage is relatively high, benefit packages are often limited. This increases the risk of catastrophic health expenditure and unmet need (under-utilization), including long-term care.

In conclusion, demands for long-term care are increasing in countries at all income levels. Low- and middle-income countries need to begin to develop health financing systems that can meet these demands in an efficient and equitable manner. Decisions will be needed on how to collect revenues for long-term care, whether and how to pool them, and how to use the funds to purchase or provide services. The experiences of high-income countries, described here, can help to understand the strengths and weaknesses of different options, but in the end solutions will need to be tailored to the traditions, institutions and needs of each country.

**Table 13: Comparative analysis of the six countries**

<b>STEP 1: POSITIONING</b>	<b>Germany</b>	<b>Denmark</b>	<b>Slovakia</b>	<b>Thailand</b>	<b>Nicaragua</b>	<b>Rwanda</b>
Dependency ratios for two (three) severest disease categories, 2000	7.8 (11.7)	7.2 (10.0)	7.4 (12.5)	7.7 (13.1)	6.9 (8.9)	9.3 (10.4)
Dependency ratios for two (three) severest disease categories, 2050	11.2 (17.0)	10.5 (14.6)	10.6 (18.2)	10.7 (17.8)	10.4 (13.1)	13.1 (14.0)
Degree of priority to long-term care	High	High	High	Medium	Medium	Medium
<b>STEP 2: PERFORMANCE</b>						
Percentage of the population covered by prepayment schemes (and per socioeconomic group)	98%	100.0%	100.0%	100.0%	8.0%	30.0%
Ratio of prepaid contributions to total health care costs (and per socioeconomic group)	87.1%	84.5%	89.4%	74.0%	51.1%	57.3%
Percentage of households with catastrophic spending (and per socioeconomic group)	0.03%	0.07%	0.00%	0.80%	2.05%	1.00%*
Out-of-pocket payments as a proportion of total health expenditure	10.4%	15.4%	10.6%	23.8%	48.9%	27.9%
Ratio of compulsory membership to total membership	98%	100.0%	100.0%	100.0%	8%	0%
If horizontal fragmentation exists, the capacity of the risk equalization scheme to control risk selection	n.a.	Medium	Medium	n.a.	n.a.	n.a.
Availability of efficiency incentives for risk pool(s)	High	Medium	High	?	?	?
Degree of comprehensiveness of the benefit package in relation to the disease burden	High	High	High	Medium	Low	Medium
Degree of stakeholder ownership (involvement in negotiation process and quality assurance)	High	High	Medium	Medium	Low	Low
Availability of consumer incentives, including eligibility (exemption) criteria	High	Medium	Medium	Medium	Medium	Medium
Availability of provider payment mechanisms to ensure use of the appropriate level of care	Medium	Medium	Medium	Medium	Low	Low
If vertical fragmentation exists, availability of incentives to encourage integration or coordination with other services	Medium	Medium	High	Medium	Low	Low
Percentage of expenditure on administrative costs	?	Targets	?	?	?	?

\* Catastrophic health expenditure has not been calculated for Rwanda, but to facilitate comparison with the other countries it is estimated at 1.00% given that the out-of-pocket payments in Rwanda, to which it is related, are slightly above those in Thailand and almost half of those in Nicaragua.

<b>Annex 1. Key health and health expenditure indicators</b>						
	<b>Germany</b>	<b>Denmark</b>	<b>Slovakia</b>	<b>Thailand</b>	<b>Nicaragua</b>	<b>Rwanda</b>
World Bank list of economies, income group, July 2005	High income, OECD	High income, OECD	Upper-middle income	Lower-middle income	Low income	Low income
World Bank list of economies, indebtedness, July 2005	Debt not classified	Debt not classified	Moderately indebted	Moderately indebted	Severely indebted	Severely indebted
Disability adjusted life expectancy (DALE) rank, 1999*	22	28	42	99	117	185
DALE, total population at birth, 1999 (years)	70.4	69.4	66.6	60.2	58.1	32.8
Life expectancy at birth, males, 1999 (years)	73.7	72.9	68.9	66.0	64.8	41.2
Life expectancy at birth, females, 1999 (years)	80.1	78.1	76.7	70.4	68.8	42.3
Percentage of total life expectancy lost to disability, 1999	8.3	8.4	9.1	11.8	13.0	22.6
Per capita GDP in international dollars, 2002	25 842.00	29 227.00	12 257.00	7248.00	2590.00	895.00
Total expenditure on health as % of GDP, 2002	10.90	8.80	5.90	4.40	7.90	5.30
Per capita total expenditure on health in international dollars, 2002	2817.00	2583.00	723.00	321.00	206.00	48.00
General government expenditure on health as % of total expenditure on health, 2002	78.50	82.90	89.40	69.70	49.10	57.20
General government expenditure on health as % of total general government expenditure, 2002	17.60	13.10	10.30	16.80	15.20	13.40
Per capita government expenditure on health in international dollars, 2002	2212.00	2142.00	646.00	223.00	101.00	27.00
Social security expenditure on health as % of general government expenditure on health, 2002	87.40	0.00	92.70	21.80	28.10	0.60
External resources for health as % of total expenditure on health, 2002	0.00	0.00	0.00	0.20	9.30	32.80
Private expenditure on health as % of total expenditure on health, 2002	21.50	17.10	10.60	30.30	50.90	42.80
Prepaid plans as % of private expenditure on health, 2002	39.90	9.40	0.00	14.20	4.00	0.30
Out-of-pocket expenditure on health as % of private expenditure on health, 2002	48.20	89.80	100.00	75.80	96.00	65.20
Dependency ratio,** 2 severest GBD disability categories, 2000 (%)	7.8	7.2	7.4	7.7	6.9	9.3
Dependency ratio, 2 severest GBD disability categories, 2050 (%)	11.7	10.0	12.5	13.1	8.9	10.4
Dependency ratio, 3 severest GBD disability categories, 2000 (%)	11.2	10.5	10.6	10.7	10.4	13.1
Dependency ratio, 3 severest GBD disability categories, 2050 (%)	17.0	14.6	18.2	17.8	13.1	14.0
Inpatient long-term care as % of total health expenditure, 2003 <sup>14</sup>	8.0	18.0	0.0			
Long term care, National Health Accounts, 2003	8.0	17.2	Not reported	Not reported	Not reported	Not reported

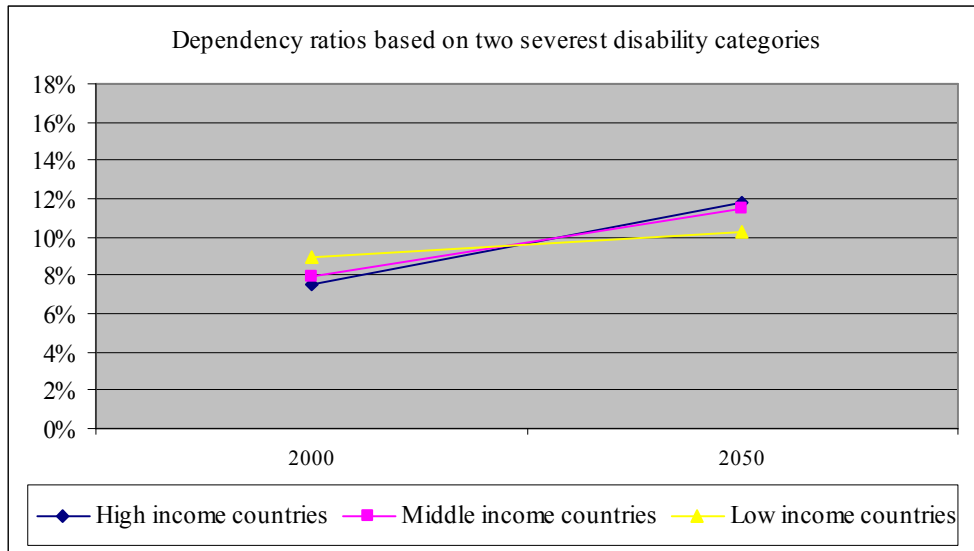
\*Mathers et al. (2000).

\*\*Total number of dependent people in relation to population aged 15–59 years.

<sup>14</sup> OECD (2005)

<b>Annex 2. Comparison of long-term care financing schemes in different high-income countries*</b>							
	<b>Denmark</b>	<b>Germany</b>	<b>Netherlands</b>	<b>France</b>	<b>Austria</b>	<b>Japan</b>	<b>USA</b>
Unlimited entitlement	x						
Limited entitlement		X	X	X		X	
Budget							X
Dedicated tax/premium	local taxes	1.7% of wages (shared by employers and employees)	9.6% included in income tax up to ceiling; after that flat rate.			0.9% of income for workers 40–64 years old; shared by employers and employees + sliding scale premium for over-65s (dedicated tax: general funds=50:50)	
General funds				X	X		X
Cost-sharing, home care	none	none (up to budgeted limit)	co-payment per hour of care, reduced for people on low income (av. 12% of costs)	income + disability-related fixed contribution	None	10% co-insurance	
Cost-sharing, nursing-home care	15% of income for rent, fees for heating, electricity and other services	100% of hotel costs, at least 25% of total cost	11% of income up to monthly maximum		80% of cash benefit, plus part of pension	10% co-payment plus \$200 a month for food	
Expected care level needed		90 minutes a day			8 h home help and 4 h nursing per week		
Expected care level funded		33 minutes a day			50 hours of care per month		
Eligibility criteria		strict criteria	“holistic” evaluations by teams that may include nurses, social workers, and other professionals.				some subjective, some objective systems
Minimum eligibility standard	1 ADL + 4 IADL	2 ADL + need for 90 minutes help a day		3 ADL	1 ADL + need for 50 hours of care per month	Needs 25–29 minutes care per day, meets other specified criteria	2 ADL
Percentage of elderly eligible	10% of over-70s	5.6% of 60–80-year-olds, 18% of over-80s			21% of over-65s	14% of over-65s	7–8% of over-65s
No. of levels of care		3		4	7	6	

\* Source: Merlis (2004).



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