

H N P D I S C U S S I O N P A P E R

Special Issues With Single-Payer Health Insurance Systems

Gerard F. Anderson and Peter Hussey

September 2004



**SPECIAL ISSUES WITH SINGLE-PAYER
HEALTH INSURANCE SYSTEMS**

Gerard F. Anderson and Peter Hussey

September 2004

Health, Nutrition and Population (HNP) Discussion Paper

This series is produced by the Health, Nutrition, and Population Family (HNP) of the World Bank's Human Development Network ([HNP Discussion Paper](#)). The papers in this series aim to provide a vehicle for publishing preliminary and unpolished results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual authors whose name appears on the paper.

Enquiries about the series and submissions should be made directly to the Editor in Chief. Submissions should have been previously reviewed and cleared by the sponsoring department which will bear the cost of publication. No additional reviews will be undertaken after submission. The sponsoring department and authors bear full responsibility for the quality of the technical contents and presentation of material in the series.

Since the material will be published as presented, authors should submit an electronic copy in a predefined format as well as three camera-ready hard copies (copied front to back exactly as the author would like the final publication to appear). Rough drafts that do not meet minimum presentational standards may be returned to authors for more work before being accepted.

The Editor in Chief of the series is Alexander S. Preker (apreker@worldbank.org); For information regarding this and other World Bank publications, please contact the [HNP Advisory Services](#) (healthpop@worldbank.org) at: Tel (202) 473-2256; and Fax (202) 522-3234.

ISBN X-XXXXXX-XX-X

© 2004 The International Bank for Reconstruction and Development / The World Bank
1818 H Street, NW
Washington, DC 20433
All rights reserved.

Health, Nutrition and Population (HNP) Discussion Paper

Special Issues with Single-payer Health Insurance Systems

Gerard F. Anderson, Ph.D.^a and Peter Hussey^b

^a Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA

^b Doctoral Candidate, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA

Paper prepared for the World Bank's Resource Allocation and Purchasing Project

Abstract: Health insurance systems have been broadly classified into two groups based on the number of insurance pools: single-payer and multiple-payer systems. In single-payer systems, one organization—typically the government—collects and pools revenues and purchases health services for the entire population, while in multiple-payer systems several organizations carry out these roles for specific segments of the population. This paper examines the organization and operation of single-payer health insurance systems. We classify single-payer systems into four generic models: regional/private, regional/public, central/private, and central/public. The differences between these models are the level of centralization of financing and administration of health care (regional or central) and the ownership of health care providers (mainly public or mainly private). These four models are compared in four topic areas: revenue collection, risk pooling, purchasing, and social solidarity. The single-payer models are then contrasted with systems that use multiple-payer models. The comparisons are made in the same four topics: revenue collection, risk pooling, purchasing, and social solidarity. The paper concludes with a discussion of specific issues for low- and middle-income countries considering a choice between single- and multiple-payer systems.

Keywords: resource allocation and purchasing, health care financing, single-payer, health insurance system, financing, purchasing

Disclaimer: The findings, interpretations and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

Correspondence Details: Gerard F. Anderson, Ph.D.; Hampton House 300, 624 N Broadway, Baltimore, MD, 21205, USA; Tel: (410) 955-3241; Fax: (410) 955-2301; Email: <mailto:ganderso@jhsph.edu>; Peter Hussey, Johns Hopkins Bloomberg School of Public Health, 624 N. Broadway HH305, Baltimore, MD 21205; Tel: (410) 955-7314; Fax: (410) 955-2301; Peter Hussey, Johns Hopkins University, Hampton House 305, 624 N. Broadway, Baltimore, MD 21205, USA, Tel. (410) 955-3241, Fax (410) 955-2301, Email: phussey@jhsph.edu

Table of Contents

FOREWORD.....	VII
ACKNOWLEDGMENTS	IX
INTRODUCTION.....	1
MODELS OF SINGLE-PAYER HEALTH SYSTEMS.....	2
REGIONAL/PRIVATE	2
<i>Financing—Public Sector</i>	3
<i>Financing—Private Sector</i>	4
<i>Federalism</i>	5
<i>Purchasing</i>	6
<i>Social Solidarity</i>	7
REGIONAL/PUBLIC	7
<i>Financing—Public Sector</i>	7
<i>Financing—Private Sector</i>	8
<i>Federalism</i>	9
<i>Purchasing</i>	9
<i>Social Solidarity</i>	10
CENTRAL/PRIVATE.....	10
<i>Financing—Private Sector</i>	11
<i>Financing—Private Sector</i>	11
<i>Purchasing</i>	11
<i>Social Solidarity</i>	12
CENTRAL/PUBLIC.....	12
<i>Financing—Public Sector</i>	12
<i>Financing—Private Sector</i>	13
<i>Purchasing</i>	14
<i>Social Solidarity</i>	15
THE ROLE OF PRIVATE INSURANCE	16
THE CZECH REPUBLIC: FROM A SINGLE-PAYER TO A MULTIPLE-PAYER INSURANCE SYSTEM .	18
CONVERGENCE OF SINGLE-PAYER HEALTH INSURANCE MODELS	18
DIFFERENCES BETWEEN SINGLE- AND MULTIPLE-PAYER SYSTEMS	19
REVENUE COLLECTION	20
<i>Equity</i>	20
<i>Economic Efficiency</i>	20
<i>Aggregate Level of Funding</i>	21
ADVANTAGES OF SINGLE-PAYER SYSTEMS: REVENUE COLLECTION	21
<i>Efficiency in Revenue Collection</i>	21
<i>Cost Control</i>	21
<i>Subsidization of Low-Income Individuals</i>	21
ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: REVENUE COLLECTION.....	22
<i>Government’s Ability to Collect Taxes</i>	22
<i>Responsiveness to Patient Preferences</i>	22

RISK POOLING	22
ADVANTAGES OF SINGLE-PAYER SYSTEMS: RISK POOLING	24
<i>Less Data Collection</i>	24
<i>Less Regulation</i>	24
<i>No Reallocation of Resources</i>	24
ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: RISK POOLING	25
<i>Tailored Benefit Packages</i>	25
<i>Rewards Healthy Behavior</i>	25
PURCHASING	25
ADVANTAGES OF SINGLE-PAYER SYSTEMS: PURCHASING	25
<i>Purchasing Power</i>	25
<i>Technology Assessment</i>	26
<i>Formularies</i>	26
ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: PURCHASING	26
<i>Consumer Choice of Insurer</i>	26
<i>Selective Contracting with Providers</i>	27
<i>Quality of Care</i>	27
SOCIAL SOLIDARITY	27
ADVANTAGES OF SINGLE-PAYER SYSTEMS: SOCIAL SOLIDARITY	28
<i>More Equitable Financial Burden</i>	28
<i>Government Legitimacy</i>	28
ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: SOCIAL SOLIDARITY	28
<i>Social Capital</i>	28
<i>Political Support of the Better-off</i>	29
OTHER ISSUES IN SINGLE-PAYER HEALTH INSURANCE SYSTEMS	29
<i>Investment in Public Health</i>	29
<i>Incentive for Innovation</i>	29
<i>Administrative Costs</i>	29
CONSIDERATIONS SPECIFIC TO LOW- AND MIDDLE-INCOME COUNTRIES.....	29
FINANCING	30
<i>Ability to Raise Public Revenues</i>	30
<i>Taxation</i>	30
RISK POOLING	30
<i>Mandatory Insurance Enrollment</i>	30
<i>Adverse Selection</i>	30
PURCHASING	31
<i>Payment Incentives</i>	31
SOCIAL SOLIDARITY	31
<i>Greater Income Disparity</i>	31
<i>Greater Diversity of Health Needs</i>	31
<i>Out-of-Pocket Payments</i>	31
CONCLUSIONS	31
REFERENCES.....	33

FOREWORD

Great progress has been made in recent years in securing better access and financial protection against the cost of illness through collective financing of health care. This publication – *Special Issues with Single-Payer Health Insurance* by System Gerard F. Anderson and Peter S. Husse – is part of a series of Discussions Papers that review ways to make public spending on health care more efficient and equitable in developing countries through strategic purchasing and contracting services from nongovernmental providers.

Promoting health and confronting disease challenges requires action across a range of activities in the health system. This includes improvements in the policymaking and stewardship role of governments, better access to human resources, drugs, medical equipment, and consumables, and a greater engagement of both public and private providers of services.

Managing scarce resources and health care effectively and efficiently is an important part of this story. Experience has shown that, without strategic policies and focused spending mechanisms, the poor and other ordinary people are likely to get left out. The use of purchasing as a tool to enhance public sector performance is well documented in other sectors of the economy. Extension of this experience to the health sector is more recent and lessons learned are now being successfully applied to developing countries.

The shift from hiring staff in the public sector and producing services “in house” from non governmental providers has been at the center of a lively debate on collective financing of health care during recent years. Its underlying premise is that it is necessary to separate the functions of financing health services from the production process of service delivery to improve public sector accountability and performance.

In this Discussion Paper, Anderson and Hussey compare single-payer and multiple-payer systems. Although single payer systems are often promoted in developing countries, the authors conclude that there are no universal paradigm for the design of health care purchasers. Countries vary greatly in their priorities, populations, development, and systems of government. Each of the two major types of health insurance system — single-payer and multiple-payer — has strengths and weaknesses. Countries deciding on the reform or development of health care purchasing should evaluate these strengths and weaknesses against their own priorities and needs, political and economic constraints, and administrative capabilities.

Alexander S. Preker

Lead Economist
Editor of HNP Publications

ACKNOWLEDGEMENTS

The authors thank Jack C. Langenbrunner and Alexander S. Preker for comments on a draft.

The authors of this Report are grateful to the World Bank for having published the Report as an HNP Discussion Paper.

INTRODUCTION

Counties have adopted a wide variety of health insurance systems to protect their populations against the financial risks of illness and to facilitate access to appropriate medical and preventive care. To accomplish these two objectives, all health insurance systems have created mechanisms to collect revenues, pool revenues spread risk, and purchase health services. The way the health insurance system is organized, in turn, profoundly affects the equity, efficiency, and organization of the health care delivery system.

Health insurance systems have been broadly classified into two groups based on the number of insurance pools: single-payer and multiple-payer systems. In single-payer systems, one organization—typically the government—collects and pools revenues and purchases health services for the entire population, while in multiple-payer systems several organizations carry out these roles for specific segments of the population. Single-payer systems include all citizens within a single risk pool, while multiple-payer systems have pools at potentially different levels of health risk. Single-payer insurers have monopsony power in purchasing health services; multiple-payer systems offer consumers the possibility of choosing an insurer.

This paper examines the organization and operation of single-payer health insurance systems. We classify single-payer systems into four generic models: regional/private, regional/public, central/private, and central/public. These models are different in the extent of centralization of financing and administration of health care (regional or central) and in the ownership of health care providers (mainly public or mainly private). The locus of financing and administration affects the way revenues are generated, benefits are determined, and the system is regulated. The ownership of health care providers affects the purchasing relationship between insurers and providers.

Table 1 summarizes these differences.. In the regional/private model, health care is financed and administered primarily at the regional level, and providers are predominately private, as in Canada. In the regional/public model, health care is financed and administered primarily at the regional level, but providers are mainly public, as in Sweden. In the central/private model, health care is financed by the central government, which contracts mainly with private providers of health services, as in Taiwan. In the central/public model, health care is financed and administered by the central government, and providers are primarily publicly owned, as in the United Kingdom.

Table 1. Four Models of Single-Payer Health Insurance Systems.

<i>Model</i>	<i>Financing and administration</i>	<i>Provider ownership</i>	<i>Example</i>
Regional/private	Decentralized	Mainly private	Canada
Regional/public	Decentralized	Mainly public	Sweden
Central/private	Centralized	Mainly private	Taiwan
Central/public	Centralized	Mainly public	United Kingdom

These four models are compared in four topic areas: revenue collection, risk pooling, purchasing, and social solidarity. *Revenue collection* is the process of collecting health revenues through taxation, premiums, out-of-pocket payments, or other methods. *Risk pooling* is the aggregation of health insurance revenues for groups of individuals to protect individuals from the full cost of health care in the event of illness or injury. *Purchasing* is the system by which insurers procure health services from providers for their beneficiaries. *Social solidarity* is the sense of unity, interdependence, and community among members of a society that mutual participation in a health insurance system can influence. Specific examples of high-income and middle-income countries are used to illustrate how these four models have been implemented.

The single-payer models are then contrasted with systems that use multiple-payer models. The comparisons are made in the same four topics: revenue collection, risk pooling, purchasing, and social solidarity. In each area, the relative advantages of single-payer and multiple-payer systems will be discussed.

The paper concludes with a discussion of specific issues for low- and middle-income countries considering a choice between single- and multiple-payer systems. The paper discusses why some low- and middle-income countries may have less capacity than higher income countries to raise revenue, limited capacity for pooling risks, weaker purchasing arrangements, and greater challenges for social solidarity in terms of the health care system. This may affect their selection of single- or multiple-payer systems and the model of single-payer system to select.

MODELS OF SINGLE-PAYER HEALTH SYSTEMS

As summarized in table 1, there are four models of single-payer health systems: regional/private, regional/public, central/private, and central/public.

REGIONAL/PRIVATE

Regional/private systems are characterized by regional insurance pools with central government oversight and financial support. The regional pools are responsible for most of the revenue collection, financial pooling, and purchasing functions for their residents. The result is regional health care systems within centrally set guidelines. The regional insurance bodies do not compete against one another, and the role of private supplemental insurers is generally constrained by law from competing with the public sector in order to preserve the single-payer

nature of the insurance system. The regional insurance bodies purchase health services for beneficiaries from mainly private providers.

The organization of a regional/private system is illustrated using Canada as an example. The selection of a specific country allows the discussion of operational issues that a general discussion would miss. Other countries adopting a regional/private model could make somewhat different decisions than were made in Canada.

Financing—Public Sector

Public health sector revenues in the Canadian system are raised mainly through local/regional taxes and by transfers from central government general taxation revenues to regional authorities. Additional revenues come from direct expenditure by the central government. Table 2 shows the sources of revenues for Canada. The public share of health sector revenues was 70.2 percent in Canada in 1998.

Table 2. Sources of Revenue in the Canadian Health Insurance System 1998.

Country	Percentage of Total Health Expenditures from					
	General taxation (central)	General taxation (regional)	Payroll tax	Out-of-pocket	Private insurance	Other private
Canada	24.1	44.9	1.2	16.6	11.2	7.6

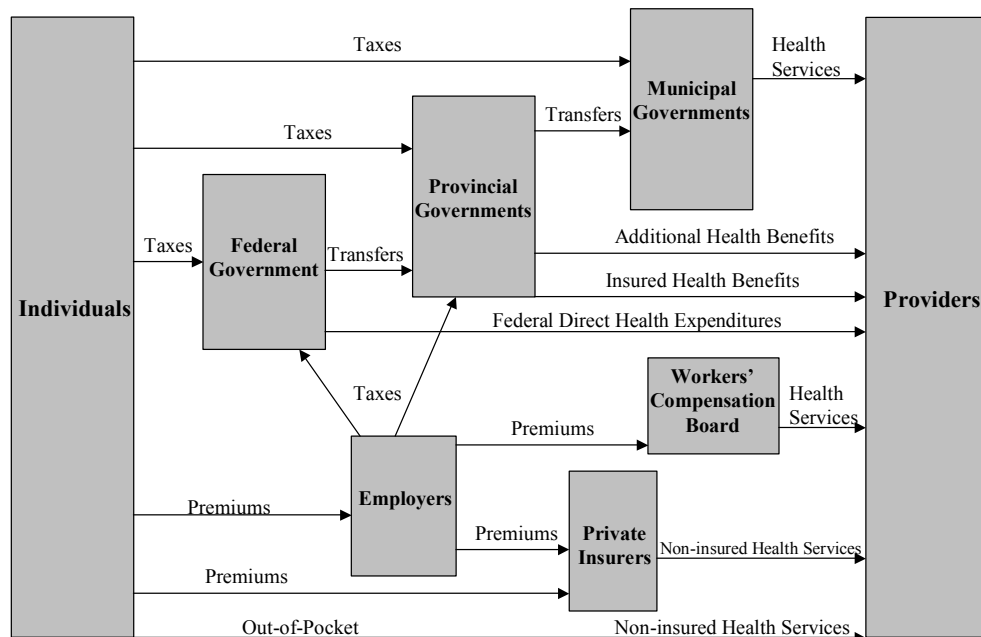
Source: OECD Health Data (2001) and Canadian Standing Senate Committee on Social Affairs, Science and Technology (2001)¹

Figure 1 shows the flows of funds in the Canadian health system. In Canada in 1998, the greatest share of revenues (44.9 percent) was raised by the 10 provinces and 3 territories (table 2). Provincial governments raise revenues through a variety of methods. General income and corporate taxation is most common, although two Canadian provinces (Alberta and British Columbia) raise revenues through premiums. Sales taxes, special payroll taxes, lottery proceeds, and “sin taxes” are also used to generate some health sector revenues at the regional level.

The federal government contributes the next largest share of public sector health revenues through transfers to provinces in the form of the Canada Health and Social Transfer (CHST), an annual single block transfer for health and other social services (24.1 percent of total revenues). In addition to provincial transfers, the federal government contributes funds to the health system for certain services provided to special populations by the federal government and for public health, regulatory, and research activities. Workers’ compensation payments and municipalities contribute the remainder of public sector health revenues.

¹ The provincial/central distribution of public sector health financing is an estimation since no detailed statistics are kept on the allocation of the Canada Health and Social Transfer between health care and other social services included in this transfer (CIHI sector:p. 73). OECD Health Data 2001 reports that general taxes represented 69.0 percent of total health expenditures in 1998. The estimation of the distribution of these revenues between the central government and provinces was performed by the Canadian Standing Senate Committee on Social Affairs, Science and Technology (2001: p. 24).

Figure 1. Flows of Funds in the Canadian Health System.



Source: Health Canada (2001).

Financing—Private Sector

Private sector revenues in the Canadian system are generated primarily from two sources: out-of-pocket payments for health services and premiums for supplemental health insurance.

Out-of-pocket payments. Out-of-pocket payments in Canada include payments for uncovered services and payments for additional amenities in health care facilities. User charges are not allowed for services covered by the single-payer health insurance system due to the provision in the Canada Health Act guaranteeing unimpeded access to health services for all. In Canada, there is the perception that, because of the regressive nature of out-of-pocket payments, user charges would create a “two-tiered” insurance system, with less access to care for low-income individuals. However, services that are not covered under the Canada Health Act such as pharmaceuticals, dental care, and vision care may require out-of-pocket payments as determined by the provinces. Canadians may also pay out-of-pocket for improved amenities such as private hospital rooms. Since expenditures on pharmaceuticals and other uncovered benefits have been increasing rapidly in Canada, an increasing share of health revenues has been generated from out-of-pocket payments (from 14.4 percent in 1990 to 16.6 percent in 1998) (OECD 2001).

Private insurance. Private insurance in the Canadian health insurance system is available as a supplement to publicly insured services. A central issue is whether private insurers are allowed to cover publicly insured services, giving patients and providers latitude for choice of insurers. In Canada, private insurers are not permitted to overlap coverage with the single-payer insurance

system. Consumers may purchase private insurance to cover the costs of uninsured services and amenities such as private hospital rooms.

Supplemental private insurance premiums are generally risk rated. Private insurers are able to gather some information on the risk profile of potential beneficiaries or groups of beneficiaries and modify the contract accordingly, including refusing to issue one at all. Employment can affect an individual's premium. For example, smaller employers in Canada are more likely to be subject to actuarial risk assessment than large employers, and high-risk individuals may pay high premiums or be excluded from coverage (Deber et al. 1999). This risk assessment diminishes the effectiveness of risk spreading through pooling and makes it more difficult for people with chronic conditions to obtain supplemental private insurance.

Federalism

The financing, management, and delivery of health services is the responsibility of regional governments in the Canadian health insurance system. These functions are performed within a framework of general regulations set at the national level. The general goal of this federalized arrangement is to allow for some regional variation in health care organization and delivery within an overarching national framework. Fiscal transfers from central to regional governments allow enforcement of this framework through the "spending power" of the central government. The federal government may also fulfill special functions, such as: disease control and prevention; provision of health care to special populations; clinical research; regulation of pharmaceuticals; and technology assessment.

The general framework for the Canadian health insurance system is enumerated in the Canada Health Act. The five principles in the Canada Health Act that are enforced by the federal government are: (1) the administration of provincial health plans on a nonprofit basis by a public organization; (2) comprehensive coverage of all medically necessary services provided by doctors and hospitals; (3) universal entitlement to public health insurance for all eligible residents; (4) access to medically necessary health services without financial or other barriers; (5) portability of health insurance coverage when a resident moves or travels within Canada or travels internationally (Health Canada 2001).

The central government's main tool for enforcing the general framework is the allocation of funds to the provinces. Provinces that fail to comply with the standards of the Canada Health Act are not granted their full federal allotment for health care. The amount of the financial penalty is determined case-by-case according to the perceived gravity of the violation. In the case of extra billing for physician services or user charges for covered services, for example, the withhold may be equal to the amount collected from patients in out-of-pocket payments. Since 1995, the federal government has withheld funds from several provinces that allowed private clinics to charge facility fees for services covered by the single-payer health insurance system (Canadian Standing Senate Committee on Social Affairs, Science and Technology 2001).

The sharing of health expenditures between central and regional governments does not necessarily need to solely take the form of cash transfers. In Canada, transfers have two components: the annual cash transfer (CHST) and a "tax points" transfer. The "tax points" component was a one-time transfer of taxing responsibility from the central government to the

provinces. It was accomplished by simultaneously lowering the federal tax rates while allowing provinces to raise their tax rates by a corresponding amount, resulting in no aggregate change in a citizen's tax liability. The result has been increased tax revenues for the provinces and decreased tax revenues for the federal government. This "tax points" transfer has become an item of contention, however, in negotiations between provincial governments and the federal government on the level of federal funding for health care (Canadian Standing Senate Committee on Social Affairs, Science and Technology 2001). Provinces argue that the "tax points" component of the transfer should no longer be counted in calculations of the size of the federal-provincial transfer for health care, since it was a one-time transaction. Federal authorities counter that it should be counted since the tax revenues from the shift continue to accrue.

In the Canadian system, regional authorities are given wide latitude in the allocation of resources. The annual federal-provincial cash transfer for health is bundled with funds for other social welfare functions such as education, giving provincial authorities the ability to adjust their priorities between these functions.

Purchasing

Health services in the Canadian system are typically purchased by regional authorities from mainly private providers. Purchasing arrangements are characterized by regional purchasing bodies with a near-monopoly on purchasing in their area. Other payers such as private insurers are restricted to a supplementary role.

Hospitals. Hospitals in Canada are mostly private not-for-profit enterprises managed by local boards of trustees. Hospitals are paid through an annual global budget negotiated with provincial authorities. User charges or private insurance payments may be collected only for services not covered under the Canada Health Act. For this reason, most hospital revenues by far are single-payer insurance payments. Hospital managers have the authority to allocate funds among hospital departments, although capital expenditures are kept separate from operating expenditures. The methodology for hospital budgets varies from province to province but are generally based on historical utilization levels, input prices, and population demographics (Health Canada 2001). Supply constraints have created queues for certain services (Graig 1999).

Physicians. Canadian physicians are generally in private, solo practice. Patients have a free choice of primary care physicians, who act as a gatekeeper for most specialist and hospital services. Physicians are generally paid on a fee-for-service basis, with expenditure caps to control volume. Fee schedules are negotiated between provincial authorities and medical associations. In some provinces, physicians are permitted to accept private-paying patients, but in these cases they are no longer permitted to receive any public insurance payments (known as "opting out").

Capital allocation. Capital allocation decisions are made by provincial governments in the Canadian health insurance system. In the case of medical technologies, allocation decisions may be informed by guidance from national technology assessment organizations, but the decisions are made at the provincial level.

Social Solidarity

Canada has given great importance to social solidarity in the design of the regional/private system. One of the primary ways this has been done is through health care financing. Several aspects of Canadian health care financing redistribute resources from richer individuals to poorer. The first is the progressive nature of the financing system; the majority of provincial and federal health care revenues are raised through progressive general taxation. Additional redistribution occurs in the federal-provincial transfer of revenues because the cash component of the federal-provincial transfer is adjusted for the socioeconomic characteristics of the provinces. The federal government allocates resources from the richer to the poorer provinces to diminish the differences in the ability to raise funds across provinces. A third method of redistribution is through additional, direct federal funding for special segments of the population such as indigenous populations.

The Canadian system also promotes solidarity by regulating the private sector to prevent a “two-tiered” health system. Private insurance coverage is not permitted to overlap with public coverage. Physicians who accept private payments for health services must completely “opt out” of receiving public payments.

A final way that the Canadian system promotes solidarity is through capital allocation. Capital allocation decisions are based on need, not on the ability of individual institutions to finance capital projects.

Several characteristics of the Canadian system may detract from social solidarity. Many services do not fall under the Canada Health Act’s coverage mandate. An example is prescription drugs, which provinces may or may not elect to cover. Access to uncovered services depends on an individual’s ability to buy private insurance or to pay out-of-pocket. Private provider ownership may also detract from social solidarity. Providers, especially those relying on private revenue sources, may tend to locate themselves in areas with greater financial resources.

REGIONAL/PUBLIC

Regional/public systems are similar to regional/private systems in that they finance and administer health insurance mainly at the regional level, with central government oversight and financial support. The major difference between the two systems is the ownership of providers. Since health care insurance and provision are both publicly owned in regional/public systems, the same organizational entity may manage the financing, pooling, and delivery of care. Increasingly, however, countries with publicly owned health insurers and providers have introduced reforms to separate the purchasing and provision functions of health systems. This was done to improve efficiency and accountability. Public providers and purchasers, though all publicly owned, are intended to behave more like privately owned firms, leading to greater convergence between the two models. An example of a country with a regional/public health insurance system is Sweden.

Financing—Public Sector

Public health sector revenues in regional/public systems are raised primarily through local/regional taxes and by transfers from central government general taxation revenues to

regional authorities. Table 3 shows the sources of revenues for Sweden. The public share of health sector revenues was 83.1 percent in Sweden in 1993. The central government raises 5.5 percent of total health expenditures through general taxation and 13.4 percent of total health expenditures through a payroll tax.

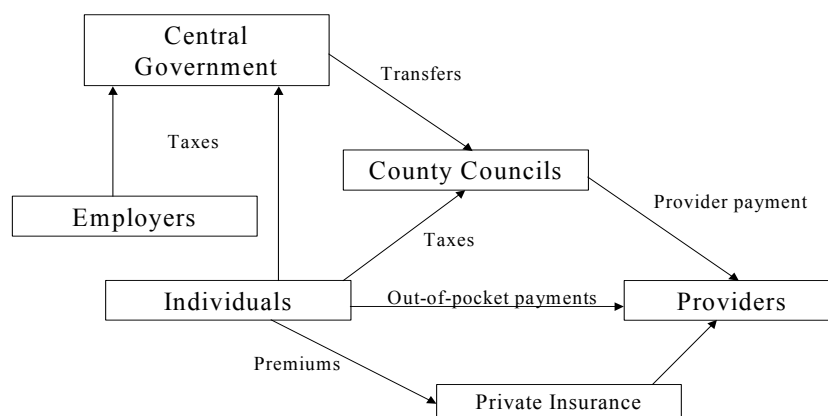
Table 3. Sources of Revenue in the Swedish National Health Service 1993.

Country	Percentage of total health expenditures from				
	General taxation (central)	General taxation (regional)	Payroll tax	Out-of-pocket	Private insurance
Sweden	5.5	64.2	13.4	16.8	0.1

Source: Mossialos and Le Grand 1999

Figure 2 shows the flows of funds in the Swedish health system. Most revenues (64.2 percent) are raised by the 26 County Councils. The County Councils raise most of their revenues through income taxes. In addition, counties collect public sector revenues through a national social insurance tax and through central government transfers.

Figure 2. Flows of Funds in the Swedish Health System.



Financing—Private Sector

Private sector revenues in the Swedish system are generated primarily from out-of-pocket payments for health services. Private health insurance is virtually nonexistent in Sweden.

Out-of-pocket payments. In Sweden, out-of-pocket payments are required for many services. User fees are set at the regional and national levels; outpatient cost-sharing levels are set by counties; the national government sets inpatient levels and maximum out-of-pocket caps. In the 1990s, user fees were increased to decrease demand for services and control costs. Out-of-pocket costs were 16.9 percent of total health expenditures in Sweden in 1993 (table 3).

Private insurance. In Sweden, private insurance is virtually nonexistent—less than 0.1 percent of total health expenditures in 1993 (table 3).

Federalism

The financing, management, and delivery of health services is performed by regional governments in regional/public systems, within a framework of general regulations set at the national level. Fiscal transfers from central to regional governments allow enforcement of this framework through the “spending power” of the central government.

In Sweden, the legislation establishing a general framework for the health insurance system is the Health and Medical Services Act, which provides for equal, unimpeded access to high-quality health services that are respectful of the patient’s dignity and autonomy. Other regulations address confidentiality and accreditation of providers (Swedish Institute 1999).

In Sweden, the government relies primarily on financial control measures to regulate the largely autonomous counties. The government also has the responsibility for granting permits for certain activities (Hakansson and Nordling 1997).

Purchasing

Health services in regional/public systems are purchased by regional, public authorities from primarily public providers. Since purchasers and providers are both publicly owned, health services do not need to be “purchased” in the strict sense; regional authorities could allocate funds to providers that they also manage. However, Sweden has implemented reforms that change the nature of the relationship between purchasers and providers. These reforms separate the purchasing and provision functions of the health care system, so that public providers and purchasers behave more like private firms in a competitive marketplace.

Hospitals. In Sweden, hospitals are mainly public. Historically, they were paid via global budgets set by the county authorities, who also managed them. In the 1990s, however, reforms were enacted to separate the purchasing and provision of hospital services. Hospitals were given greater autonomy, and most counties have established purchasing entities to contract with the hospitals. Purchasers do not compete among one another, but hospitals may compete for purchasing contracts. Historical relationships between county authorities and hospitals have generally persisted, with few observed instances of competitive behavior between hospitals; however, significant productivity gains have been observed in the hospital sector due to new financial incentives (Harrison and Calltorp, 2000).

Physicians. Physicians in Sweden are mainly public sector employees who are paid a salary by the primary care center or hospital with which they are affiliated. Full-time private sector physicians increased in number in the early 1990s, after reforms guaranteed their payment by the public insurance system, but still constitute less than 10 percent of the physician workforce (Andersen et al. 2001). Publicly salaried physicians are permitted to have a private practice in their spare time (Hakansson and Nordling 1997). Individuals have a free choice of primary care physician. This freedom of choice was part of the health system reforms enacted in the 1990s. In general, this freedom of choice has not greatly influenced consumer behavior (Harrison and Calltorp 2000; Anell 1996). However, county councils have reported a changed attitude toward

patients by health care providers. The potential for consumer choice may have increased responsiveness without that choice actually causing much change in utilization patterns (Anell 1996; Diderichsen 1995).

Capital allocation. Capital allocation decisions are generally made by regional governments in the Swedish system. In the case of medical technologies, allocation decisions may be informed by guidance from a national technology assessment organization.

Social Solidarity

Generally, Sweden has adopted provisions that promote social solidarity. Several of these are in the area of health care financing. A large share of health care revenues are raised through progressive taxes. Out-of-pocket maximums ensure that individuals are not impoverished by health care costs. Private insurance is virtually nonexistent.

The organization of the delivery system also promotes solidarity. The hospitals, which are publicly owned, are organized to promote equal access. County hospitals provide some specialty care, but high-technology services such as neurosurgery are provided at regional hospitals (Swedish Institute 1999). The delivery system is organized according to need, not financial resources. Capital, likewise, is publicly allocated according to need.

Several features of the system may detract from solidarity, however. Health care is administered regionally by county councils, potentially introducing discrepancies between rich and poor counties. Most revenues are also raised by the counties, with most central government revenues coming in the form of a flat payroll tax. Out-of-pocket payments for services, which have increased (Diderichsen 2000), may cause differences in access to care by income.

Although most physicians are paid publicly, the share in private practice has increased, and public physicians can see private patients in their spare time. This may diminish access to care in the public system for poor patients if physicians spend more time with private-paying patients.

CENTRAL/PRIVATE

The central/private model of single-payer system is similar to the central/public model except that health services are delivered mainly by private providers who contract with a single purchaser. Benefits are uniform and set by the central government.

Taiwan is an example of a country that has implemented a central/private single-payer system. It is also an example of a middle-income country that successfully made a transition from a multiple-payer health insurance system that did not cover a large section of the population to a universal single-payer health insurance system. Taiwan, a newly industrialized country, established universal single-payer health insurance in 1995. In 2001, 96 percent of the population had insurance coverage, compared to 55 percent in 1995 (Huang, Wang, and Yaung 2001). Prior to national health insurance, three separate insurance pools covered, respectively, private sector employees, government employees, and farmers (Cheng and Chiang 1997).

The planning task force for Taiwanese national health insurance, relying on the experience of other industrialized countries and the expertise of consultants, specifically recommended a

central/private single-payer health system, largely for reasons of efficiency (Chiang 1997). A single-payer system with global budgets allocated from the central government to the regions was identified as the best way to control health care costs. On the supply side, private providers were believed to be more efficient than public ones (Chiang 1997).

Financing—Private Sector

Payroll taxes are the main source of revenues for the Taiwanese health insurance system. The payroll tax now equals 4.25 percent of income up to a maximum contribution ceiling. The government subsidizes these payroll contributions from general revenues (Chiang 1997). The amount of this subsidy varies by employment status, ranging from 10 percent for private sector employees to 100 percent for low-income families. Since health care costs have grown faster than health care revenues since 1995, the insurance system faces a fiscal shortfall. Despite this shortfall, the government has been averse to raise payroll taxes. Raising this tax, along with eliminating distinctions in contribution levels among occupational groups, are among the recommendations of the Task Force on Reforming the National Health Insurance System (Huang, Wang, and Yaung 2001).

Public sector revenues are allocated to the Department of Health via global budget. This budget is then distributed into sub-budgets by geography and type of service (Chiang 1997).

Financing—Private Sector

Private sector revenues represented 31 percent of total health expenditures in 1998 (Taiwan Health Information System 2001). These revenues comprise mainly out-of-pocket payments by households. Coinsurance rates are 20 percent for primary care and 10 percent for inpatient care; extra charges apply if patients seek care from specialists without a referral. There is virtually no private health insurance in Taiwan (Chou, Liu, and Hammitt 2001).

Purchasing

Hospitals. Hospitals in Taiwan are generally private, nonprofit institutions. In 1998, 81 percent of hospitals were private for-profit, 6 percent private nonprofit, and 13 percent public (Taiwan Health Information System 2001). Since public hospitals are generally larger than private ones, 38 percent of Taiwanese hospital beds were in public institutions in 1998 (Taiwan Health Information System 2001). In 1996, 97 percent of hospitals and 90 percent of clinics contracted with the national health insurance system (Chou, Liu, and Hammitt 2001). Hospitals are paid through a fee schedule.

Physicians. Taiwanese patients have free choice of primary care physician, including Chinese medicine practitioners (Chiang 1997). Patients are charged for seeing a specialist without a referral. Physicians are paid on a fee schedule (Chiang 1997).

Benefits. The universal benefit package is determined centrally. Benefits include ambulatory care, inpatient care, emergency care, prescription drugs, lab tests, rehabilitation, mental health care, dental care, preventive services, and home care (Chiang 1997).

Social Solidarity

Several aspects of the Taiwanese single-payer insurance system promote solidarity. A uniform benefit package applies to the entire population and includes Chinese medicine. Through subsidization of low-income families, the health financing system is highly redistributive.

The private ownership of hospitals could affect the equity of access in the system. Private hospitals could locate mainly in affluent areas, leaving some individuals with no choice but to be treated in public facilities. Co-payments on services could also disproportionately affect access for the poor.

CENTRAL/PUBLIC

The central/public model of single-payer health insurance is characterized by a more centralized, hierarchical organizational structure than the previous two models. Benefits are determined nationally, and every citizen has an identical benefit package. Hospitals are mainly publicly owned, and physicians are paid primarily by the government. In a classic centralized model, insurance functions and delivery of health care were all performed by one publicly administered health service.

Examples of the classic central/public model include the Soviet Union, Spain, Costa Rica, and the United Kingdom before the 1991 reforms. We will focus on the United Kingdom due to the greater volume of published research and analysis of the organization of the United Kingdom's health system. Recent reforms in the United Kingdom's National Health Service (NHS), however, have moved that system away from a classic central/public model. Purchasing and provision of care have been separated, disentangling the health insurance system from health care delivery.

In addition to the United Kingdom, two examples of middle-income countries with modifications of the central/public model will be discussed. The Czech Republic is an example of a country that transformed its health insurance system from the central/public model to a multiple-payer system. South Africa is an example of a country with a central/public single-payer system with a substantial supplementary private insurance market. Australia, a high-income country with a supplementary private insurance market, will also be discussed.

Financing—Public Sector

Central/public systems are funded primarily through general taxation by the central government (table 4). Additional public revenues may be raised from earmarked taxes or sales taxes. Since health financing is derived mainly from the central government budget, competes directly with other central government spending priorities.

Table 4. Sources of Revenue in the British National Health Service 1998.

<i>Country</i>	<i>Percentage of Total Health Expenditures from</i>					
	<i>General taxation (central)</i>	<i>General taxation (regional)</i>	<i>Payroll tax</i>	<i>Out-of-pocket</i>	<i>Private insurance</i>	<i>Other</i>
United Kingdom	73.5	-	9.8	11.1	3.5	2.2

Source: OECD sector

The flows of funding in the NHS in the United Kingdom are shown in figure 3. The Treasury sets an annual budget for the NHS through a process known as the Public Expenditure Survey (PES). The money is then allocated from the Treasury to the Department of Health. The Department of Health allocates budgets to regional purchasers: Health Authorities for tertiary care and Primary Care Groups for primary care. The allocation of budgets is determined by the size and socioeconomic characteristics of the population. According to the planned Labour Party reforms of the NHS, Primary Care Groups will evolve into Primary Care Trusts that hold a larger share of the regional budget and are responsible for purchasing most health services for their population, arranging directly for tertiary care (Koen 2000).

Financing—Private Sector

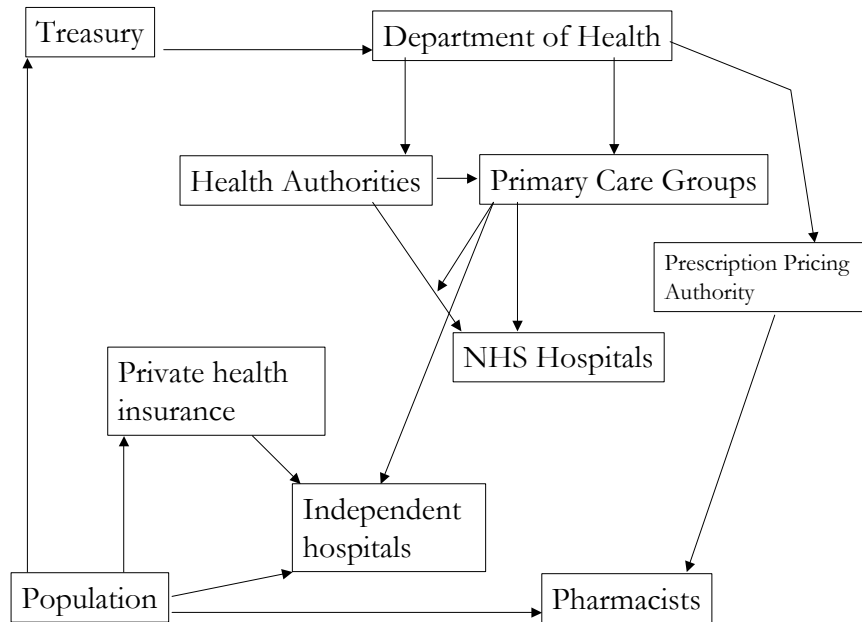
Private sector revenues in the United Kingdom are derived from out-of-pocket payments and private insurance premiums.

Out-of-pocket payments. Most NHS services are provided without user charges. User charges are collected for dental and vision care, pharmaceuticals, private care in NHS facilities, and upgraded accommodations in NHS facilities (Graig 1999). Pharmaceutical user fees are not collected for the elderly and low-income.

Private insurance. Private health insurance covered 12 percent of the population of the United Kingdom in 1998. It is offered by nonprofit as well as for-profit insurers. Private insurance plays a supplementary role to the NHS. The main benefits of private insurance include avoidance of queues for elective surgery, free choice of specialist, and better amenities. Specialist physicians supplement their salaries by treating private patients.

Employers can offer private insurance as a benefit to employees. The premium is treated as a tax-deductible business expense, and the employer pays taxes on the amount of the premium paid on his or her behalf (Graig 1999). About 60 percent of private insurance is provided by employers in the NHS; the rest is purchased individually (Graig 1999).

Figure 3. Flows of Financing in the British National Health Service.



Source: Koen (2000).

Purchasing

Providers in the NHS are generally public. Purchasers are also public: regional Health Authorities for tertiary care, Primary Care Groups for primary care. Hospitals historically were managed by the NHS, while physicians were paid by the government primarily through salary or fee-for-service. This system has shifted in recent years toward greater autonomy for providers and separation of purchasing and provision of health care. Purchasers do not compete against one another, but providers may compete for purchasing contracts.

Hospitals. Hospitals in the United Kingdom, known as NHS Trusts, are semiautonomous public organizations that are contracted by Health Authorities to provide tertiary care. Although contracts between hospitals and purchasers can be severed, the rhetoric of competition that accompanied the Thatcher government’s “internal market” reforms has been replaced with collaboration (Le Grand 1999). The contracts are multi-year agreements between Health Authorities, Primary Care Groups, and Trusts; as the reforms evolve, Health Authorities will relinquish most direct commissioning functions to Primary Care Trusts (Koen, 2000). Purchasers monitor hospital performance through a bevy of performance indicators and inspection by a central government agency, the Commission for Health Improvement (NHS Executive 1999).

Physicians. General practitioners in Britain are technically self-employed, but are paid directly by the NHS through a mixture of methods including capitation, fee-for-service, and allowances for fixed operating costs. Individuals have a free choice of primary care physician. Physician contracts are negotiated between the government and the Medical Association. General

practitioners are organized into Primary Care Groups, with responsibility for a regional population, and act as gatekeepers for most hospital and specialist services. The performance of Primary Care Groups is monitored by Health Authorities, and managerial and financial autonomy is devolved from Health Authorities to Primary Care Groups according to performance. Specialist physicians are typically salaried employees of hospitals. Specialists also have the option of seeing private-paying patients part-time while working for the NHS part-time.

Benefits. Benefits in the NHS are determined centrally. Preventive services, inpatient and outpatient hospital care, physician services, drugs, dental care, mental health care, and rehabilitation are generally covered (Smee 2000).

Capital. Capital budgets are allocated to and managed by the regional Health Authorities. Capital budgets comprise two components: block and discretionary. The block component is used for maintenance, construction, and equipment (Koen 2000). A central agency, the National Institute for Clinical Excellence (NICE), provides information and guidance on new technologies and effective treatments. This agency advises on best practices, appraises new medical interventions, and advises the NHS on how best to implement these new interventions alongside existing ones (NHS Executive 1999). The recommendations are implemented nationally.

The discretionary component, used for larger construction projects, is subject to approval by central authorities (Koen 2000). Most recent large construction projects such as new hospitals have been financed through the Private Financing Initiative (PFI), a funding arrangement between the public and private sectors (Sussex 2001). Under the PFI, private companies design, build, finance, and maintain new hospitals, as well as manage non-clinical services (Dawson 2001). The private companies are paid through long-term private contracts, typically of 25-to-30 years (Guardian Unlimited 2001). This arrangement is based on two main rationales: first, that it is preferable to finance major capital investments through private borrowing; and second, that private sector owners will promote efficiency due to different incentives from those faced by public sector managers (Dawson 2001). Critics of the PFI point to higher costs through this financing arrangement: funding still comes from the NHS, but financing is done through private lenders, where borrowing costs are higher than public sector financing (Gaffney, et al. 1999; Dawson sector; Sussex 2001). Additional criticisms are that planning of new hospitals is now based on financial, not clinical, needs, and that clinicians are not involved enough in planning decisions (Pollock, et al. 1999). Nevertheless, in response to decades of low capital investment, the NHS Plan of 2000 promised a substantial increase in capital investment, to be financed through the PFI (Dawson 2001).

Social Solidarity

Many features of the NHS promote social solidarity. A uniform benefit package applies to the entire population; for most services, there are no user charges. The financing system redistributes resources from rich to poor in two main ways. The first is the progressive nature of the financing system. The second is through federal allocation of resources to regional health authorities. This allocation process is partially based on the socioeconomic characteristics of the regions.

Aspects of the private health care sector could introduce some strains on social solidarity in the NHS. Patients who purchase private health insurance are able to avoid the queues that exist for many non-emergency health services. Doctors are allowed to treat private patients for part of their working hours, which may cause them to devote less time, energy, and resources toward care for patients paying publicly. This could lead to differences in access to care by income.

THE ROLE OF PRIVATE INSURANCE

One potential way to balance the tradeoffs between single- and multiple-payer insurance systems is to increase the role of private insurance alongside a universal single-payer insurer. All citizens would be entitled to the single-payer insurance policy, with the option of buying extra benefits in the private insurance sector. Private insurance coverage can accommodate consumer needs that are not met by the single-payer insurer for those able to pay for it. It can be purchased by individuals or employers. As a result, coverage is likely to be skewed toward higher income individuals, creating multiple tiers in the health insurance system. This influences equity of access to care and social solidarity.

Private insurance can exist alongside universal single-payer insurance in three ways: substitutive, complementary, or supplementary (Mossialos and Thompson 2001). *Substitutive* private insurance can be offered in lieu of the national single-payer insurance option for eligible individuals. For example, eligibility can be based on income (as in Germany and the Netherlands), employment status (the self-employed in Germany and the Netherlands), or occupation (civil servants in Spain and Germany) (Mossialos and Thompson 2001). *Complementary* private insurance can provide coverage of services not included in the single-payer insurance benefits. An example of complementary insurance is described above in the example of Canada. *Supplementary* private health insurance can be used to provide improved coverage of services also covered by the national single-payer insurer, e.g. access to private providers without waiting lists for elective surgery. An example of supplementary insurance is described above in the example of the United Kingdom.

South Africa is an example of an upper-middle-income country with a single-payer system alongside a substantial supplementary private insurance system. The public system is available to all but serves mainly individuals with lower incomes, although all citizens provide revenues through taxation (van den Heever 1998). Private insurance covers mainly higher income, employed individuals who purchase it in addition to public coverage. The public system covers about 82 percent of the population (van den Heever 1998). The fact that private insurance covers a minority of the population but accounts for 60 percent of health spending reveals a discrepancy between publicly and privately funded care (Schneider and Gilson 1999). Revenues for the public system are collected by the central government and disbursed to provinces through global budgets. The provinces bear the responsibility for providing public sector health care.

Recent reforms have been enacted in order to combine the centrally controlled public system with a managed, supplementary private insurance market. This involves increased regulation of the private insurance market in such areas as enrollment, benefits, and grievance procedures, to mitigate adverse selection. In addition, private insurers will be required to pay for care given beneficiaries in public facilities. These reforms aim to solidify the private sector's position as a supplement to the public single-payer system.

Australia is an example of a high-income country that has attempted to stimulate the market for supplementary private insurance alongside the national single-payer insurer, Medicare. The private share of health care revenues is among the highest in the OECD (Hall, Lourenco, and Viney 1999). Private insurance coverage, regulated by legislation, primarily provides access to private hospital treatment (Hall, Lourenco, and Viney 1999). Since 1995, the Australian government has passed three major reforms in the private health insurance market. These reforms were (1) a government-provided rebate of 30 percent of private health insurance premiums; (2) the introduction of selective provider contracting in the private insurance market; and (3) a switch from community rating to age-specific premium rating.

Following these reforms, a declining trend in the extent of private health insurance coverage among the Australian population had reversed itself, with coverage levels in early 2000 near 45 percent, the highest level since the late 1980s; however, the exact causes of this trend cannot be determined (Willcox 2001).

The Australian private insurance market faces several obstacles to success as a strong supplement to the Medicare program. The first is adverse selection. Some observers have pointed to rapidly increasing private health insurance premiums, which have grown faster than total health spending, as a potential cause of selection problems (Hall, Lourenco, and Viney 1999). Private insurance coverage in Australia is heavily skewed toward higher income individuals (Willcox 2001). However, based on the limited available data (age) on new private insurance enrollees, the risk structure of private health insurance enrollment does not seem to be changing toward higher risks. In the period from September 1997 to June 2001—the period for which data are available—the average age of private health insurance beneficiaries in Australia declined from 37.8 to 36.7 (Private Health Insurance Administration Council 2001).

A second challenge in supplemental private insurance is the scope of coverage. Private coverage often does not cover any difference between providers' actual charges and the scheduled charge, leaving patients with substantial out-of-pocket payments (Hall, Lourenco, and Viney 1999). The central issue in Australian private insurance, however, is its role as a supplement to Medicare. One viewpoint is that private insurance coverage is a luxury good, an "extra" that can be purchased by those able to pay. By this argument, the government's role in financing private insurance premiums is dubious. The other viewpoint is that private insurance is necessary to ensure that the public system can be sustained and that health care financing levels will be adequate (Hall 1999).

These examples show two efforts to strengthen a single-payer insurance system through a supplementary private insurance system. This strategy could be an option for other countries with single-payer systems seeking to supplement the finances of the health system through the private sector and provide additional health insurance options for individuals who want and can pay for them. However, the private insurance system could detract from the public system, creating multiple tiers of access to care.

THE CZECH REPUBLIC: FROM A SINGLE-PAYER TO A MULTIPLE-PAYER INSURANCE SYSTEM

The Czech Republic, a former Warsaw Pact country, had a central/public single-payer system until the early 1990s. After years of socialism, many former Warsaw Pact countries such as the Czech Republic have been increasingly relying on markets to organize the welfare functions of the state (Kornai and Eggleston 2001). In this vein, the Czech health insurance system was transformed to a multiple-payer employer-mandate system with government coverage of special populations in the early 1990s (Massaro, Nemeč, and Kalman 1994). Czech citizens are now served by 10 insurance providers, although 75 percent of the population is enrolled in the plan that previously had been the sole provider of insurance coverage (Jack 2000). Insurance revenues previously had been collected mainly through general taxation, and are now raised mainly through payroll taxes. These insurance payments do not have any relation to expected health insurance costs on an individual basis (Jack 2000).

Although Czech citizens have technically been given a choice of insurer, there is little incentive for them to exercise their newly acquired consumer power. This is because national legislation regulates the operations of the insurers, eliminating most differences that consumers could use to choose from among competing plans. Benefit packages, beneficiary contributions, and provider payment rates are determined by the government (Jack 2000). The main areas in which insurance plans can differ are the health risks they enroll and the efficiency of their operations. To counteract the adverse selection problem, a rudimentary risk-adjusted redistribution of revenues is conducted via a central fund, based solely on the proportion of beneficiaries over age 60 (Jack 2000).

The Czech reforms illustrate one way a single-payer system can be transformed to a multiple-payer system while potentially avoiding the problems of adverse selection. Through regulation and basic risk adjustment, Czech insurers have a reduced basis on which to select good health risks. However, age is unlikely to predict most actual health care utilization.²

Although it is difficult to evaluate the administrative, allocative, and technical efficiency of Czech health insurers, they seem to be performing fairly well in these areas (Jack 2000). However, the risk-adjustment process has introduced weaker incentives for insurers to collect revenues, since they can expect to recoup only a fraction of their contributions to the central fund, dependent on the age structure of their beneficiary pool (Jack 2000). To further complicate the picture, other reforms have also been enacted in the market for health *care* as opposed to health *insurance*. These reforms, including provider payment policies and choice of primary care physician, could have been implemented within a single-payer system as well.

CONVERGENCE OF SINGLE-PAYER HEALTH INSURANCE MODELS

Health system reforms of the 1990s have led to some convergence of the four models of single-payer systems. Allocation of resources in all four systems increasingly has devolved to regional authorities. These policies are based on the expectation that regional authorities are more efficient purchasers of the best mix of services for their populations. In all four models, these

² Risk-adjustment measures are further discussed in section II, Differences between Single-Payer and Multiple-Payer Systems, in the Risk Pooling section.

regional purchasers do not compete against other purchasers; they are responsible for providing insurance to all constituents.

A second way that the four models have converged is the purchasing relationship between the monopsonist and health care providers. In the past, public providers were managed by the same public agencies that held the pooled revenues. Public providers in the two models with public providers now have greater managerial autonomy and may compete for purchasing contracts. These “marketizing” reforms of public health care providers have been described on a continuum of the degree of reliance on the market for organizing resources: *autonomization*, *corporatization*, and *privatization* of providers (Harding and Preker 2001). *Autonomization* refers to the transfer of many day-to-day management decisions to providers, with increasing reliance on performance-related payments. *Corporatization* is the emulation of private corporations by public organizations, transferring near-complete control over inputs and the production of services to hospital managers. *Privatization* is the transfer of public organizations to private ownership, altering a national health service system to regional/private. These types of reforms have been proposed as a way of improving the efficiency, productivity, quality, and consumer responsiveness of publicly purchased health services (Preker and Harding 2001).

One key area of difference in the three models is the determination of the benefit package. In the decentralized systems, benefits can be determined at the regional level, within guidelines set at the central government level. In Canada, for example, there is regional variation in benefits for services where there is not a federal coverage mandate such as prescription drugs. In Sweden, benefits are more uniform across regions, but some cost-sharing levels are determined regionally. In the central/public model, every citizen shares a common, centrally determined set of health insurance benefits.

Financing is a second key difference in the models of single-payer insurance. The two regional models rely on regional authorities for most of the revenue collection, while centralized systems collect a much higher share of the revenues centrally. As a result, centralized systems must compete against other central government spending priorities, including the political need for tax rates favorable for reelection (Klein 2001). In regional systems, regional authorities must deal with the analogous set of considerations.

The difference in financing arrangements among the models has led to different regulatory strategies. In centralized systems, a greater share of regulatory duties rests with the central government. In decentralized systems, regional authorities bear a greater regulatory responsibility, with the central government enforcing general principles through its spending power. This regulatory arrangement permits diverse regional health systems united by central regulatory principles.

DIFFERENCES BETWEEN SINGLE- AND MULTIPLE-PAYER SYSTEMS

In this section, the differences between single- and multiple-payer health insurance systems are outlined, focusing on four topics: revenue collection, risk pooling, purchasing, and social solidarity. We also discuss three other topics where there may be differences between single- and

multiple-payer systems: provision of public health; incentives for innovation; and administrative costs.

REVENUE COLLECTION

A primary function of health insurance is the collection of revenues. The organization of the insurance system can influence how equitably this task is carried out, how efficiently revenues are collected, and the amount of revenue that can be raised (Schieber and Maeda 1997).

Equity

Revenues are generally collected through some combination of general taxes, payroll taxes, other taxes, and donations in the public sector and premiums and out-of-pocket payments in the private sector. The choice of revenue collection mechanisms determines the degree to which insurance systems are financed progressively or regressively. Progressive financing arrangements are those where the proportion of income contributed rises with income level, so that the affluent contribute a greater proportion of their income than do the poor. Regressive financing is the converse: a system by which the poor contribute a greater proportion of their income than do the rich. Flat taxes represent the same proportion of income for all individuals regardless of income level.

Income taxes are typically the most progressive financing mechanism because under progressive income taxes, individuals with higher incomes pay higher income tax rates. Payroll taxes are generally flat taxes, since the same proportion of income is paid by any individual regardless of income. However, upper limits on the amount that can be paid in flat tax systems can make them regressive. This can happen if, for example, the total amount that can be paid under a payroll tax is capped at a certain amount. Payroll taxes also do not typically tax assets, making them more regressive, particularly in countries where assets are generally a larger proportion of wealth (i.e., developing countries). Premiums and out-of-pocket payments are the most regressive financing options, since each individual pays the same amount, regardless of income. This amount represents a greater proportion of income for the poor than for the affluent.

Through progressive financing arrangements, insurance systems can provide greater subsidization of the costs of health care for low-income individuals. Single-payer systems typically accomplish this through progressive taxation. Some multiple-payer insurance systems are able to redistribute dollars through a variety of subsidies, for example, interpool transfers and contribution exemptions for such groups as the elderly or the unemployed. For example, in Japan, interpool transfers are made to the insurance pool encompassing the elderly population. Each insurance pool contributes an equal amount per beneficiary to the elderly insurance pool; in addition, the central and local governments contribute 30 percent of the revenues of the elderly insurance pool (Ikegami 1996).

Economic Efficiency

A tradeoff exists between the redistribution of revenues via taxation and the economic efficiency of the financing system (Schieber and Maeda 1997). Inefficiencies can arise from the changes that individuals and companies make in reaction to a tax. For example, employers may alter their hiring behavior when faced with a tax to finance health insurance for their employees. This economic cost of taxation must be weighed against equity and other considerations in the design

of an optimal taxation system for raising health care revenues (Schieber and Maeda 1997). In addition to the burden of taxation, the administrative costs of collecting revenue must also be considered. The same impact on employment, however, could be generated in a multiple-payer system if the government required all employers to provide health insurance to their employees. The magnitude of the employment effect of either a mandate or a tax is subject to considerable disagreement among economists and policymakers.

Aggregate Level of Funding

In some countries, the government's ability to collect health insurance revenues is limited by the level and distribution of per capita income, the capacity to collect taxes, and the openness of the economy (Schieber and Maeda 1997). This issue is discussed in further detail in Section 3, "Considerations Specific to Low- and Middle-Income Countries."

ADVANTAGES OF SINGLE-PAYER SYSTEMS: REVENUE COLLECTION

Efficiency in Revenue Collection

Single-payer health insurance systems, since they rely primarily on tax collection mechanisms that are used to collect revenue for other purposes and collect health revenues for the entire population, generally have lower collection costs than multiple-payer systems with separate collection systems (WHO, 2000).

Cost Control

The aggregate level of funding for single-payer health insurance systems is typically determined through an annual budgeting process, giving government officials tight control over aggregate health expenditures year-to-year. In multiple-payer systems, aggregate spending is more difficult to monitor and control, because different insurers may use different utilization monitoring, payment, and information systems. This can lead to *cost shifting*, whereby one insurer pays more than another payer for a similar product.

The close governmental control over aggregate spending in single-payer insurance systems may lead to greater political determination of total health expenditure levels. In some countries such as the United Kingdom, some have argued that it leads to under-investment in health care (Klein 2001). Others have observed that politicians may be more likely to increase health spending in election years (Cookson and Maynard, 2000). In response to political concerns, the United Kingdom has recently committed to a major expansion of resources devoted to health care (Klein 2001).

Subsidization of Low-Income Individuals

As described above, single-payer insurance systems tend to be more progressively financed than multiple-payer systems, providing a subsidy to low-income individuals.

ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: REVENUE COLLECTION

Government's Ability to Collect Taxes.

In many countries, the government's ability to collect taxes is limited due to the number of workers who earn income in the "informal economy," widespread tax evasion, and other related factors leading to a limited tax base. In these countries, government revenues may not be sufficient to fund a universal single-payer insurance system. As a result, such alternative mechanisms as community-based pools may be necessary to collect sufficient revenues. This issue is particularly relevant to low- and middle-income countries and is discussed further in Section 3, "Considerations Specific to Low- and Middle-Income Countries."

Responsiveness to Patient Preferences

Multiple-payer systems may be more sensitive than single-payer systems to individuals' specific demands for health services and better be able to tailor their services and prices accordingly. Individuals can be given a choice regarding how much they are willing to spend on health insurance. For example, some insurers could provide unrestricted access to a wide variety of benefits and charge higher premiums while other insurers could provide a low-cost alternative by restricting the set of providers and limiting the benefit package.

RISK POOLING

Health insurers pool revenues to protect individuals from the financial risks associated with the use of medical services. Numerous studies show that health expenditures are highly concentrated: a small proportion of the population incurs the most of the health expenditures (Light 2000). Insurance spreads these risks across a pool of individuals. Risks that are unpredictable at the individual level become more predictable as the size of the pool grows larger due to the law of large numbers. The size of the insurance pool can vary from a system where all revenues are combined into a single pool (single-payer insurance), to a system where each individual has a medical savings account (MSA). MSAs—prepaid, personal health care accounts that are typically subsidized through a tax incentive—do not spread the financial risk of illness but may be preferred by individuals who are not averse to taking risk. Singapore is one country which has adopted medical savings accounts.

The uncertainty of health risks can contribute to the problem of adverse selection in health insurance systems. *Adverse selection* occurs when one member of a transaction uses an information advantage strategically against the interest of the less-informed partner (Belli 2001). For example, a person selling a used car that is expected to need maintenance—a "lemon"—will conceal that information and charge the buyer a price higher than what would be agreed on if the buyer knew the car was a "lemon" (Akerlof 1970). The buyer, on the other hand, will be skeptical and assume that each car is a "lemon." The same principle applies to health insurance. Sicker individuals are more likely to want to buy health insurance and health insurers cannot afford to insure only sick people. This leads to attempts by insurers to identify sick people. In a system with multiple insurers, given a choice of health insurance contracts, high-risk individuals will tend to buy more complete insurance coverage than low-risk individuals, who will tend to opt for low-cost, low-coverage, catastrophe policies—or no insurance at all.

Insurers attempt to correct this information asymmetry by screening potential members for risk (favorable selection, or “cream-skimming”). For example, individuals with preexisting conditions may not be offered a policy with coverage of that condition. Groups of individuals with high risks—such as smokers, or workers employed in an industry with high occupational safety hazards—may be offered a more expensive policy than otherwise similar individuals. The process of collecting data for evaluating risks can be expensive for insurers. This adds to the administrative costs of insurance without providing any benefit to individuals.

Unchecked risk selection can lead to a “premium death spiral” where insurers incurring a loss due to high-risk individuals are forced to raise their premiums. In response to the higher premiums, low-risk individuals will opt out of the insurance pool for a lower cost alternative. The high-risk individuals remain, continuing to drive up the expected costs of the insurance pool and necessitating further premium increases. This cycle continues until the policy hits the “death” part of the spiral—the insurer stops offering the insurance policy. The premium death spiral has been observed, for instance, in the Federal Employees Health Benefits Plan in the United States (Newhouse 1994).

Several methods can be used to try to prevent adverse selection and the resulting death spiral. All have the disadvantages that they require considerable data, are expensive to operate, and generally have been shown to be only partially effective.

The first is the use of large insurance pools with a diverse risk structure, so that individuals with high expected utilization are subsidized by others with little expected utilization. These pools would have to be formed for a reason other than insuring against financial risk of illness. The best example is a single national pool. Another example is large employee groups: they are likely to include individuals of varying levels of health risk, because employment—not health insurance—is the primary reason for their existence.

A second way to mitigate adverse selection is the redistribution of resources among insurance pools based on the risk structure of the pools. Measures that predict utilization are commonly known as “risk adjusters.” Risk adjusters can potentially predict 15 to 20 percent of actual expenditures at the individual level, although most existing risk adjusters can explain only 10 percent of the variance at the individual level (Newhouse 1994).

There are four main groups of risk adjusters: (1) demographic information, such as age and gender; (2) prior utilization; (3) actual utilization, used *ex post facto* as a type of reinsurance; and (4) medical conditions such as diagnosis of diabetes (Cutler and Zeckhauser 2000). In deciding which type of risk adjuster to implement, policymakers must evaluate their predictive power, the ability of insurers to collect the data, the ability of respondents to “game” the data, and incentives created by the risk-adjustment system.

Age and gender are the most commonly used risk adjusters, most resistant to gaming by insurers, and easiest to collect, but only are weak predictors of actual utilization (van de Ven and Ellis, 2000). Prior utilization methods fare slightly better in predictive power, but are harder to collect, more subject to gaming, and soften the incentive for insurers to contain costs, since a past record of high spending results in higher payments in subsequent years.

Although experience with formal use of risk adjusters other than age and gender is limited (Cutler and Zeckhauser 2000), experience in the competitive multiple-payer system in the Netherlands and the U. S. Medicare program shows that the implementation of good risk-adjusters is “a long way from theory to practice” (van de Ven et al. 1994).

A third way to prevent adverse selection is through regulation. For example, insurers may be limited in the types of information they are allowed to collect about potential beneficiaries. They may be mandated to have open enrollment periods. The way premiums are set can also be regulated. Insurers may be restricted from individually rating each person. Instead, insurers must offer community rates (the same rate for everyone) or community rates by class (the same rate for everyone of a certain age or gender).

In response to these types of regulations, insurers can be expected to use other methods to attract good risks, such as benefits design—for example, a spa benefit may attract young, healthy beneficiaries. A more sinister approach is to place the enrollment office on the second story of a building that does not have an elevator or access for the handicapped.

ADVANTAGES OF SINGLE-PAYER SYSTEMS: RISK POOLING

Less Data Collection

In multiple-payer insurance systems, insurers need to collect information on the individuals or groups of individuals covered in order to set premiums and coverage appropriately. Collection and analysis of these data can be expensive. In addition, it leads to issues of personal privacy: insurers have an incentive to collect as much personal information as possible, while patients will desire to protect some information from insurers. In single-payer systems, less data collection on individuals is necessary.

Less Regulation

To prevent the selection of good risks by insurers in multiple-payer systems, regulations are required. For example, governments can regulate the types of information insurers can collect or mandate an open enrollment period. In single-payer systems, there is no need for regulations preventing selection.

No Reallocation of Resources

Redistribution between risk pools in a multiple-payer health insurance system can be used to attenuate risk selection. As discussed earlier, inter-fund transfers can be made on the basis of the risk structure of each insurance pool through the use of risk adjusters, but risk adjusters may not be currently adequate to prevent adverse selection. In single-payer systems, the use of risk adjustment is not necessary to mitigate the effects of risk selection.

ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: RISK POOLING

Tailored Benefit Packages

In multiple-payer systems, insurers can design insurance packages to provide services that are appropriate for certain risk groups. Specific insurance products can be tailored to meet specific needs and wants of specific types of individuals. For example, insurers could offer case management benefits to insurance pools containing a high proportion of persons with chronic conditions. Other insurance pools could offer unrestricted access to specialists or coverage of alternative therapies. Insurance products can also be tailored to an individual's level of risk aversion. For example, a MSA or plan with a high deductible may be preferred by less risk-averse people, while the more averse to risk taking may prefer a more comprehensive benefit package with little or no cost-sharing.

Rewards Healthy Behavior

In multiple-payer systems, groups of individuals that engage in healthy behaviors can be rewarded through lower insurance contributions. For example, an insurance policy could be offered exclusively to nonsmokers.

PURCHASING

A third main role of health insurers is purchasing health services and supplies for their beneficiaries. Insurers can purchase services from public or private providers using a variety of payment arrangements that place financial risk on a continuum from the provider (capitation) to the insurer (fee for service). The fundamental goal of purchasing is to achieve the optimum balance between effective provider incentives and an acceptable level of risk held by the provider.

In single-payer systems, the insurer is generally in a stronger purchasing position relative to providers than insurers in multiple-payer systems due to the insurer's monopsony power. This monopsony power creates options for single-payer purchasing such as global budgets and negotiated payment rates that might not be possible in multiple-payer systems. There are, however, ways that multiple-payer systems can approximate the single-payer systems in terms of purchasing. For example, all-payer rate setting can be used in multiple-payer systems to negotiate uniform provider payment rates.

ADVANTAGES OF SINGLE-PAYER SYSTEMS: PURCHASING

Purchasing Power

In single-payer insurance systems, there is little or no competition among purchasers. Single-payer insurers can use monopsony power in purchasing health services. For example, single-payer insurers can negotiate physician and hospital payment rates and buy pharmaceuticals in bulk. Savings are thus accrued at the expense of providers and drug companies, who may consider payment rates too low to continue providing high-quality care.

Technology Assessment

Technology assessment is the determination of the value of technologies to inform the allocation process. Policymakers may have different priorities in the allocation of new and established technologies, but common considerations are (1) efficient use—i.e., the greatest health gains per unit of cost (Cookson and Maynard 2000); (2) aggregate cost control, since medical technology is considered a primary driver of health spending growth (Newhouse 1993); and (3) an equitable distribution of medical technologies.

Technology assessment is applied to allocation decisions in three main ways: approval processes, insurance reimbursement policies, and clinical guideline development and application. Single-payer systems, due to their monopsony power in the health services market, may be better positioned than multiple-payer insurers to influence technology allocation through these mechanisms.

For example, in the United Kingdom, a single public agency—the National Institute for Clinical Excellence—compiles guidelines for the effective use of health care technologies. Adherence to these guidelines can be easily adopted throughout the entire NHS through the benefit package, since a single, centrally-set benefit package applies to every citizen. Capital budgets are allocated annually from the Ministry of Health to regional Health Authorities, allowing further central control over the proliferation and distribution of medical technology. In addition, another public agency, the Commission for Health Improvement, periodically audits providers to assure compliance with NICE guidelines.

Formularies

Insurers can influence drug utilization by beneficiaries by offering reduced or no coverage for certain drugs. Formularies can be used to limit the use of drugs with unproven effectiveness compared to other treatments or to encourage the substitution of generic equivalents to brand-name products. A single-payer insurer can use its monopsony power to limit aggregate pharmaceutical costs and influence population drug utilization patterns through selective coverage of pharmaceuticals. For example, in Australia the cost-effectiveness of new drugs is considered before the drugs are eligible for reimbursement by the national insurance system under the Pharmaceutical Benefits Scheme.

ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: PURCHASING

Consumer Choice of Insurer

In a multiple-payer health insurance system, the possibility of consumer choice of insurer could make insurers more responsive to the preferences of the population. Multiple-payer systems may be able to devise a set of purchasing mechanisms and provider incentives that complements the preferences of beneficiaries (Zweifel 2001). For example, different people may have different preferences as to unrestricted access to specialists, free choice of primary physician, provider payment methods, or levels of deductibles and coinsurance. Different insurance systems can accommodate these different preferences.

Selective Contracting with Providers

In a multiple-payer health insurance system, insurers can selectively contract with certain providers to provide a specialized level of service for their beneficiaries. For example, insurers could selectively contract with hospitals and physicians charging low rates in order to provide an affordable benefit package. In Switzerland, individuals can pay higher premiums in exchange for better hospital amenities (van Doorslaer, et al. 1999). Insurers could also contract with higher quality, higher priced providers to offer a high-end option to beneficiaries. Single-payer health insurance systems that have attempted to implement contracting of health care providers, as in the United Kingdom, have typically seen little change in historical relationships between purchasers and providers (Le Grand 1999; Tuohy 1999).

Another related issue to consider is that in single-payer insurance systems, doctors and other health care workers are often considered civil servants. Civil service rules can introduce rigidity in the process of adjusting the supply of health care labor to meet needs.

Quality of Care

As described above, single-payer insurers can use monopsony power in purchasing health services. In doing so, single-payer insurers may pay lower wages for doctors and other health professionals, undersupply other inputs, or otherwise cause conditions leading to lower quality care.

If the payment rates do not allow the provision of services desired by some consumers, parallel markets may develop for these services. These could take the form of a black market, or a sanctioned parallel market that could draw resources from the health insurance system. For example, substantial informal markets for health services have developed in some former Soviet republics (Preker, et al. 2001). Australia has enacted policies promoting a parallel private health care market to reduce public expenditures (Hall 1999).

One concern about single-payer systems is that they may not meet the demand of certain individuals. As a result, alternative delivery systems may develop. A frequent example is doctors who see public patients during certain hours and private patients during others. A disadvantage of this arrangement is that these physicians may provide more attention to their private patients to the detriment of the public patients. These parallel markets detract from equity of access to the health care system. Moreover, they could undermine the effectiveness of the public system—for example, providers deriving a large proportion of income from informal, out-of-pocket payments may not respond to public sector payment incentives.

SOCIAL SOLIDARITY

Social solidarity refers to a sense of unity, interdependence, and community among members of a society. Although it has been variously defined, most definitions involve the idea of society's common interests separated from or overriding individual interests (Ashcroft, Campbell, and Jones 2000). In addition to this societal, communal concept of common interests, solidarity also often includes a sense of charity—for example, a shared sense of responsibility for providing health care to specific groups such as the elderly, the poor, or people with chronic conditions.

In the case of health insurance, a common concept of solidarity involves all members of a society making a fair financial contribution in return for guaranteed equal access to needed health care (Houtepen and ter Meulen 2000). Solidarity is therefore strongly tied to an idea of distributive justice (Rawls, p. 336). In this case, access to health care is considered a positive freedom—something that people have a right *to*, as opposed to having freedom *from*—that should be distributed equally among similar individuals. This concept is supported by the U.N. Committee on Economic, Social and Cultural Rights.³

However, these values are by no means shared by all societies, giving rise to a broad array of national concepts of solidarity in the area of health care. For example, the United States could potentially be considered to be violating the U.N. right to health care based on the distribution of health care resources.⁴ The German health care system is guided rhetorically by a notion of social solidarity: everyone is guaranteed insurance coverage, but nonetheless the well-off are allowed to opt into private insurance coverage, which gives them better access to health care.

The divergence of national concepts of solidarity in health care is related to the fact that the right to health care is an ambiguous concept. How much health care are citizens entitled to? This issue is complicated by the great expense of guaranteeing even the most basic health care—trying to keep a sick person alive (Morone 2000). The rising demand for health care plus its great expense have put a strain on the concept of social solidarity in many countries (Houtepen and ter Meulen 2000).

ADVANTAGES OF SINGLE-PAYER SYSTEMS: SOCIAL SOLIDARITY

More Equitable Financial Burden

As described above, single-payer health insurance systems are financed more progressively than multiple-payer systems. Sharing the burden of health care financing in this way may increase solidarity between richer and poorer segments of the population.

Government Legitimacy

A single-payer insurance system can foster citizens' trust in the ability of the government to protect their welfare, enhancing the population's view of the legitimacy of the government.

ADVANTAGES OF MULTIPLE-PAYER SYSTEMS: SOCIAL SOLIDARITY

Social Capital

People have a sense of solidarity with others of the same community, profession, class, ethnicity, religion, or lifestyle. In large or diverse countries, a national identity may be difficult to foster. Multiple insurance pools organized along these lines could help create a sense of solidarity among members of a rural community or among employees of a company. This solidarity could contribute to building “social capital,” or features of social organization—such as trust in others

³ Anonymous, “Righting Wrongs,” *The Economist*, August 18, 2001.

⁴ Ibid.

and civic participation—that can be used as a resource to help overcome other social problems. Smaller numbers in a group can make individuals feel that they have more control over the outcomes.

Political Support of the Better-off

High-income individuals who feel that they are contributing more than their fair share toward insuring the health risks of others may oppose the health insurance system. Allowing the better-off to opt out of the single-payer insurance system may provide greater social solidarity in a normative sense, by securing the political support of high-income earners for the public insurance system.

OTHER ISSUES IN SINGLE-PAYER HEALTH INSURANCE SYSTEMS

Investment in Public Health

Multiple-payer insurers often do not expect to receive returns on investments in preventive health care. Since many beneficiaries are expected to change insurers within a few years, the long-term returns will not be collected by the insurer offering these benefits. In single-payer systems, greater investments in preventive care can lead to long-term savings due to a healthier population. In multiple-payer systems, it may be possible to achieve the same result by having more services provided as part of government-sponsored public health.

Incentive for Innovation

The lack of competition between insurance bodies may limit innovation in single-payer insurance systems. Many developments in the organization and administration of insurance, such as managed care principles, were developed in the United States, where competition between insurers is strong. Single-payer systems may become rigid and reluctant to change.

Administrative Costs

Single-payer insurance systems may achieve economies of scale in claims processing and other similar operations. Similarly, providers may have lower operating costs if all claims are processed by a single insurance agency using common forms. Multiple-payer insurers could reduce operating costs by consolidating administrative functions (e.g., using a uniform set of claims forms), but this could diminish competitive forces. Countries like Korea have integrated their administrative functions into a single entity while still having independent insurers.

CONSIDERATIONS SPECIFIC TO LOW- AND MIDDLE-INCOME COUNTRIES

Several characteristics particular to low- and middle-income countries must also be considered in the reform or design of a health insurance system. These characteristics will be outlined in the areas of financing, risk pooling, purchasing, and social solidarity.

FINANCING

Ability to Raise Public Revenues

Low- and middle-income countries raise less than half as much public sector revenue as a share of GDP than do industrial countries (Schieber and Maeda 1997). Low-income countries raise a median of 19 percent of GDP in government revenues; in middle-income countries, this figure is 30 percent. In comparison, high-income countries raise a median of 44 percent of GDP in government revenues (Schieber and Maeda 1997). Low- and middle-income countries may have greater difficulties financing a single-payer insurance system, which relies primarily on public revenues.

Taxation

Low- and middle-income countries rely less than industrial countries on income taxes and corporate taxes and raise a greater share of public revenues through sales taxes and other indirect taxes (Schieber and Maeda 1997). Indirect taxes are generally regressive, since individuals are taxed equally regardless of income; but the degree of regressivity can be moderated by targeting indirect taxes toward higher income individuals, for example, sales taxes on luxury goods such as cars. Income taxes are not a good source of revenue in many low- and middle-income countries due to several factors including the amount of income earned in the informal economy, lack of urbanization, high degree of income inequality, widespread tax evasion, and limited tax administration capacity (Schieber and Maeda 1997). Industrial countries rely primarily on general taxation to fund single-payer health insurance systems.

RISK POOLING

Mandatory Insurance Enrollment

Single-payer insurance systems in industrial countries typically have mandatory enrollment that include the entire population. Low- and middle-income countries, with a higher share of rural and agricultural workers and other workers outside the formal economy, may have difficulty assuring compliance with an insurance mandate for the entire population.

Adverse Selection

Adverse selection presents a long-term threat to the viability of microinsurance pools and any other multiple-payer insurance system without adequate safeguards. The health insurance system presents low- and middle-income countries with a difficult dilemma. There are two feasibility concerns to balance: insufficient financial and administrative capacity to establish a single insurance pool, and adverse selection concerns with multiple insurance pools. One general compromise that has been advanced is the formation of multiple insurance pools with an eye toward building the capacity needed for a future single-payer system (WHO 2000). For example, an insurance pool covering only public sector employees could later be expanded to include the entire population. This, however, could encounter practical difficulties. For example, the public sector benefits may have to be reduced in the future to make health insurance affordable for the entire population.

PURCHASING

Payment Incentives

Out-of-pocket payments generally represent a much larger share of health spending in low- and middle-income countries than in industrial countries. In addition to being undesirable because of their highly regressive nature and lack of risk spreading, high out-of-pocket payments may also undermine the payment incentives of the purchasing arrangements of the insurance system (Ensor 2001). For example, a hospital collecting per-diem user charges from patients may not attempt to shorten lengths of stay in response to per-admission insurance payments.

SOCIAL SOLIDARITY

Greater Income Disparity

Low- and middle-income countries may have greater disparities in income and resources than high-income countries. The size of these disparities can present challenges for social solidarity.

Greater Diversity of Health Needs

Disparities in health status may also be greater in low- and middle-income countries than in high-income countries, providing further challenges for solidarity.

Out-of-Pocket Payments

Low- and middle-income countries rely more heavily on out-of-pocket financing than high-income countries. Since the income elasticity of demand for health services is generally greater for poorer individuals, out-of-pocket payments may lead to better access to care for the rich than for the poor.

CONCLUSIONS

In this paper, we have described four models of single-payer health insurance systems, contrasted these single-payer systems with multiple-payer systems, and outlined special considerations for low- and middle-income countries. Recent trends have led to some convergence in the four models of single-payer health insurance we have identified. The newest evolution of systems promotes greater autonomy for health care providers and new provider payment systems. These reforms rely on financial incentives to promote changes in the health delivery system that emphasize efficiency and aim to improve the quality of health care.

There is no universal paradigm for the design of health insurance systems. Countries vary greatly in their priorities, populations, development, systems of government, and other factors. This paper has shown that the two major types of health insurance system—single-payer and multiple-payer—each has its strengths and weaknesses. Countries deciding on the reform or development of their health insurance system must evaluate these strengths and weaknesses against their own priorities and needs, political and economic constraints, and administrative capabilities.

REFERENCES

- Akerlof GA, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism, " *Quarterly Journal of Economics* 84(3) 1970: 488-500.
- Andersen R, Smedby B, and Vagero D, "Cost Containment, Solidarity, and Cautious Experimentation: Swedish Dilemmas," *Social Science and Medicine* 52(8) sector:1195-204.
- Anell A, "The Monopolistic Integrated Model and Health Care Reform: The Swedish Experience," *Health Policy* 37 1996:19-33.
- Ashcroft RE, Campbell AV, and Jones S, "Solidarity, Society and the Welfare State in the United Kingdom," *Health Care Analysis* 8, 2000: 377-94.
- Belli P, "How Adverse Selection Affects the Health Insurance Market," World Bank document sector.
- Canadian Standing Senate Committee on Social Affairs, Science, and Technology. *The Health of Canadians—The Federal Role: Volume One—The Story So Far*. Ottawa: Canadian Senate Committee, March 2001.
- Canadian Institute for Health Information. *Health Care in Canada 2001*. (Ottawa: CIHI 2001).
- Cheng SH and Chiang TL, "The Effect of Universal Health Insurance on Health Care Utilization in Taiwan," *JAMA* 278(2) 1997:89-93.
- Chiang TL, "Taiwan's 1995 Health Care Reform," *Health Policy* 39 1997:225-239.
- Chou SY, Liu JT, and Hammitt JK. 2001. "National Health Insurance and Technology Adoption: Evidence from Taiwan,"
- Cookson R and Maynard A, "Health Technology Assessment in Europe. Improving Clarity and Performance." *International Journal of Technology Assessment in Health Care* 16(2), 2000: 639-50.
- Cutler DM and Zeckhauser RJ, "The Anatomy of Health Insurance," in Handbook of Health Economics, Culyer AJ and Newhouse JP, eds. (New York: Elsevier, 2000).
- Dawson D, "The Private Finance Initiative: A Public Finance Illusion?" *Health Economics* 10 sector: 479-486.
- Deber R, Gildiner A, and Baranek P. "Why Not Private Health Insurance? 1. Insurance Made Easy." *Canadian Medical Association Journal* 161(5) 1999:539-42.
- Diderichsen F, "Market Reforms in Health Care and Sustainability of the Welfare State: Lessons from Sweden," *Health Policy* 21 1995:141-53.
- Diderichsen F, "Sweden," *Journal of Health Politics, Policy, and Law* 25(5), 2000: 931-5.
- Ensor T, "Health Economics in Low Income Countries: Adapting to the Reality of the Unofficial Economy," *Health Policy* 57(1) sector: 1-13.

Gaffney D, Pollock AM, Price D, and Shaoul J, "NHS Capital Expenditure and the Private Finance Initiative—Expansion or Contraction?" *British Medical Journal* 319 1999: 48-51.

Graig L, Health of Nations: An International Perspective on U.S. Health Care Reform (Washington, DC: Congressional Quarterly Press 1999).

Guardian Unlimited, "PFI: The Issue Explained," <http://society.guardian.co.uk>.

Hakansson S and Nordling S, "Sweden," in *Health Care and Reform in Industrialized Countries*, Raffel M, ed. (University Park, PA: Pennsylvania State University Press 1997).

Hall J, "Incremental Change in the Australian Health System," *Health Affairs* 18(3) 1999: 95-110.

Hall J, Lourenco RA, and Viney R, "Carrots and Sticks—The Fall and Fall of Private Health Insurance in Australia," *Health Economics* 8 1999: 653-660.

Harrison M and Calltorp J, "The Reorientation of Market-oriented Reforms in Swedish Health Care," *Health Policy* 50, 2000:219-40.

Health Canada. "Canada's Health Care System." <http://www.hc-sc.gc.ca/datapcb/datahesa/E-sys.htm>, last accessed 7/2001.

Houtepen R and ter Meulen R, "New Types of Solidarity in the European Welfare State," *Health Care Analysis* 8, 2000: 329-40.

Huang AT, Wang CHJ, and Yaung CL, "Insuring Taiwan's Health," *McKinsey Quarterly* 2001 no. 4:13-16.

Ikegami N, "Overview: Health Care in Japan," in *Containing Health Care Costs in Japan*, Ikegami N and Campbell JC, eds. (Ann Arbor: University of Michigan Press 1996).

Jack W, "The Purchase of Medical Care in the Czech Republic: Provider Payment Mechanisms in Practice," World Bank document draft, June 2000.

Klein R, "What's Happening to Britain's National Health Service?" *New England Journal of Medicine* 345(4) sector: 305-08.

Koen V, "Public Expenditure Reform: The Health Care Sector in the United Kingdom." OECD Economics Department Working Papers No. 256. (Paris: OECD, 2000).

Kornai J and Eggleston K, Welfare, Choice and Solidarity in Transition: Reforming the Health Sector in Eastern Europe (Cambridge: Cambridge University Press 2001).

Le Grand J, "Competition, Cooperation, or Control? Tales from the British National Health Service," *Health Affairs* 18(3) 1999: 27-39.

Light D, "Sociological Perspectives on Competition in Health Care," *Journal of Health Politics, Policy, and Law* 25(5), 2000: 969-74.

Massaro TA, Nemeč J, and Kalman I, "Health System Reform in the Czech Republic," *JAMA* 271(23) 1994: 1870-74.

Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy (Washington, DC: MedPAC, March 2002).

Morone J, "Citizens or Shoppers? Solidarity under Siege," *Journal of Health Politics, Policy, and Law* 25(5), 2000: 959-68.

Mossialos E and Le Grand J, "Cost Containment in the EU: An Overview," in *Health Care and Cost Containment in the European Union*, Mossialos E and Le Grand J, eds. (Brookfield: Ashgate 1999), p. 4.

Mossialos E and Thompson SMS, "Voluntary Health Insurance in the European Union," London School of Economics Discussion Paper no. 19, May 2001.

Newhouse JP, "An Iconoclastic View of Health Cost Containment," *Health Affairs* 12 Supp. 1993: 152-71.

Newhouse JP, "Patients at Risk: Health Reform and Risk Adjustment," *Health Affairs* 13(1) 1994: 132-46.

NHS Executive, "The New NHS, Modern and Dependable: A National Framework for Assessing Performance," (Leeds: NHS 1999).

Organization for Economic Cooperation and Development. *OECD Health Data 2001*. Paris: OECD sector.

Pollock AM, Dunnigan MG, Gaffney D, Price D, and Shaoul J, "Planning the "New" NHS: Downsizing for the 21st Century," *British Medical Journal* 319 1999: 179-184.

Preker A and Harding A, "Innovations in Health Care Delivery: Organizational Reforms within the Hospital Sector," World Bank HNP discussion paper, May 2001.

Preker A, Jakab M, and Schneider M, "Erosion of Financial Protection in Health Systems of ECA Transition Economies," World Bank document, 7/18/2001.

Private Health Insurance Administration Council, <http://www.phiac.gov.au>, last accessed 12/2001.

Rawls J, A Theory of Justice (Cambridge: Harvard University Press 1971).

Schieber G and Maeda A, "A Curmudgeon's Guide to Financing Health Care in Developing Countries," in *Innovations in Health Care Financing*, Schieber G, ed. (Washington, DC: World Bank 1997).

Schneider H and Gilson L, "Small Fish in a Big Pond? External Aid and the Health Sector in South Africa," *Health Policy and Planning* 14(3) 1999: 264-272.

Smee C, "United Kingdom," *Journal of Health Politics, Policy, and Law* 25(5), 2000:945-51.

Sussex J, The Economics of the Private Finance Initiative in the NHS (London: Office of Health Economics 2001).

Swedish Institute, "The Health Care System in Sweden." (Stockholm: Swedish Institute, May 1999).

Taiwan Health Information System, <http://www.doh.gov.tw/english/statistics/Welcome.html>, last accessed 1/2002.

Tuohy CH, Accidental Logics: The Dynamics of Change in the Health Care Arena in the United States, Britain, and Canada (New York: Oxford University Press 1999).

Van de Ven WPMM and Ellis RP, “Risk Adjustment in Competitive Health Plan Markets,” in Handbook of Health Economics, Culyer AJ and Newhouse JP, eds. (New York: Elsevier, 2000).

Van de Ven WPMM, van Vliet RCJA, van Barneveld EM, and Lamers LM, “Risk-Adjusted Capitation: Recent Experiences in the Netherlands,” *Health Affairs* 13(4) 1994: 121-36.

Van den Heever AM, “Private Sector Health Reform in South Africa,” *Health Economics* 7 1998: 281-289.

Van Doorslaer E et al., “The Redistributive Effect of Health Care Finance in Twelve OECD Countries,” *Journal of Health Economics* 18 1999: 291-313.

Willcox S, “Promoting Private Health Insurance in Australia,” *Health Affairs* 20(3) sector: 152-161.

World Health Organization, The World Health Report 2000—Health Systems: Improving Performance (Geneva: WHO, 2000).

Zweifel P, “Multiple Payers in Health Care: A Framework for Assessment,” Expert Report submitted to the World Bank, May 2001.



HEALTH, NUTRITION,
AND POPULATION



HUMAN DEVELOPMENT NETWORK

THE WORLD BANK

About this series...

This series is produced by the Health, Nutrition, and Population Family (HNP) of the World Bank's Human Development Network. The papers in this series aim to provide a vehicle for publishing preliminary and unpolished results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual authors whose name appears on the paper.

Enquiries about the series and submissions should be made directly to the Managing Editor Joy de Beyer (jdebeyer@worldbank.org) or HNP Advisory Service (healthpop@worldbank.org, tel 202 473-2256, fax 202 522-3234). For more information, see also www.worldbank.org/hnppublications.



THE WORLD BANK

1818 H Street, NW
Washington, DC USA 20433
Telephone: 202 473 1000
Facsimile: 202 477 6391
Internet: www.worldbank.org
E-mail: feedback@worldbank.org