CHAPTER 6

Health

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Following the dissolution of central planning, most Europe and Central Asia (ECA) region countries began to implement a series of health care reforms. The reforms represented a move away from the traditional "Semashko" health care model prevalent in the former Soviet Union—centrally planned, hospital based, with virtually free universal access to most services and central financing through general revenues. Some countries successfully implemented social health insurance (SHI) schemes with reforms in health care financing and delivery systems, while others maintained the old state-budget financing formula. Not all reforms to date have been fully successful, however. Some health care systems have become financially unsustainable, and others have failed to improve health outcomes or provide increased access to the majority of the population at affordable prices.

This chapter has four objectives: (a) to address the relationship between health spending and economic growth; (b) to describe current patterns of health care financing and spending, the prevailing funding models for health care, and the relationship of these variables to health outcomes; (c) to consider the influence of efficiency and governance on the link between public spending and health outcomes; and (d) to identify some of the challenges that ECA countries

face in the health arena and draw lessons from international experience. The analysis in the chapter concentrates on the sample of ECA and high-growth comparator countries selected for particular focus in the overall study.

Consistent with the literature, the analysis in this chapter finds that there is no systematic relationship between the particular model of health care financing and the level of public health spending or health outcomes in the sample of countries considered. The level of public health spending is only tenuously related to health outcomes, and other factors such as governance and efficiency greatly influence the relationship. International focus countries have initiated various reforms to improve governance and efficiency, from which ECA countries can draw lessons. ECA countries face other challenges as well, including improving access to health care, handling aging populations, and ensuring financial sustainability in health care provision; international comparator countries also provide successful examples of dealing with these issues.

Health Outcomes and Economic Growth

The modern growth literature shows the importance of human capital in determining the pace and character of economic growth (Barro 1991; Benhabib and Speigel 1994; Van Zon and Muysken 2001). However, human capital is usually broadly defined, and most of the research has focused on education. The relationship between health and economic growth has recently regained attention, both theoretically and empirically. Bloom and Canning (2000) propose a model in which economic growth is driven by knowledge accumulation and labor services by healthy people. They argue that the share of healthy people in the population determines the extent to which potential labor services embodied in the population can be used effectively, and healthy hours spent for knowledge accumulation lead to economic growth. Howitt (2005) lays out a theoretical model based on the recent Schumpeterian growth theory and identifies different channels through which an improvement in a country's population health will affect its long-run growth. Improved health increases productive efficiency, life expectancy, learning capacity, creativity, and coping skills, which all contribute to productivity improvement. More specifically, this study underscores the beneficial effects of childhood health and maternal health on various dimensions of human capital, such as learning capacity, creativity, and coping skills. Of course, there is also likely to be some degree of reverse causation because economic

growth provides more resources to be spent on health care and other factors that affect the health status of a population.

Gyimah-Bremponga and Wilson (2004) investigate the effects of health human capital on the growth rate of per capita income in Sub-Saharan African and Organisation for Economic Co-operation and Development (OECD) countries. They find that the stock of human capital has a positive and statistically significant effect on growth of per capita income, 22 percent in Sub-Saharan African countries and 30 percent in OECD countries, respectively. In addition, the effect is quadratic: increases in health human capital increase the growth of per capita income at a decreasing rate. Bloom, Canning, and Sevilla (2001) use panel data from 104 countries and conclude that good health has a positive, sizeable, and statistically significant effect on economic growth, suggesting that a one-year improvement in a population's life expectancy contributes to an increase of 4 percent in output. At the micro level, evidence from household surveys from Ghana, Côte d'Ivoire, and Brazil suggest that health human capital has a large effect on wages as well (Schultz 2005). The analysis of the impact of health on economic growth in ECA countries is limited.

Models of Health Care Financing

Health systems have been classified historically along many different dimensions. Kutzin (2001), for example, provides a framework to analyze the typology of health systems that includes how funds are collected and pooled, how services are purchased and provided, and how responsibilities are allocated across the different levels of government and health facilities. One aspect of this typology is the prevailing financing scheme—"Bismarck" or "Beveridge" models being the pure and opposite models. In a Bismarckian system, the main source of financing for health is derived from employee and employer contributions calculated as a proportion of payroll, with pooled funds managed by a quasi-state SHI agency. SHI systems usually come with a defined package of benefits for their members, who are entitled because of their contributions (Gottret and Schieber 2006). Under pure Beveridge models, health care is funded from general revenues, with at least theoretical universal coverage for a comprehensive scope of services.

Very few systems fall into one of the two pure schemes because a health sector usually has multiple sources of funding. In some cases, neither source is predominant because of poor implementation and governance, and out-of-pocket spending becomes the main source of

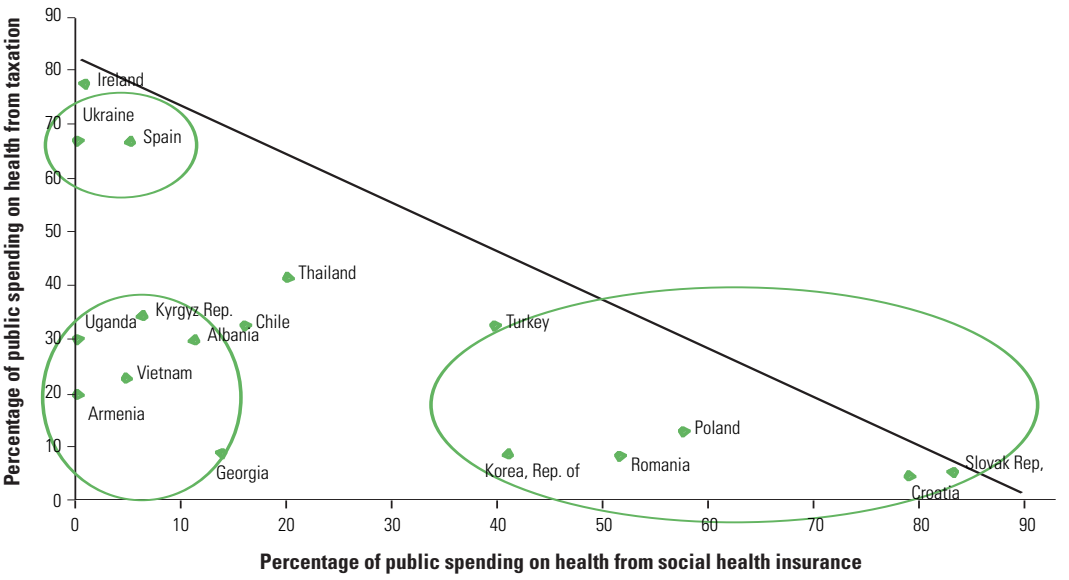
financing for health services. Risk-pooling is very limited and applies only at the household level. For that reason this section follows Preker, Jakab, and Schneider (2002) and categorizes the countries into three groups based on the relative strength of these various health care financing methods.

The clustering is depicted in figure 6.1. The first group, organized along the Beveridge model with health care predominantly financed by general tax revenues, includes only Ukraine (among the ECA focus countries). The second group has moved toward a Bismarckian model, with health care predominantly financed by payroll taxes. This group includes Croatia, Poland, Romania, and the Slovak Republic. In the third group, out-of-pocket payments are the predominant mode of health financing, amounting to 50–80 percent of total health revenue. This group includes Armenia, Georgia, and the Kyrgyz Republic.

As many ECA countries moved to a SHI scheme, among the ECA focus group, only Ukraine retained the tax-based health-financing approach. Government budgets remain the major official source of

FIGURE 6.1

Percentage of Total Public Expenditures on Health Financed by Taxes and Social Health Insurance, 2004 or Latest Year Available



Source: Adapted from Preker, Jakab, Schneider (2002), updated using World Health Organization European Health for All Database and World Health Statistics 2006.

health care financing, with 80 percent based on local budgets and the remaining 20 percent on state budgets, supervised by regional authorities and the Ministry of Health, respectively. The services were free of charge until 1996, when official user fees were introduced. Since then, the public share of health care financing has been reduced from 80 percent in 1996 to about 66 percent in 2004 (European Observatory on Health Care Systems 2005).

The majority of ECA focus countries fall into the SHI group, as those countries have introduced that mechanism as complementary to, or as, the main health care financing method. Table 6.1 shows the introduction year of SHI in some ECA countries and the respective contribution rates. Many of these reforms are less than 10 years old, and contributions vary greatly, from 2 percent in the Kyrgyz Republic to 18 percent in Croatia. Several reasons have been offered for the move toward payroll taxes for health care funding in many ECA countries. First, payroll tax financing is less dependent on yearly budgetary negotiations than general revenue financing, and thus is regarded as a more stable source of revenue. Second, the introduction of payroll taxes breaks the monopoly of government, particularly the Ministry of Finance, over the ownership and financing of health services. Third, SHI puts more responsibility on individuals to finance their own health care through labor market participation (Preker, Jakab, and Schneider 2002; Saltman 2004). Fourth, SHI can be used as an instrument to redistribute income through cross-subsidization from high-income to low-income participants and from low-risk to

TABLE 6.1

The Introduction of Social Health Insurance in the ECA Region

Country	Source	Year introduced	Contribution rate for salaried workers (%)	Employer share (%)	Employee share (%)
Albania	HIT (Health in Transition)	1995	3.40	1.70	1.70
Croatia	Preker, Jakab, and Schneider 2002	1993	18.00	18.00	0.00
Georgia	HIT 2002	1995	4.00	3.00	1.00
Kyrgyz Republic	HIT Dixon et al				
Poland		1997	2.00	2.00	0.00
		1999	7.75	0.00	7.75
Romania	Preker, Jakab, and Schneider 2002	1999	14.00	7.00	7.00
Slovak Republic	Preker, Jakab, and Schneider 2002	1994	13.70	10.00	3.70
Turkey	World Bank 2006g	1945	11.00	6.00	5.00

Source: Author's compilation.

BOX 6.1

Albania: Social Health Insurance

SHI was introduced in Albania in 1995, with a 3.4 percent payroll contribution divided equally between employers and employees. The system is not yet deemed financially sustainable and is not providing the services it was intended to. The system developed very slowly—in 2002, active contributors only accounted for one-third of the total active labor force while the number covered by the state was uncertain. Currently, only 7 percent of public sector spending on health comes from nonbudgetary contributions to health insurance, and coverage is still very low. Between 1995 and 2004, funding from payroll taxes increased slowly, while funding from general budget revenues declined drastically—from 71 percent in 1995 to 30 percent in 2004—and out-of-pocket spending increased from 23 percent in 1995 to 59 percent in 2004. About two-thirds of public funding for Health Insurance Institute (HII) activities comes from general revenues (in the form of contributions for dependent populations). The HII scheme provides somewhat limited benefits and does not appear to decrease out-of-pocket expenditures for outpatient care or affect the likelihood of having to pay for health care. Despite being mandatory, the latest household survey suggests that only about 40–45 percent of the population is covered by health insurance. There are also significant regional differences in health insurance coverage.

Various reasons help to explain the lack of progress in implementing a full SHI system. A large share of the active labor force works in the informal sector and thus avoids contributions. Anecdotal evidence suggests that knowledge about health insurance benefits appears to be limited for a significant part of the population. The lines of accountability and the allocation of responsibilities between the Ministry of Health and the HII are blurred, and the financing of health is fragmented among the ministry, HII, local governments, and other institutions, which creates uncertainty in funding levels and potential for corruption. Finally, administrative capacity to enforce contributions is weak, and few regulatory and oversight structures exist.

(continued)

high-risk participants.[1] Finally, many ECA countries have moved to SHI schemes either for historical reasons (to return to systems prevailing in the past) or for political reasons (to match systems prevailing in neighboring countries).

Some caveats apply, however, to the above arguments for SHI. First, the introduction of single treasury accounts in many ECA countries reduces the extent to which SHI funding is isolated from general revenues and thus from budget negotiations. Second, general subsidies supplement payroll taxes as a funding source for SHI systems in many countries in the region. Finally, payroll contributions can have

BOX 6.1 (continued)

The Albanian government recently proposed an increase in the payroll contribution rate to increase revenues. However, concerns remain that further increasing payroll tax contributions will push some workers to the informal sector, thus the net gain from the increase in the contribution rate will be minimal. Advisors have recommended that the Albanian government shift public health financing from a partial payroll tax system to full funding from general tax revenues. However, the amount of public sector resources allocated to health will still be limited in the medium term, and user fees will inevitably continue to be an important complementary source of financing.

The case of Albania is not unique. Three common problems afflict lower-middle-income countries that rely on payroll tax financing for health care:

- Greater inequity in access than systems relying on general tax financing, especially where a large fraction of the labor force is in the informal sector or unsalaried
- Greater inequity in financing burden, as beneficiaries seek exemptions from contributions, for example, by registering as unemployed
- Higher labor costs, reduced competitiveness, and greater incentives for the labor force to move into the informal sector because of the high payroll tax burden (see chapter 9)

Source: World Bank 2006e.

the same degree of volatility as other fiscal revenues, and evasion and informality can become serious issues.

Not every country in the sample has been successful in implementing SHI schemes because some countries have not been able to achieve financial sustainability while at the same time securing universal access to basic care. In Albania, Georgia, and the Kyrgyz Republic, out-of-pocket spending is still the major source of financing, long after the introduction of SHI. Administering an SHI system requires regulatory and administrative capacity to raise revenues from payroll taxes, and this can take time to develop. In addition, the presence of a large proportion of unemployed, self-employed, and informal workers contributes to the problem, as the case of Albania illustrates (box 6.1).

High out-of-pocket payments are not associated with a particular health-financing scheme. Armenia retained a general tax–funded system but has also experienced problems in successfully pooling risks associated with health shocks. In contrast to Albania and the Kyrgyz Republic, high out-of-pocket spending on health in Armenia

is mainly a result of severe economic problems following its independence. Public spending on health was limited to a minimum, forcing the introduction of a predominantly private out-of-pocket payment system of health care financing (European Observatory on Health Care Systems 2002).

Countries in the international comparator group also provide a wide range of financial models. Health care in Ireland and Spain is largely financed by general taxes. The Republic of Korea's health care is financed by mandatory SHI and the Medical Aid Program, a social assistance program for the poor financed though general taxation. Thailand's health care financing has three pillars—a Universal Coverage Scheme, a Civil Servant Medical Benefit Scheme, and a social security scheme—with the first two financed through the general budget and the third financed by mandatory contributions. Private health insurance has emerged in Chile and cofinances health care with public health insurance. Finally, user fees still constitute an important source of health care financing in Vietnam.

Patterns of Health Care Spending

The last section showed that very few countries exhibit pure Bismarckian or Beveridge systems. Most fall into hybrid categories, and many rely on private out-of-pocket spending to finance a significant portion of health expenditures. Based on the typology laid out above, this section examines the relationship between the various health-financing models and health spending.

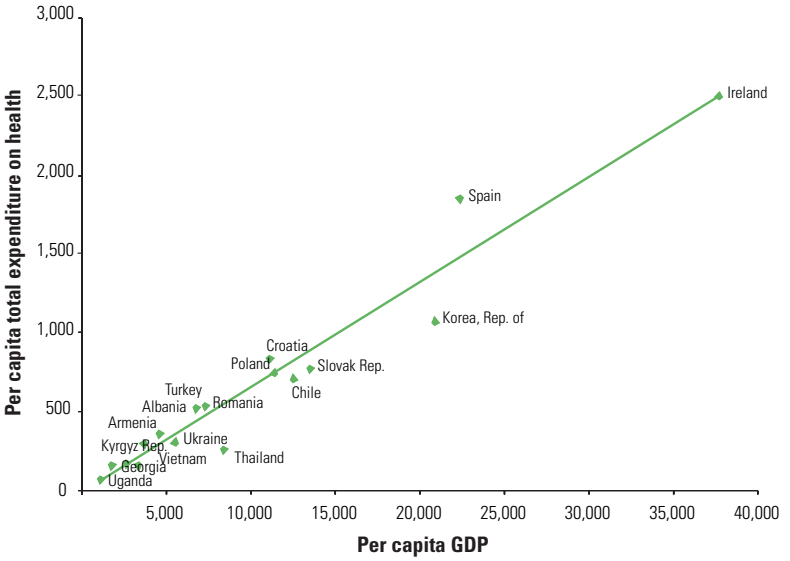
Total Spending

The main driver of total health spending in a country is the level of GDP. According to most estimates, the income elasticity of total health expenditure is at or around unity (Gerdtham and Jonsson 1991). The sample of ECA and comparator countries used in this study confirms this trend. Figure 6.2 shows the correlation between per capita GDP and total health expenditure in the sample countries. There is a large variation in total spending on health, and clearly countries spend more as they become richer. There does not appear to be systematic over- or underspending for ECA or comparator countries. Some ECA countries, such as Croatia and Turkey, spend slightly more on health relative to their income levels. The same applies to some international comparator countries, such as Spain. Thailand, Korea, and Chile,

FIGURE 6.2

The Correlation Between Per Capita GDP and Per Capita Total Expenditure on Health, 2004 or Latest Year Available

PPP-adjusted dollars



Source: World Health Organization European Health for All Database and World Health Statistics 2006.

however, tend to spend less than the levels predicted by their per capita GDP.

Public Spending

Table 6.2 shows public spending on health for ECA and comparator countries, using the clustering described in the Models of Health Care Financing section. Among ECA focus countries, the middle-income countries in Central and Eastern Europe[2] have Bismarckian systems and have the largest percentage of health spending coming from public sources. In the comparator countries, the higher-income countries in the group—Ireland and Spain—also have the largest share of public to total health spending but have Beveridge rather than Bismarckian systems. The lowest levels of public spending on health are in the lower-income countries in both groups, where out-of-pocket payments are the primary mode of financing. On average, the ECA and comparator countries spend a similar percentage of GDP on health (approximately 6.1 percent).

TABLE 6.2

Health Expenditures in ECA and Comparator Countries, 2003

Country	Total health expenditures (% of GDP)	Public expenditure on health (% of total health expenditures)	Public expenditure on health (% of GDP)	Public expenditure on health (% of total government expenditures)
ECA countries				
Group A				
Ukraine	5.7	65.9	3.8	10.2
Group B				
Croatia	7.8	83.6	6.5	13.8
Poland	6.5	69.9	4.5	9.8
Romania	6.1	62.9	3.8	10.9
Slovak Republic	5.9	88.3	5.2	13.2
Turkey	7.6	71.6	5.4	13.9
Average	*6.8*	*75.3*	*5.1*	*12.3*
Group C				
Albania	6.5	41.7	2.7	9.2
Armenia	6.0	20.2	1.2	5.4
Georgia	4.0	23.9	1.0	4.7
Kyrgyz Republic	5.3	40.8	2.2	9.0
Average	*5.5*	*31.7*	*1.8*	*7.1*
Comparator countries				
Group A				
Ireland	7.3	78.9	5.8	17.2
Spain	7.7	71.3	5.5	13.7
Average	*7.5*	*75.1*	*5.6*	*15.5*
Group B				
Thailand	3.3	61.6	2.0	13.6
Chile	6.1	48.8	3.0	12.7
Korea, Republic of	5.6	49.4	2.8	8.9
Average	*5.0*	*53.3*	*2.6*	*11.7*
Group C				
Vietnam	5.4	27.8	1.5	5.6
Uganda	7.3	30.4	2.2	10.7
Average	*6.4*	*29.1*	*1.9*	*8.2*
Average of ECA countries	**6.1**	**56.9**	**3.6**	**10.0**
Average of comparator countries	**6.1**	**52.6**	**3.2**	**11.8**

Source: For non-European countries, WHO country profile; for European countries, WHO European Health for All database.

A review of the literature on the determinants of health spending shows that (a) income (proxied by GDP per capita) seems to be the most significant explanatory variable; (b) the age structure of the population is a significant variable in some studies (proportion of population over age 65) but not in others; (c) some health care risk factors, such as tobacco use, tend to be significant; and (d) institu-

tional characteristics also explain health spending but are not always significant (for example, public provision is associated with lower spending, a higher ratio of inpatient care spending is associated with higher spending).[3] Other factors that have not been systematically explored in the literature are cultural (for example, seeking health care as a social activity) or political-historical (strong traditions of seeking care in hospitals or of offering generous benefits, for instance). Many of the countries with low public spending on health have gone through reforms that limited the benefit package (Korea) or increased private participation through supplementary insurance (Chile) or user fees (Vietnam).

Countries in the sample also allocate a varying proportion of the government's budget to health care. Richer countries in the sample allocate a large proportion (15.5 percent on average) while poorer countries tend to spend a smaller share of government resources on health (10.2 percent in Ukraine, 10.7 percent in Uganda, and 5.6 percent in Vietnam). The influence of health care financing models on public health expenditure as a percentage of government expenditure is not obvious.

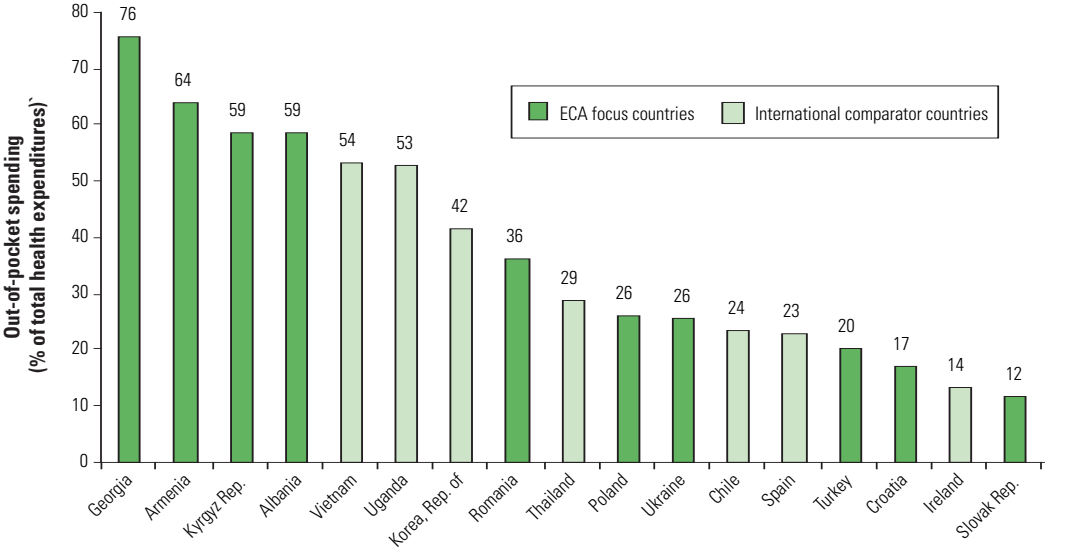
Private Out-of-Pocket Spending

Out-of-pocket payments include a range of charges that individuals must pay at the point of service, including copayments, initial deductibles, and payments for uncovered medical services, supplies, and drugs. Bribes are also a significant share of out-of-pocket payments in many countries, but may not be well-captured in statistics. Figure 6.3 shows an estimate of the share of out-of-pocket payments in total health spending in ECA and comparator countries. Georgia is the highest among the focus countries, where out-of-pocket accounts for 76 percent of total health expenditures (see box 6.2). Out-of-pocket spending is 64 percent in Armenia and 59 percent in the Kyrgyz Republic and Albania. Among the comparator countries, Vietnam and Uganda have the largest share of out-of-pocket payments, 53.6 percent and 52.8 percent, respectively. Out-of-pocket spending in Korea is 41.9 percent, mostly directed to high levels of care (such as inpatient care and pharmaceuticals) because Korea has universal coverage of primary health care.

Out-of-pocket spending is often required as an explicit government policy, with the intention of reducing unnecessary demand by relating payments directly to use. In such cases, copayments for certain services are required, especially for inpatient care and pharmaceuticals. Countries with SHI systems tend to exempt certain groups

FIGURE 6.3

Out-of-Pocket Spending as a Percentage of Total Health Expenditures, 2004 or Latest Year Available



Sources: World Health Organization European Health for All Database and World Health Statistics 2006.

from copayments to improve equity and influence use. For this reason, many countries have a different insurance policy to cover three population groups: unemployed, pensioners, and low-income. A general trend, however, is to move away from categorical eligibility for copay exemption to broadly based eligibility tied to income or other means. In the United Kingdom, for example, prescription charges cover about 40 percent of average prescription costs, but only 12 percent of prescriptions are actually charged because of exemptions for patients with specific chronic diseases or for the elderly or those with very low income. In the United States, the Medicare scheme, which covers elderly people, reimburses only certain drugs, and Medicaid, which covers some of the poor, reimburses only drugs that are on the approved list in a state.

However, high out-of-pocket spending on health care signals a failure in risk-pooling because the risk is pooled only at the household level. One of the goals of an SHI system is to provide protection to households against large catastrophic health shocks. When out-of-pocket spending becomes an important source of revenues for the

BOX 6.2

Georgia: High Out-of-Pocket Spending

Before the introduction of health sector reforms in 1995, the Georgian health care system was financed primarily from the central budget. However, unable to maintain its role as the sole financier of health care following the economic crisis in 1991, the government introduced three additional sources of financing in 1995: payroll-based SHI, municipal financing, and official copayments. For the next decade, in part because of successive economic crises, the government was consistently unable to meet its revenue and expenditure targets, leading to across-the-board expenditure cuts in the 1998, 1999, and 2000 budgets; the continued accumulation of large arrears in health, wages, and pensions; and increasing reliance on private out-of-pocket payments to finance health care.

A 1995 household survey estimated private expenditure on health to be almost 272.7 million laris (US$221.7 million in 1995[a]). Since then, several national household surveys have been conducted, and the range of out-of-pocket spending has been estimated at between 65 and 87 percent of total health spending. For example, a study by the Georgia Department of Statistics found that out-of-pocket payments were approximately US$28 per capita, or 73 percent of total health expenditures. In 2000, according to the Tbilisi Household Survey, total out-of-pocket expenditures amounted to 132 million laris (US$68 million in 2000[b]), or about 66 percent of total spending on health.

One of the drivers of large out-of-pocket payments is the presence of informal payments for care. With the collapse of the economy in the early 1990s, informal payments became the main source of income for many health staff. Under the 1995 reforms, payments for certain health services not covered by the Basic Benefit Package (BBP), which is free, were legalized, with the expectation that formal payments would reduce informal payments in the health sector. Partly because of relatively low salary levels, informal payments continued to supplement the actual cost of care in the system. However, in some selectively contracted and well-managed health programs, such as hemodialysis, cardiac surgery, and, to some extent, maternity care, informal payments are reported to have decreased, and in some cases are not demanded.

Under the BBP concept, all services included in the BBP list are either free or partially subsidized. Patients must pay the hospital or doctor directly (or through private insurance, if applicable) for services not included in the BBP. Copayments are retained by the facilities and used to fund recurrent costs. However, patients have typically not been well-informed of their entitlements, and providers could manipulate the cost of treatments because public information campaigns were largely absent.

(continued)

BOX 6.2 (continued)

Constraints in public funding and problems related to budget execution exacerbated the problem of out-of-pocket payments. Household surveys conducted since 1995 found that the cost of health care was a serious impediment to seeking care. The surveys also noted that a high percentage of the population self treats, which partly reflects the response of households to the costs of seeking care. Most of the out-of-pocket payments have gone toward the purchase of drugs (45 percent), followed by hospitalization (26 percent), and outpatient services (17 percent).

Source: World Bank 2004c.

a. The calculation is based on exchange rate US$1= 1.23 GEL in 1996 (CIA World Factbook).

b. The calculation is based on exchange rate US$1=1.98 GEL in 2000 (CIA World Factbook).

health system or represents a large percentage of household spending on health, this objective may not be achieved. High out-of-pocket spending may affect equity and access to health care by discouraging poor households from seeking care.[4] Informal payments are also a significant element of out-of-pocket expenses. Although Albanian legislation provides for free inpatient hospital care for all, out-of-pocket expenditures in the event of hospitalization are substantial, and a large share of those payments are informal. The system of informal payments is partly encouraged by an ill-defined and poorly enforced copayment policy (World Bank 2006e). The current copayment system blurs the distinction between formal and informal payments. For example, if a patient requires certain treatments and the supplies are not available at the providing institution, patients may be required either to purchase their own supplies or to reimburse the attending physician or nurse for the supplies. This may be considered to be an informal payment by some.

The experience of the Kyrgyz Republic shows that it is possible to reduce informal payments if the problem is addressed as part of overall health finance reforms. All public resources allocated to health—state budget, local government budget, and health insurance funding—are now pooled into the Health Insurance Fund (HIF), which has become the sole purchaser of health services. A basic package of benefits covering primary care through family physicians contracted by the HIF is available free of charge to the entire population. Those who contribute to the HIF are entitled to lower copayments and outpatient drug benefit coverage. The reform also introduced copayments for inpatient care. Revenues are collected and stay in the

hospital, which can use them according to certain guidelines. In addition, the HIF provides exemptions or reduced copayments for those covered under HIF, including low-income vulnerable groups. By formalizing payments, hospital revenues through this source become subject to policy management directives. Preliminary analysis of the impact of these policies shows that even though overall out-of-pocket payments have not decreased, the share of patients with knowledge of the amounts to be paid for use of hospitals has tripled, out-of-pocket expenditures for drugs and medical supplies for hospital care have decreased over 90 percent, and informal payments made to hospital staff have decreased 70 percent (World Bank 2006e).

Health Care Spending and Health Outcomes

One interesting question for health policy makers is whether additional health spending will lead to better health outcomes. The section below describes the pattern of health care spending and health outcomes among the ECA focus countries and international comparator countries from the lens of both financing mechanism and public spending. It then reviews the literature and draws conclusions on the relationship between health spending and health outcomes.

Does the Method of Financing Matter?

ECA and comparator countries show surprisingly similar average health outcomes. However, these averages hide wide intragroup variation. Infant mortality, for example, stands at 22.3 deaths per 1,000 live births in ECA countries and 19.7 in comparator countries, but it varies from 81 (Uganda) to 4 (Spain) in comparator countries and 58 (the Kyrgyz Republic) to 6 (Croatia) in ECA countries. A similar phenomenon is observed with other outcome indicators. Healthy life expectancy values are close for the two groups (65.0 years for ECA countries and 65.2 years for comparator countries for females), but in the ECA countries it varies between 69.4 years (the Slovak Republic and Croatia) and 58.4 years (the Kyrgyz Republic) while in comparator countries it reaches 75.3 years for Spain but is only 43.7 years in Uganda.

The countries in table 6.3 have been clustered according to their prevailing financing arrangement, as described in the Models of Health Care Financing section. The literature on the link between health outcomes and the organizational framework of health care financing is rather limited. Figueras et al. (2004) compare the per-

TABLE 6.3

Health Care Financing Models and Population Health Status, 2003 or Latest Year Available

Country	Healthy life expectancy, male (years)	Healthy life expectancy, female (years)	Infant mortality rate (per 1,000 live births)	Three doses of DTP vaccine (% of 1-year olds)	Standardized death rates for cancer of the cervix (per 100,000 population)
ECA countries					
Group A					
Ukraine	54.9	63.6	14.0	99.0	6.8
Group B					
Croatia	63.8	69.3	6.0	96.0	5.2
Poland	63.1	68.5	7.0	99.0	1.5
Romania	61.0	65.2	17.0	—	4.7
Slovak Republic	63.0	69.4	7.0	99.0	4.2
Turkey	61.2	62.8	28.0	—	2.2
Average	*62.4*	*67.0*	*13.0*	*98.0*	*3.6*
Group C					
Albania	59.5	63.3	16.0	97.0	1.2
Armenia	59.4	62.6	29.0	91.0	3.5
Georgia	62.2	66.6	41.0	78.0	1.5
Kyrgyz Republic	52.2	58.4	58.0	99.0	2.4
Average	*58.3*	*62.7*	*36.0*	*91.3*	*2.2*
Comparator counties					
Group A					
Ireland	68.1	71.5	5.0	89.0	1.1
Spain	69.9	75.3	4.0	96.0	1.1
Average	*69.0*	*73.4*	*4.5*	*92.5*	*1.1*
Group B					
Thailand	57.7	62.4	18.0	98.0	13.2
Chile	64.9	69.7	8.0	94.0	3.1
Korea, Republic of	64.8	70.8	5.0	88.0	7.1
Average	*62.5*	*67.6*	*10.3*	*93.3*	*7.8*
Group C					
Vietnam	59.8	62.9	17.0	96.0	6.7
Uganda	41.7	43.7	81.0	—	3.9
Average	*50.8*	*53.3*	*49.0*	*96.0*	*5.3*
Average ECA countries	**60.0**	**65.0**	**22.3**	**94.8**	**3.3**
Average comparator countries	**61.0**	**65.2**	**19.7**	**93.5**	**5.2**

Source: WHO data.
Note: — = Not available.

formance of SHI in Western European countries with the performance of tax-financed systems in the same region. They analyze three dimensions: outcomes, equity, and patient satisfaction with responsiveness of health systems. For health outcomes, they find no discernible pattern to distinguish SHI from tax-funded systems. For example, the average life expectancy is 78.6 years in sample countries

with SHI compared to 78.1 in sample countries with tax-funded systems. The difference in healthy life expectancy between the two groups is also negligible—70.4 years in SHI systems versus 69.9 years in general tax–financed systems. Other measures like standardized death rates (SDRs) from "amenable conditions"[5] offer similar results. They do find that SHI systems are slightly less equitable but more responsive to patients' needs.

Baeza and Packard (2006) look at Latin American countries and find that there are some differences in health outcomes among countries with different health-financing strategies, but these differences are related more to specific internal institutional and functional characteristics than to whether financing schemes are Bismarckian or Beveridge. Healthy life expectancy for males and females in the Bismarckian cluster of ECA countries is higher than in the other two groups in the region, but the opposite pattern arises among countries in the comparator group, where the Beveridge cluster has better outcomes than the other groups. Overall, it is apparent that richer countries show better results irrespective of their financing mechanism for health. However, in both ECA and comparator countries health outcomes are significantly worse where out-of-pocket spending is the main source of financing.

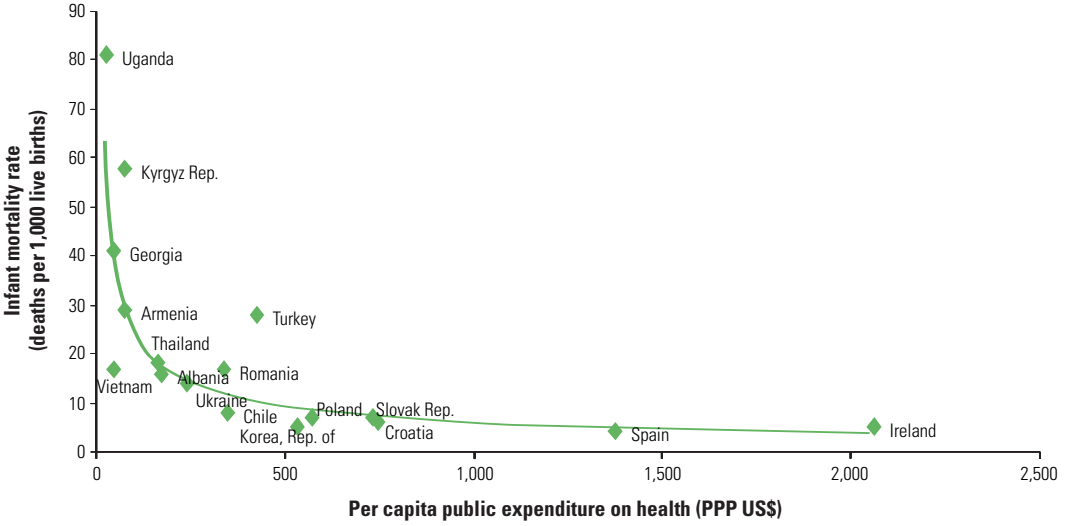
Important caveats have to be considered when discussing health outcomes and their links to health spending or health financing, including the choice of outcome indicators and the link between outcomes and inputs. Two indicators—infant and maternal mortality—can play an important role in comparative health system research and provide the basic indicators for monitoring and evaluating changes. However, definitions of these variables can differ. Some ECA countries still follow the definition of infant mortality rate used in the former Soviet Union, which gives a rate well below the one used by the World Health Organization (Anderson and Silver 1986; World Bank 2004g). Furthermore, these indicators reflect the impact of a variety of factors that contribute to good health apart from proper health care, including clean water, good nutrition, and positive lifestyles. Therefore, a good outcome cannot be attributed exclusively to health system performance.[6]

Does the Level of Public Spending Matter?

Figure 6.4 shows the correlation between public expenditure on health (PPP adjusted) and the infant mortality rate. As most of the existing literature suggests, this correlation is negative, that is, an increase in spending is associated with a reduction in infant mortality.

FIGURE 6.4

Infant Mortality and Public Expenditure on Health, 2004 or Latest Year Available



Sources: World Health Organization European Health for All Database and World Health Statistics 2006.

The majority of comparator focus countries—Vietnam, Chile, Korea, and Spain—are below the line, suggesting that public health spending may be more efficient in these countries. Although Vietnam, Armenia, Georgia, and the Kyrgyz Republic have similar spending levels, Vietnam has a much lower infant mortality rate than the other three countries. The correlations between public expenditure on health and other outcome indicators, such as healthy adjusted life years, show a similar pattern.

The strong correlation between spending and outcomes may be hiding other factors with more direct impacts on outcomes. In fact, the consensus on this matter is that public spending on health has a very limited impact on health outcomes after controlling for other factors. Filmer and Pritchett (1999), for example, use a cross-section of countries to look at the impact of public health spending on child (under-5) and infant mortality. They find that the impact of public spending on health is quite small, while other factors, such as income per capita, inequality in income distributions, and female education, are more important determinants. They point out at least three variables that affect that relationship: (a) institutional capacity; (b) the relationship between public and private service providers (because under certain circumstances the expansion of public provision may

crowd out private provision, resulting in overall constant provision); and (c) changes in the demand for health services resulting from additional funding for health.[7]

The general consensus is that public spending on health and health outcomes are tenuously related. Baldacci et al. (2004) show that an increase in health spending of 1 percentage point of GDP is associated with a rise in the under-5 survival rate of 0.2 percentage points. At the same time, governance issues have a direct impact on this relationship. Filmer, Hammer, and Pritchett (2000) argue that public spending may have little impact because the efficacy of government in delivering services is low. The *World Development Report 2004* (World Bank 2004g) suggests that the efficiency (the organization and allocation of spending) and effectiveness (capacity and governance) of public spending are two issues that shape the relationship between public spending on health and health outcomes.

The discussion above on methods of health financing and levels of public spending on health are focused primarily on curative services within the health care system. However, public health may also play a role in determining health outcomes. The scope of public health is very wide, ranging from anti-smoking and anti-alcohol public campaigns to safety belt law enforcement, public education on HIV/AIDS prevention, and immunization services. Although the cost effectiveness of preventive interventions in public health is well-known, few studies have been done to investigate the correlation or causality between different health-financing methods and government spending on public health, whether the level of spending on public health or health outcomes. More research and policy discussion on these topics should be encouraged by policy makers.

Policy Reforms to Enhance Efficiency and Governance

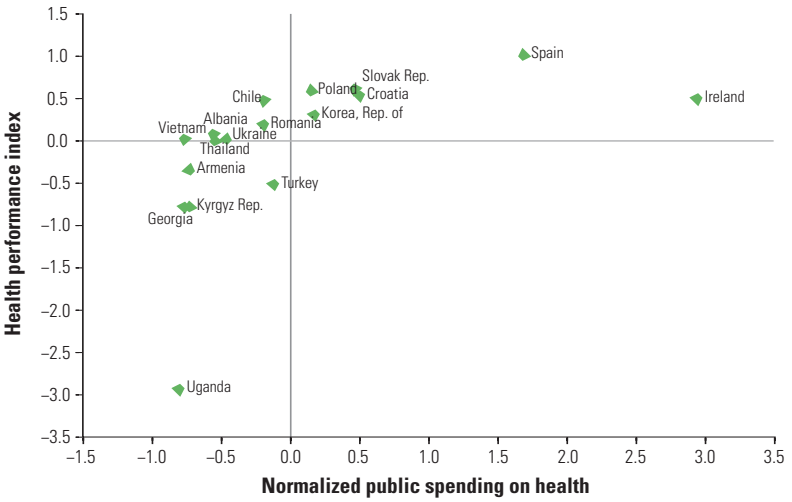
Because the amount of money spent by a government on health is at best as important as how that money is spent, the "transmission mechanisms" from funding to outcomes and service delivery are essential for determining the effectiveness of service provision. The organization of service delivery, monitoring, and accountability mechanisms are critical in determining quality of care and accessibility of services. Delivery mechanisms do not depend on financing model, because strong delivery mechanisms in tax-funded systems can be mimicked in health insurance schemes and vice versa. In addition, SHI is neither better nor worse than tax-funded systems for health outcomes.

Indicators of Efficiency

Many countries in ECA implemented structural reforms to their health care systems with the objective of improving outcomes and achieving a sustainable financing path. However, after a decade of reforms some of them have not achieved their goals, and many reforms meant to enhance efficiency have not resulted in cost containment). Some countries, such as Croatia, have very good health outcomes, but public spending on health is above average and some argue unsustainable. Other countries, such as Georgia, spend very little on health, and outcomes are worse than average. This is clearly seen in figure 6.5, where a normalized health performance index for the ECA and comparator countries is plotted against public spending on health. The performance index is a simple average of five outcome indicators: healthy life expectancy for males and females, infant mortality rate, immunization rate for DPT3, and SDRs of cancer of the cervix. Countries are divided into four quadrants. Poland and Croatia—in the upper right quadrant—are higher spenders and better performers; Armenia, Georgia, and the Kyrgyz Republic—in the lower left quadrant—are lower spenders and worse performers; and countries in the upper left quadrant—like Chile—are lower spenders and better performers.[8]

FIGURE 6.5

Health Performance Index and Public Spending on Health, ECA and Comparator Countries, 2003 or Latest Year Available

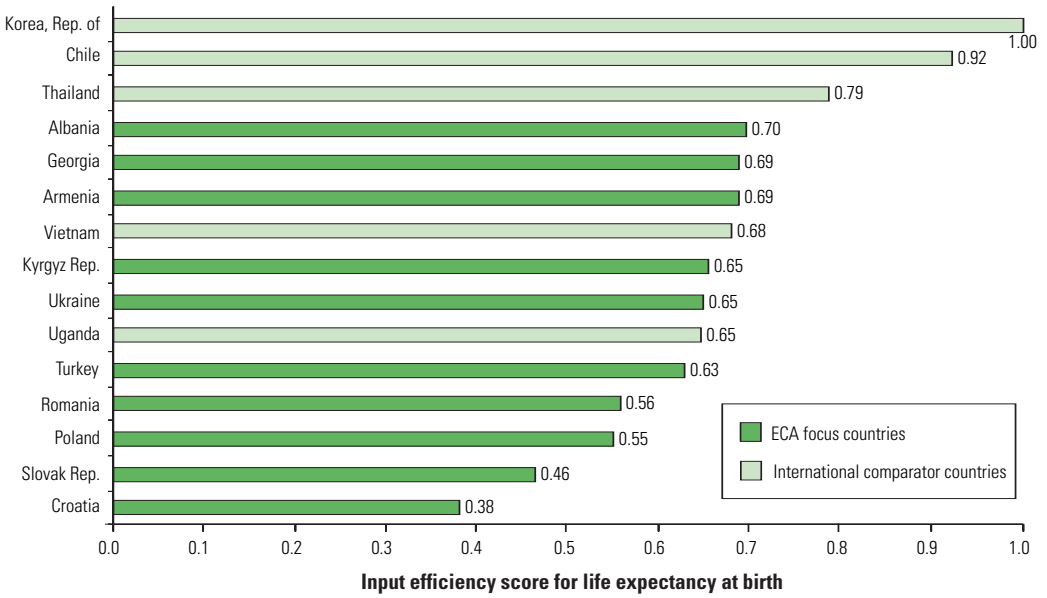


Sources: WHO and World Bank data.

Figures 6.6 and 6.7 describe the input efficiency score for life expectancy at birth and for DPT immunization, respectively, calculated using a large sample of countries.[9] Herrera and Pang (2005) estimate efficiency as the distance between the observed input-output combinations and an efficiency frontier, defined as the maximum attainable output for a given level of inputs and estimated for several health and education output indicators using two different methodologies. The three most efficient countries in the sample are in the comparator group: Chile, Korea, and Thailand. They have higher efficiency scores using various methods and output indicators. From the ECA focus countries, Albania, Ukraine, and the Kyrgyz Republic have the highest efficiency scores. This is true in spite of the somewhat poor health outcomes observed, particularly in the Kyrgyz Republic. The high relative score is due largely to the low spending level. For those countries it is critical to expand spending along the efficient frontier. The lowest efficiency scores are in countries such as Croatia, the Slovak Republic, and Poland, with good outcomes but high spending. Herrera and Pang (2005) find that the size of public expenditures and the proportion of services that are publicly financed are negatively associated with efficiency scores.

FIGURE 6.6

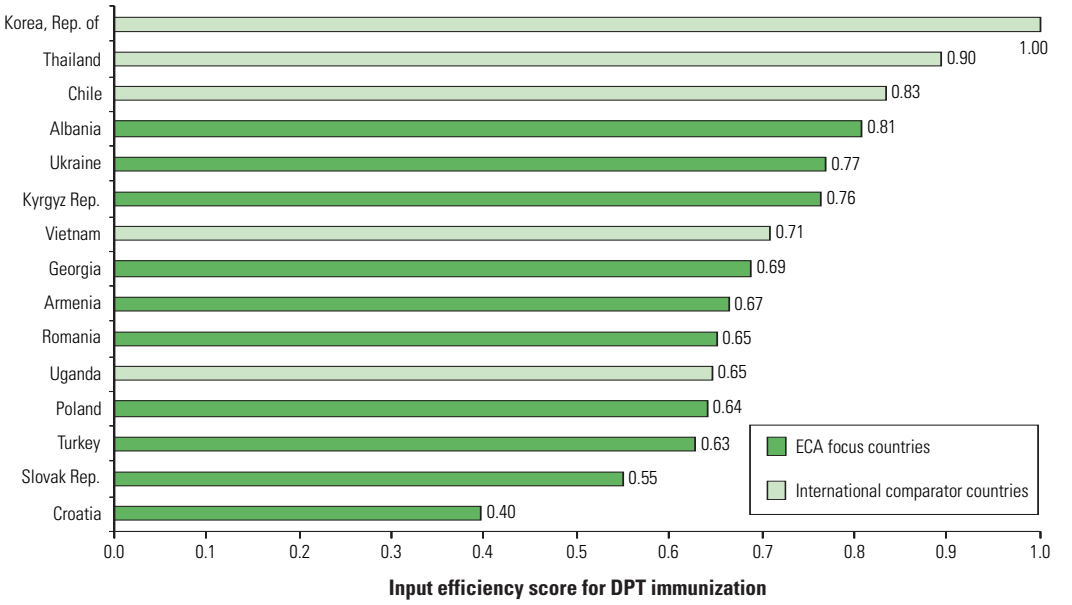
Input Efficiency Score for Life Expectancy at Birth



Source: Herrera and Pang 2005.

FIGURE 6.7

Input Efficiency Score for DPT Immunization



Source: Herrera and Pang 2005.

Maximizing outputs and outcomes with available resources requires coordinated policies to manage the supply of and demand for health care services, to improve the allocation of health care financing, and to increase accountability of providers and oversight agencies. As discussed later in this chapter, both ECA and comparator countries have wide variation in the type and number of inputs used to produce a given output, and in the allocation of resources to different levels of care. International focus countries have introduced a number of reforms over time to address these issues, including reducing systemic fragmentation in risk-pooling, creating the right incentive framework for insurers and health services providers, adjusting the supply of services, increasing monitoring and accountability, and securing universal access to basic health care.

Payment Mechanisms and Incentives to Providers

Two common reforms to increase efficiency in health care provision have been instituting primary care physicians as gatekeepers and changing payment mechanisms to providers. The bias toward hospi-

tal care relative to outpatient treatment is characteristic of many ECA countries and has contributed to high spending. According to Langenbrunner and Wiley (2002), referral rates to hospitals in the former Soviet Union countries were about 25–30 percent of first visits to clinics in the early 1990s, compared to 8.6 percent in the United Kingdom and 5.2 percent in the United States. Hospital admission rates as a percentage of population were also relatively high. Changing payment mechanisms for both primary physicians and hospitals is one way to create incentives to reduce unnecessary referrals and shift resources from hospitals to primary care. Pay for primary physicians becomes a combination of capitation payments (to control spending) and fees for services provided (to stimulate implementation of certain procedures or prevention activities), and regulatory agencies impose a maximum number of authorized referrals to hospitals with penalties for unjustified referrals above the statutory number. The implementation of such measures in ECA has been met with differing degrees of success, in part because the changes are recent or have never been fully implemented. Table 6.4 lists the prevailing hospital payment mechanisms in the sample of ECA countries.

Many countries have also introduced changes in payment mechanisms to hospitals to increase the efficiency of spending within hospitals. The most popular cost-minimization payment schemes are the "case-mix" systems, of which the Diagnosis-Related Group (DRG) is the most common application (see box 6.3 for examples). Payment is based on a discharge that has been corrected by the type of case treated. This payment mechanism tends to minimize unnecessary procedures to treat a given case and therefore minimizes the cost of treatment, but if inadequately monitored it may generate distortions, such as an increase in the number of cases treated and changes in coding toward more expensive cases.[10] Table 6.4 shows that case mix (or per case) payments have been implemented or are in the process of being

TABLE 6.4

Prevailing Hospital Payment Mechanisms in Sampled ECA Countries

Country	Line item	Per day	Per case	Country	Line item	Per day	Per case
Albania	X			Poland		X	X
Armenia	X		Developing	Romania			Developing
Croatia		X	Developing	Slovak Republic	X	X	
Georgia			X	Turkey	X		
Kyrgyz Republic	X		X	Ukraine	X		

Source: Langenbrunner and Wiley 2002 (with updates).
Note: No sample countries use the pure global budget or capitation mechanisms for hospital payment.

BOX 6.3

Introducing Mixed Payment Systems

Korea. Until 1997, health providers in Korea were reimbursed on a fee-for-service basis. This generated some distortions, such as an increase in the overall number of procedures and in the amount of out-of-pocket payments in spite of the additional coverage of the benefit package, due to a supply-induced shift in procedures toward those that were not insured and thus reimbursed more generously (for example, Korea was the country with third highest number of CT scanners in the world and cesarean deliveries increased from 6 percent in 1985 to 43 percent in 1999, partly due to the way providers were paid for them). To reduce the distortions among service provision by specialty, a resource-based relative value scale was introduced in 2001, which rated procedures according to relative complexity and cost and made payment contingent upon the resources needed to supply the services. The purpose was to discourage overprovision by some providers of a given specialty. In 1997 the government launched a DRG pilot in 54 medical facilities, extended to 132 in the second year and to 798 in the third year. The initial introduction of DRGs was facilitated by the overall increase in payments to providers, because the DRG payment was about 23.8 percent higher on average than the comparable regulated fee for service. The pilot covered nine disease categories and 25 DRG codes depending on the severity and age of the patient, and accounted for 25 percent of inpatient cases. The initial evaluation of the system shows that medical care cost declined on average 8.3 percent and Average Length of Stay dropped by 3 percent. The introduction of DRGs also resulted in a 30 percent reduction in the use of antibiotics in inpatient care, the average number of tests, and the number of outpatient visits. The overall experience with DRG payments has been positive. Medical care expenditure for a given basis diagnosis decreased by an average of 8.3 percent, and the average length of stay dropped by 3 percent in participating institutions (Kwon 2003).

(continued)

implemented by most of the ECA countries in the sample (as has also been the case in many of the comparator countries, see box 6.3).

Governance

Governance is a broad concept that includes the overall capacity of the government to administer services and the mechanisms for monitoring and oversight of various institutions to ensure accountability. Various studies have tried to link governance variables with health sector performance measured by outputs and outcomes. Wagstaff and

BOX 6.3 (continued)

Ireland. Ireland was one of the first countries in Europe to introduce DRGs to pay for hospital services (in 1993). Hospitals work within a global budgeting framework that is adjusted according to their case mixes. A portion of the hospital budget is based on the case-mix adjustment. The additional funds gained as a result of this process may be used at the discretion of the hospital. For hospitals with over 5,000 discharges annually, 20 percent of the inpatient budget is determined on a case-mix basis and 80 percent is estimated on the basis of historical costs. Hospitals are classified according to their specialist and teaching status. It is planned that by 2007, about 50 percent of the hospitals budget will be determined on a case-mix basis. Since 1980, the number of inpatient hospital beds dropped by 21 percent, inpatient admissions increased about 6 percent, average length of stay decreased about one-third. Outpatient activity meanwhile increased by 40 percent in the same period. The number of day care beds increased from 284 in 1990 to 721 in 2000, and the number of discharges treated on a day basis increased from 124,769 in 1990 to 324,504 in 2000. (Wiley 2005).

Spain. Although each autonomous region of Spain can determine its precise approach, in general, hospitals are funded on a global budget basis, determined by historical costs with annual adjustments for such factors as inflation and changes in service delivery. Increasingly, an adjustment for activity is being integrated within the budgeting process. Since 1997–98, several regional systems have incorporated a case-mix adjustment. For example, 30 percent of the inpatient budget in Catalonia is estimated based on DRGs, whereas Valencia uses a combination of capitation and DRGs (Langenbrunner and Wiley 2002). Activities that are especially sophisticated (transplants, for instance), expensive (dialysis, for instance), or that are regarded as priority interventions because of the length of waiting lists (for example, major outpatient surgery) remain outside the case base system for budgeting and have their financing calculated separately. The cost of treatments in these categories is added to the financing of overall activity by cases, to give the total prospective budget for each hospital.

Source: Authors, based on Kwon (2003), Wiley (2005), and Langenbrunner and Wiley (2002).

Claeson (2004) use the Country Policy and Institutional Assessment (CPIA) score as a proxy for good governance and find that the elasticity of health outcomes to expenditure depends on a country's CPIA score. At the margin, spending has a larger impact on health outcomes in better-governed countries: for example, at a CPIA score of 4—one standard deviation above the mean—a 10 percent increase in

the share of GDP devoted to public spending on health leads to a 7.2 percent decline in the maternal mortality rate, while at CPIA levels below 3, increased spending has no statistically significant impact on health. Similarly, Rajkumar and Swaroop (2002) find that public spending on health reduces both child and infant mortality rates in countries that have good governance, and it is more effective as the level of corruption goes down.

Weak governance in the health care system is evident in several ways in ECA countries. The first is the prevalence of informal payments. Informal payments generate an incentive for providers to discriminate among patients based on their ability to pay, which undermines the quality of and access to health care for those who cannot pay the expected bribe. The additional transactions and lack of transparency can also reduce the overall efficiency of delivery.

In addition, poor procurement and prescription practices for medical devices and pharmaceuticals are common in many ECA countries. This is a critical public finance issue because the diffusion of medical technologies and pharmaceutical expenditures can rapidly drive up health expenditures. With the shift from inpatient care to outpatient care and from treatment of communicable diseases to management of chronic diseases, the demand for pharmaceuticals is likely to continue to increase over the years. For example, total spending on pharmaceuticals across OECD countries has increased an average of 32 percent from 1998 to 2003, and its growth has outpaced that of total health expenditures over the same period in most OECD countries.[11] In the Slovak Republic, expenditure on pharmaceuticals increased dramatically from 1995 to 2002 and accounted for 32 percent of total health expenditures in 2002. The share of spending on drugs in Poland went from 13.7 percent in 1999 to 19.6 percent in 2003. This high pharmaceutical expenditure is the result of changes in both prices and volumes, variables that are affected by both supply forces (such as the type of drugs available, extent of competition and transparency, and quality of regulation) and demand forces (the aging of populations, asymmetry of information on drug prices and availability, and lack of consumer knowledge about what constitutes state of the art treatment). A variety of solutions have been implemented to contain the growth rate of spending on pharmaceuticals, and at least three types of measures are related to improved governance: (a) more transparent pharmaceutical procurement systems; (b) the right incentives for providers to prescribe medical diagnosis and prescriptions; and (c) a transparent prescription dispensing system.

The Slovak Republic implemented a successful reform in its pharmaceutical policy that addressed the issues mentioned above. Among other measures, the country (a) introduced a flat prescription fee to limit unnecessary demand; (b) fixed the ratio of price to reimbursement in cases of price reduction after categorization;[12] (c) mandated insurance companies to reimburse patients on the basis of the lowest price in every therapeutic category (as determined on the basis of daily dose requirement and published in a widely circulated handbook, with pharmacies being required to explain the substitutability and availability of drugs and the different copayments associated with them to patients); (d) opened competition among pharmaceutical providers (conducted online so that all bidders have complete information about the bids of their competitors); (e) changed the staffing of the Categorizing Committee, which sets copayments for procedures and drugs, to favor economists over doctors; and (f) increased the frequency of drug categorization from once a year to four times a year (Chawla 2005).

The final area where governance in health could be improved is the management and accountability of health provision. Inadequate stewardship and monitoring is observed at various levels. Health insurance funds may not monitor hospital behavior or control costs. Hospitals may not be directly accountable for maintaining a balanced budget. Quality in delivery is often overlooked. In addition, health care facilities in ECA are often managed by medical doctors, who have less experience in management, including financing, accounting, and operations. Arrears in the health sector have continued to grow in most ECA countries, while international focus countries have implemented successful reforms to improve transparency. Box 6.4 describes the reforms of CENABAS in Chile and the separation between the prescribing and the dispensing of drugs in Korea.

Access to Health Care

One of the central objectives of a well-functioning health system is to guarantee access to at least a basic package of benefits to the entire population. This has proven to be a difficult objective to achieve in many ECA countries. In Albania, for example, only 33 percent of individuals who reported being sick sought care.[13] In Georgia, 43 percent of those who reported being sick sought care in 2001, and in Armenia only 29.5 percent. Some of the comparator countries have achieved universal coverage through a variety of means, but it has taken a long time to reach that goal.

BOX 6.4

Chile and Korea: Improving Governance

Chile: Reform of CENABAS

Over 1995 to 1998, the Chilean Central Supply Facility (CENABAS) changed from a budget-supported government supply facility to a self-financing purchasing intermediary between Health Service Areas (HSAs) and private suppliers. During the reform, CENABAS developed a computerized auction-style bidding process to enhance competition among bidders to lower purchasing prices. CENABAS also established advisory services for HSAs and hospitals to improve their capacity for purchasing, stockpiling, and financial management. In addition, CENABAS developed an information and communication network with all HSAs and major hospitals. As a result, CENABAS was able to streamline its warehouse by 50 percent, its transportation costs by 11 percent, its stock margins by 10 percent, and its staff costs by 12 percent. Response time has fallen by half, and transparency and accountability have improved due to the computerized bidding process. Challenges remain for CENABAS to define the scope of the items to be purchased and the scope of primary care facilities to be covered.

Korea: The Separation Reform

Until July 2000, the physician's role of prescribing and the pharmacist's role of dispensing drugs were not separated in Korea. Doctors could dispense drugs at clinics, and pharmacies could sell some specialty drugs to patients without a doctor's prescription. Doctors and pharmacies competed with each other for the profit margin on drugs. Prescribing drugs was one of the important sources of doctors' income, and doctors had incentives to overprescribe drugs. To reduce overuse of pharmaceuticals and increase accountability for prescriptions, Korea implemented a reform starting in 1999 to separate the physician's role of prescribing and the pharmacist's role of dispensing drugs. The reform has triggered several physicians' strikes as their incomes have fallen; these have been settled through incremental increases of medical fees as compensation for the income loss. The overall outcome of separation has been positive because it has promoted the professional specialization of physicians and pharmacists, reduced inappropriate prescriptions, and created the potential for better-informed consumers.

Sources: World Bank 2000; OECD 2003.

In contrast, the entire population in Korea is now covered for the risk of medical illness, either through the National Health Insurance, a SHI scheme financed by mandatory contributions, or throughout the Medical Aid Program (MAP), a social assistance program for the poor financed though general taxation. The benefit is

identical in both programs, and all patients except some MAP beneficiaries have to make substantial payments toward their treatment (table 6.5).[14]

Thailand is also illustrative. Expansion was also pursued over time, starting in 1975. Before introduction of universal health insurance coverage, four separate schemes covered different groups of the population.[15] The government elected in 2001 initiated health-financing reform and implementation of universal health care coverage. The universal coverage scheme (UCS) replaced the public welfare scheme and the voluntary health card, and incorporated all the uninsured under the same umbrella. The UCS is financed entirely through general tax revenue. The Civil Servant Medical Scheme and social security schemes are as before. Three systems remain: compulsory health insurance for formal employees, civil servants' insurance, and universal insurance covering the rest of the population. An analysis of the impact of the program on poverty and incidence of catastrophic payments for health showed that the UCS program has had a significant positive impact and has benefited the poorer quintiles more than the rest.[16]

Extending coverage universally did not eliminate out-of-pocket payments in countries such as Korea and Thailand, and in some cases additional coverage was achieved at the expense of limiting the benefit package substantially. The universal insurance system in Thailand still charges a notional copayment of $0.70 per visit to limit unnecessary demand, while in Korea a limited benefit scheme excludes certain high-cost services or imposes high copayments. The excluded services and treatments include patient transport, glasses and contact lenses, care not considered essential to daily living (for example, plastic surgery), and other high-cost services that are expected to be covered subject to future affordability, such as magnetic resonance imaging and ultrasonic diagnosis. There is no cap to copayments but some compensation is given for high cost cases.

TABLE 6.5

Copayments for Services Covered by National Health Insurance in the Republic of Korea

Health service and facility	Copayment
Inpatient	20 percent of total treatment cost
Outpatient	
General hospital	Per-visit consultation fee + 55 percent of treatment cost
Hospital	Per-visit consultation fee + 40 percent of treatment cost
Clinic	30 percent of treatment cost

Source: OECD 2003.

As coverage increased in Thailand, so did spending. The increase in coverage spanned the 1980s and 1990s, and during that time total health spending as a percentage of GDP increased from 3.7 (1980) to 5.2 (1990). The public share of spending also increased from 26.5 percent in 1980 to 40.3 percent in 1990 (OECD 1999). During the last decade, spending as a percentage of GDP remained relatively stable.

Overcapacity in Health Service Delivery

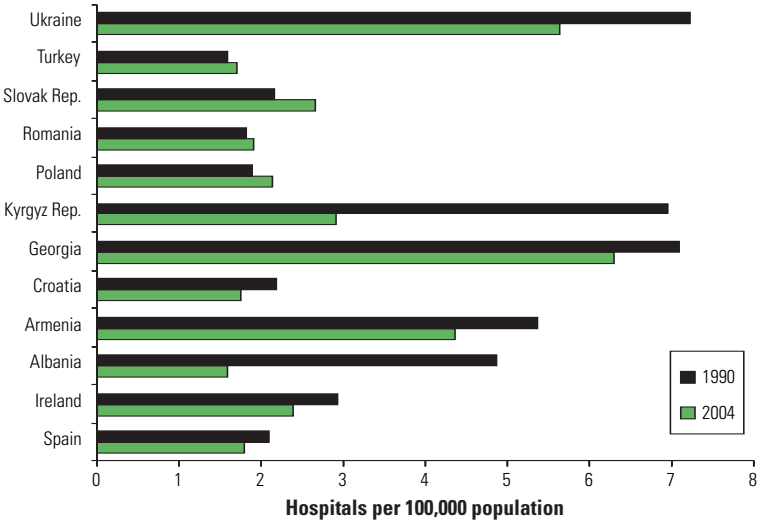
The current oversupply of hospital infrastructure in most ECA countries is a legacy of the Soviet period. The disproportionate number of hospital beds has become a drain on public resources in the health sector and is symptomatic of structural problems in health care provision. Large capacity combined with long length of hospital stays and low occupancy rates generates large fixed costs for the system. The overcapacity also perpetuates a model that treats many cases on an inpatient basis, when modern technology would allow for outpatient treatment at a lower cost.

Reforms involving closure of public hospitals or reduction of hospital beds would free up significant resources, but they are highly unpopular. There has been a trend toward reducing hospital beds in many ECA countries (figure 6.8 and 6.9), as well as in most of Western Europe. However, the average number of hospital beds in ECA is still much higher than that in the international focus group, as shown in table 6.6. ECA focus countries have 54 hospital beds per 10,000 population while the international focus group has 38. Ukraine has the highest hospital bed density, 87 per 10,000 population, followed by the Slovak Republic with 70 hospital beds per 10,000 population.

Georgia has made significant progress in downsizing the hospital sector. During the 1970s and 1980s, many hospitals and polyclinics were built in Georgia, mainly for military reasons because of the country's strategic location. By 1990, Georgia had 384 hospitals, approximately 1,400 polyclinics and ambulatories, and 53,039 hospital beds. Although health care had a strong inpatient focus, occupancy rates were at most 50 percent, and in many hospitals as low as 10 percent. The government of Georgia embarked on a series of reforms to decrease the number of hospitals to a more manageable number, as well as to change the ownership structure and financing arrangements. The first stage of reform in the hospital sector changed ownership structure and made each hospital responsible

FIGURE 6.8

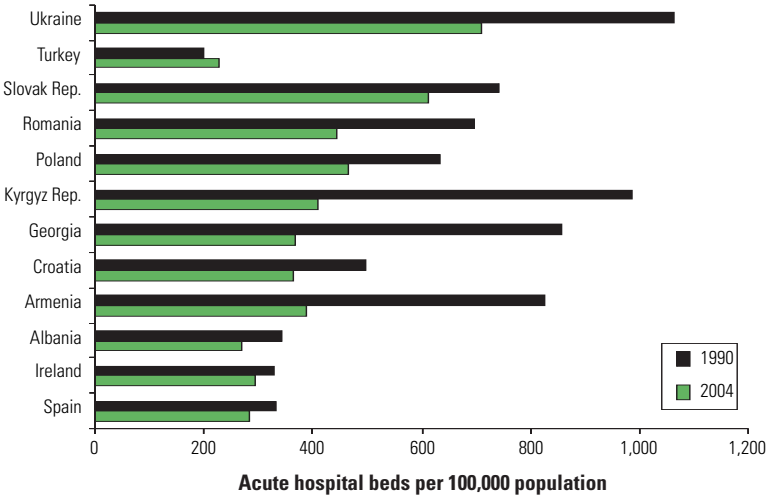
Hospitals per 100,000 population, 1990 and 2004 (or latest year available)



Sources: European Health for All database, WHO Regional Office for Europe, 2006.

FIGURE 6.9

Acute Hospital Beds Per 100,000 Population, 1990 and 2004 (or latest available year)



Sources: European Health for All database, WHO Regional Office for Europe, 2006.

TABLE 6.6

Health Care Resources, 2004 or Latest Year Available

Country	Physicians (per 1,000 population)	Nurses (per 1,000 population)	Hospital beds (per 10,000 population)
Albania	1.31	3.62	30
Armenia	3.59	4.35	44
Croatia	2.44	5.05	55
Georgia	4.09	3.47	—
Kyrgyz Republic	2.51	6.14	53
Poland	2.47	4.90	55
Romania	1.90	3.89	66
Slovak Republic	3.18	6.77	70
Turkey	1.35	1.70	26
Ukraine	2.95	7.62	87
Average (ECA)	*2.58*	*4.75*	*54*
Chile	1.09	0.63	25
Ireland	2.79	15.20	35
Korea, Republic of	1.57	1.75	71
Spain	3.30	7.68	37
Thailand	0.37	2.82	22
Uganda	0.08	0.61	—
Vietnam	0.53	0.56	23
Average (comparator countries)	*1.39*	*4.18*	*38*

Source: WHO database and OECD 2005.
Note: — = Not available.

for generating running costs through contracts with public purchasers and fee-for-service charges. It was envisaged that this process would force unprofitable hospitals to go out of business. Although there was some capacity decrease with the closure of some hospitals and reductions in staffing, the reforms failed to reduce capacity at the expected rate. In 1999, Georgia developed a plan to rationalize the hospital sector. There were two key elements of these reforms: (a) the introduction of selective contracting for hospital services with purchasers, and (b) the establishment of the Hospital Restructuring Fund to formally reduce excess hospital capacity, led by a master plan. Hospital restructuring began in 2000, guided by the master plan, which identified which hospitals should remain open and which should be closed or privatized.[17] The number of hospitals in Georgia has decreased by 109 since the early 1990s, but to reach the target for hospital closure according to the master plan, another 174 hospitals would need to be closed or consolidated during the next two stages of restructuring to be completed by 2010 (World Bank 2004c).

Adjusting to Aging Populations

Financing and delivering health care for the elderly population is a growing concern in health care systems all over the world. However, the exact impact of aging on health spending is still subject to debate. Some researchers find that aging populations exert pressure on health spending, while others maintain that people are becoming healthier as they age, at least in high-income settings, ameliorating the effect on health spending. Gottret and Schieber (2006) project the change in total health spending over time in various regions as a result of changes both in the number of people and in the age-gender composition of the population. Total health spending in ECA is expected to rise 14 percent from 2005 to 2025, with 1 percentage point due to increases in the population and 13 percentage points due to changes in the age-gender structure. Given that the gender structure is quite stable, the change would largely be due to age structure changes, especially increases in the older population. This is a low figure compared to other regions; for example, in Latin American, population changes are expected to lead to an increase of 47 percent in health spending. An upcoming World Bank report estimates the impact of aging in each ECA country and concludes that it is likely to increase spending in most but not all countries (EBRD 2007). If the current levels of benefits are maintained, public spending on health is expected to increase only modestly in Poland and Romania by 2050 (compared to 2005 levels) and to actually fall in Armenia.

The aging population and a rising number of elderly are likely to change the epidemiological profile of the populations, increasing the burden of noncommunicable diseases, and put new pressures on the provision and use of long-term care services for the elderly. However, public expenditures on formal and informal long-term care will depend on policies governing eligibility and benefits. The key to containing expenditures will lie in designing less expensive delivery arrangements. Increasing preventive health care should reduce the burden in the long run because a significant portion of chronic disease conditions could be prevented through the promotion of healthy lifestyles, screening, and primary and secondary preventive care. There seems to be no advantage in SHI or general tax–funded models when it comes to long-term elderly care. Different mechanisms are used to mobilize resources for the provision of long-term care services: special long-term care insurance (as in Germany), general taxes (as in Austria), a combination of insurance and general taxes (as in Japan), and special programs (as in the Netherlands).

The Sustainability of SHI and its Relation to Labor Markets

One of the most debated issues in the discussion on funding mechanisms for health care is the distortionary effect of payroll contributions paid to finance SHI systems. The revenue for SHI comes primarily from contributions from gross wages, levied on employers and employees, which increases labor costs for employers and reduces net income for employees. The sustainability of SHI is largely related to the payroll tax rate and the number of contributors. The payroll tax rate in ECA countries devoted to health is on average relatively high.

The debate over the effect of payroll taxes on competitiveness and unemployment has a long history and is reviewed in depth in chapter 9. Most observers agree that payroll taxes are likely to increase the level of informality in the economy (Wagstaff 2006), particularly in developing countries, and thus incorporating a sufficient number of workers into social risk-pooling schemes may be difficult. Baeza and Packard (2006) identify several factors that prevent informal or self-employed workers from joining SHI systems in Latin American countries; some of these factors are also valid for ECA countries. In some cases there is no legal mechanism for informal or self-employed workers to participate in SHI schemes because Bismarckian SHI applies only to salaried workers. And the perception of a large gap between contributions and benefits—particularly where health services are weak—reduces the desire of workers to enter the formal sector to gain access to risk-pooling.

Given those barriers, how can contributory risk-pooling be extended to the informal and self-employed sectors? Baeza and Packard suggest four options: (a) facilitate (through regulation) participation of self-employed and informal workers in contributory health insurance (which is extremely hard to achieve given that their income is unobservable and participation is purely voluntary); (b) improve enforcement of mandatory participation; (c) increase means-testing for access to publicly subsidized health services; and (d) reduce the contribution-benefits gap.

Spain, with a long tradition of a Bismarckian SHI system, has moved to a Beveridge model of financing. The General Health Act of 1986 changed the Spanish health care system dramatically. Before the act, multiple health care networks coexisted, with a significant proportion of health care financed through the social security system managed by the Ministry of Labor. From the late 1980s on, Spain gradually shifted from a payroll tax–financed social security scheme to a national health service financed by general taxation. In 1989, three years after the act, the funding sources for health care were

drastically modified, with 70 percent financed from general taxation and 30 percent from payroll tax contribution. In the mid-1990s, it was agreed that all health financing would come from general taxation, and the payroll tax should be phased out progressively by 2000. In 1999, one year ahead of schedule, the entire health care budget in Spain came from general taxation. Regions in Spain receive health care funding from the central government on a per capita basis, adjusted by other factors. Regions have varying degrees of independence for management of resources. Coverage is almost universal and guarantees a fairly comprehensive package of benefits to all Spanish citizens, regardless of labor status or personal wealth (Baeza and Packard 2006).

Conclusions

This chapter has reviewed patterns of health spending, health-financing systems, and their relation to health outcomes in the ECA focus and international comparator countries. While higher GDP per capita and thus higher absolute levels of health spending are correlated with better health outcomes, no specific relationship emerges between financing method and either health spending or health outcomes. On average, ECA and comparator countries spend a similar percentage of GDP on health (approximately 6.1 percent), although there is significant variation between countries within each group. Among ECA focus countries, the group of countries with Bismarckian (SHI) models have a larger percentage of health spending coming from public sources, whereas in comparator countries the public sector spends more in tax-financed than in SHI systems.

The goal of achieving a well-functioning health care system that can provide a basic package of services to the entire population in a financially sustainable manner has not been achieved to date in many of the countries in the sample. Neither the level of public spending nor the financing model seem to dominate when it comes to fulfilling this goal or to achieving better health outcomes. Countries with both general tax funding and SHI schemes have put in place delivery mechanisms that work efficiently and reach a large share of the population. The keys under either type of system are to provide appropriate incentives to patients, insurers, and providers through payment mechanisms; to target the provision of basic care to vulnerable groups; to introduce good procurement practices; to strengthen accountability at all levels; and to emphasize monitoring and quality assurance. Public health policies, including promotion of healthier

lifestyles, food safety, and improved sanitation, are also likely to be cost effective and sustainable ways to promote better health outcomes. Of course, broader public policies—beyond health—also affect health outcomes, including better education and policies to promote economic growth and good governance overall.

The mode of health financing may have impacts beyond health, however, given the differences in tax incidence between general revenue financing (whether through direct or indirect taxes) and financing through labor taxes. These issues of tax policy are

Notes

The authors are grateful for the research assistance provided by Qing Wu, Elena Rydralova, and Shweta Jain.

1. Individual health risk has no impact on the level of contributions.
2. Croatia, Poland, Romania, and the Slovak Republic.
3. Several studies have been implemented using micro data to look at the determinants of health spending. These studies find that in addition to income, prices of health care seem to matter, but there is no consensus on how important an effect price generates. The estimated price elasticity of health care spending tends to be small but is consistent with significant reductions in spending, particularly when the price paid by households is originally near zero (Docteur and Oxley 2003).
4. The impoverishing effect of out-of-pocket spending has been documented in both ECA and comparator countries. Wagstaff, van Doorslaer, and Watanabe (2002) analyzed the impact of household spending on health on poverty using data from the Vietnam Living Standards Survey for 1993 and 1998. In 1993, 38 percent of households in the sample registered out-of-pocket payments for health in excess of 5 percent, and 34 percent spent more than 15 percent of their nonfood consumption on out-of-pocket payments. Out-of-pocket payments were found to increase the poverty headcount ratio by 4.4 percentage points in 1993 and 3.4 percentage points in 1998. A similar analysis for Chile (Bitran et al. 2004) showed that approximately 90 percent of households in the poorest consumption quintile spent more than 15 percent of income on out-of-pocket health spending. Those in the private health insurance system were more likely to fall into poverty because of out-of-pocket payments because of the limitations of the private system in covering catastrophic shocks. In Albania it was estimated—using Living Standards Measurement Survey 2002 data—that about 26 percent of people reported health care payments greater than 10 percent of total incomes, and about 9 percent reported health spending above 25 percent of their income. The percentage of individuals below the poverty line increased from 25 to 34, and extreme poverty doubled from 5 to 10 percent, when health out-of-pocket spending was taken into account (World Bank 2006e).
5. "Amenable conditions" derives from the concept of deaths from various causes (such as pregnancy and childbirth, tuberculosis, diabetes mellitus,

pneumonia, and appendicitis) that should not occur in the presence of timely and effective health care.

6. Several approaches have been developed to better quantify the contribution of health care systems to population health. Immunization rates and standardized death rates from certain causes, such as cancer of the cervix, diabetes mellitus, cardiovascular disease, and tuberculosis, provide evidence of coverage of preventive care and the extent by which better systems could reduce unnecessary deaths from preventable diseases. A different approach is to look at tracer conditions, that is, select a particular health condition, the treatment of which captures some of the complexities involved in health care systems. Nolte, Bain, and McKee (2006) propose to look at diabetes at young age as a condition to measure the performance of health systems, arguing that the effective treatment of the disease requires the coordination of different actors. Diabetes is well defined, easy to diagnose, prevalent worldwide, and growing as a condition that affects a larger share of the population. Treating diabetes successfully involves good screening for the disease, reducing the risk of complications, access to essential medicines like insulin, good monitoring, and adequate prevention. The variable used to measure performance is the ratio of the standardized death rate from diabetes for ages 0–39 to age-standardized incidence for the 0–14 year-old group as an indicator of overall survival from the disease and therefore an indication of quality of treatment and care. The study contained few countries from the sample in this report, finding significant variation in performance. For example, Romania has a ratio of 0.13 and Poland 0.08, while the lowest ratio in the sample included in this study for which available data exist is Spain, with 0.02. The large variation across countries suggests differences in the ability of health systems to provide adequate care for people with diabetes.
7. Other studies on the relationship between public spending and outcomes tend to confirm these results (Berger and Messer 2002; Wagstaff and van Doorslaer 2001; Bidani and Ravallion 1997.
8. Also see discussion in chapter 9 on the relationship of these results to the overall quality of governance.
9. The output efficiency scores are not reported in this chapter because less variation in output efficiency scores is observed among ECA focus countries and international comparator countries.
10. For a complete description of the advantages and disadvantages of different payment mechanisms, see Langenbrunner and Wiley (2002).
11. Outpatient drugs only (OECD 2005b).
12. If the pharmaceutical company decreases the price of a drug after the positive list is published, the ratio between the reimbursement paid by the health insurance company and the copayment paid by the patient remains the same.
13. According to the 2004 household survey.
14. The successful implementation of universal coverage is largely the result of an incremental introduction of progressive innovations. In 1977, only 8.8 percent of the population in Korea was covered by formal social security insurance. In that year, two programs were established: MAP for the population with income below a certain level and a medical insurance

program that provides coverage for employees and their immediate family members working in enterprises of 500 or more people. Two years later, the coverage was expanded to enterprises with 300 or more employees and civil servants and teachers in private schools, and in 1981 coverage was extended to enterprises with 100 or more people. By 1988, the government expanded medical insurance coverage in rural areas to almost 7.5 million more people. In 1989, the government extended medical insurance to the uncovered population, mainly self-employed urban workers. So by 1989, 12 years after beginning the first reform, Korea successfully achieved universal health insurance. For more details see OECD (2003).

15. These were (a) the Civil Servant Medical Benefit Scheme covering government employees and dependents, noncontributory, financed fully by general tax revenue; (b) the public welfare scheme covering low-income households, the elderly, and children under 12, financed fully by general tax revenue (under two separate programs, the medical welfare scheme, and the Type B Fee exemption scheme); (c) the social security scheme and workers compensation fund covering private employees, financed by contributions equally from government, employer, and employee; and (d) voluntary Health Card Scheme covering the borderline poor who are not eligible for the public welfare scheme, with about 50 percent subsidized by the general tax and fixed fees that households contribute each year.
16. For example, the total number of households facing catastrophic expenditure in 2000 was fairly evenly distributed across the five quintiles, 15 percent in the first quintile, 25 percent in the second, and almost equally at 20 percent in the third, fourth, and fifth. After UCS implementation, the percent distribution in the first and second quintiles fell significantly, while it increased in the fourth and fifth. Overall poverty from out-of-pocket spending on health decreased, from 4.4 percent in pre-UCS 2000 to 1.8 percent in 2004. See Limwattananon, Tangcharoensathian, and Prakongsai (2005).
17. The master plan was completed in 1998. With more than 50 hospitals, Tbilisi was selected as the first priority for restructuring. Phase I of the plan has been completed. For the most part, this has involved the consolidation of some facilities in Tblisi, Kutaisi, Poti, and several other cities in Georgia. These mergers have meant that in the initial stages, several facilities have been combined to form one legal entity, so that on paper at least the number of facilities has decreased. Eventually some of the excess property within these consolidated groups was sold off.