

# INTRODUCTION TO HEALTH SERVICES RESEARCH AND POLICY ANALYSIS

## Chapter Highlights

1. *Health services research (HSR)* produces evidence of the performance of personal and community-based health services and systems, and *policy analysis* applies this evidence to define policy problems and evaluate possible solutions.
2. HSR provides frameworks, criteria, measures, and methods for evaluating health services, systems, and policies from three major perspectives: effectiveness, efficiency, and equity.
3. *Effectiveness* examines the degree to which health services preserve or improve the health of patients and populations. *Efficiency* evaluates the relationship between health outcomes and the resources required to produce them. *Equity* concerns fair distribution of health and health services.

## Introduction

The Institute of Medicine (IOM 1995) defines HSR as a basic and applied field that “examines the use, costs, quality, accessibility, delivery, organization, financing, and outcomes of health care services to increase knowledge and understanding of the structure, processes, and effects of health services for individuals and populations.” Health policy analysis has been defined as “the process of assessing, and deciding among, alternatives based on their usefulness in satisfying one or more goals or values” (Munger 2000). Because the aims of HSR and policy analysis overlap, it is useful to examine how these two fields can be integrated in practice. This chapter introduces the fields of HSR and policy analysis and presents a framework for integration. The chapters that follow present HSR concepts and methods for assessing the effectiveness, efficiency, and equity of health services and systems. The final chapters of the book detail principles and practices for applying HSR in policy analysis and include a case study illustrating their application.

## Overview of Health Services Research

### Objectives and Focus

The IOM definition acknowledges that HSR contributes to basic and applied research and concerns the study of health services that affect the health of individuals and populations. In 2000, an Academy for Health Services Research and Health Policy committee clarified the role of HSR as “the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health services, the quality and cost of health services, and ultimately our health and well-being. Research may focus on individuals, families, organizations, institutions, communities, and populations” (Lohr and Steinwachs 2002). The population health focus was reinforced in 2002 when the National Information Center on Health Services Research and Health Care Technology noted that “the goal of HSR is to provide information that will eventually lead to improvements in the health of the citizenry” (NICHSR 2007).

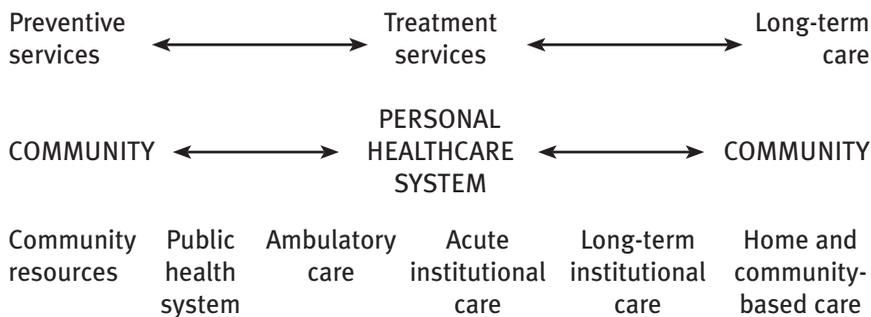
In 2007, AcademyHealth, the organization formed to represent the field of HSR, conducted a series of activities focusing on the future HSR workforce. In an editorial summarizing the discussions, Colby and Baker (2009) noted the continuing “flexible and evolving foci and boundaries of the field driven by the push of intellectual progress as well as the pull of societal changes and policy events,” predicting that future demand for HSR “will depend on its ability to continue to answer important questions that matter to both public and private decision makers.” They reinforced the policy application of HSR, quoting a previous challenge to the field by John Eisenberg, former director of the Agency for Healthcare Research and Quality: “Put research to work to improve policies, clinical practice, and outcomes!”

These HSR definitions and foci highlight the following features of the field:

1. Its interdisciplinary contribution to the development and application of theories regarding the operation of an array of personal healthcare services and community-based health interventions and systems
2. Its focus on understanding the relationship between health services and other determinants of health
3. Its study of the influence of health services and other determinants of health on the health and well-being of individuals and populations
4. Its application to real-world policy and program questions and issues

A study may be classified as HSR if it concerns services delivered through the personal healthcare system, defined broadly as any transaction between a healthcare provider and a client for the purpose of promoting the health of the client. Health services may also fall within the domain of the public health system and involve community-based interventions aimed at promoting community health, such as immunization programs, sanitation and disease control, health education, and occupational health and safety programs. The breadth of services addressed by HSR is illustrated by the continuum presented in Exhibit 1.1. One end encompasses preventive services, largely devoted to primary prevention in the community. The center of the continuum is the personal healthcare system, largely identified by the delivery of outpatient and inpatient services to patients who are ill. The other end comprises health services that deliver long-term treatment and rehabilitation to disabled individuals and persons with chronic illness as well as palliative care for the terminally ill.

HSR is inherently interdisciplinary, drawing on theories and methods from numerous fields including biology, sociology, psychology, political science, epidemiology, demography, economics, law, ethics, and medicine, among others (Choi and Greenberg 1982; Ginzberg 1991; NICHSR 2007; Pittman 2010). The uniqueness of HSR among other fields of inquiry is shown in Exhibit 1.2, which compares the objectives of HSR and those of other fields of health-related research. Basic biomedical research, such as virology or cardiology, is primarily concerned with the development and testing of theories to explain biological phenomena and develop potential preventive and curative innovations, while clinical research aims to evaluate the efficacy of clinical interventions in patients and populations. Public health research conceptualizes and investigates the role of social and environmental factors in producing population health and the efficacy of community-based interventions on population health.



**EXHIBIT 1.1**  
Continuum  
of Healthcare  
Services

*Source:* Aday (2001, Figure 5.1, 118). Copyright © 2001. This material is used by permission of John Wiley & Sons, Inc.

**EXHIBIT 1.2**  
Comparison of  
Health Services  
Research  
Objectives  
and Those of  
Other Types of  
Health-Related  
Research

Biomedical Research	Clinical Research	HSR	Public Health Research
Research on cells, tissues, organs, organ systems, normal development, and disease processes	Patient-level research on prevention and treatment of illness; efficacy of interventions	Effectiveness, efficiency, and equity of personal and community-based health services and delivery systems	Community and environmental influences on health and illness; efficacy of population-based interventions

In some cases HSR draws on biomedical and clinical research to investigate challenges in the organization and delivery of health services. HSR also draws on other fields, such as economics, psychology, political science, and management science, for frameworks, methods, and evaluative criteria. Developments in economics, such as new methods of modeling consumer choice, or in psychology, such as new insight into health risk behavior, may contribute to health services researchers' understanding of the effectiveness of health services. HSR further draws on the public health field to understand the relationships among health services, community-based determinants of health, and challenges in the organization and delivery of community-based interventions aimed at influencing population health.

### Health Services Research Perspectives

As discussed at the beginning of this chapter, HSR provides frameworks and methods for assessing health services and systems with respect to the objectives of effectiveness, efficiency, and equity. **Effectiveness** focuses on the intended and desired outcomes produced by health services and is measured by health preservation or improvement. Efficacy, a component of effectiveness, is limited to evaluating the degree of success an intervention (e.g., receiving a clinically recommended dose of a drug) delivers under ideal conditions. Effectiveness also concerns the outcomes realized under a range of practice conditions. These outcomes include not only health outcomes, such as disease symptoms, physical and mental functioning, mortality, and life expectancy, but also the impact of health outcomes on economic productivity, quality of life, and well-being.

The second major objective of HSR is to monitor and evaluate the **efficiency** of health services and delivery systems. When evaluating efficiency, analysts view health services delivery as either an outcome or an input. When health services delivery is viewed as an outcome, evaluation focuses on production efficiency (i.e., the combination of inputs required to produce services at the lowest costs); when health services delivery is viewed as an input, the focus is on allocative efficiency (i.e., the best combination of services) in the

production of health. The allocative efficiency of health services delivery is judged in terms of *opportunity costs*—foregone health improvements that could have been achieved had the resources been invested in alternative health improvement efforts (e.g., investing in economic development versus personal health services in a poor country). Allocative efficiency depends on the cost and effectiveness of a given health service relative to the cost and effectiveness of other health-related service or non-service investments. Ultimately, maximization of health services performance requires both production efficiency (the minimum cost of producing a given set of services) and allocative efficiency (the optimal combination of service and non-service health investments).

**Equity** is concerned with distributional fairness in the delivery of health services and in health status among subgroups of a population. *Procedural equity* refers to the extent to which the structural and process features of health services delivery result in an equitable distribution of services for individuals and population subgroups with comparable needs and wants. *Substantive equity*, the ultimate test of the equity of health services delivery, is the extent to which disparities in health are minimized among individuals and subgroups of a population. The normative relevance of variations in the structure and process of services (procedural equity) ultimately can be judged by the contributions of these variations to reducing inequities in health (substantive equity) across individuals, groups, and populations.

The effectiveness, efficiency, and equity perspectives provide broad criteria for assessing the achievement of health services performance and policy objectives. The objectives of the three perspectives are often complementary. Improving the effectiveness of health services while holding resources constant increases efficiency; increased efficiency creates opportunities for improved effectiveness and equity. However, these objectives also may conflict. Maximizing effectiveness by allocating additional resources to improve health may compromise efficiency if the cost of the resources is high relative to their effectiveness. Maximizing effectiveness and efficiency by distributing resources to persons who would gain the most health may be deemed unfair in terms of procedural or substantive equity if the policy leads to an uneven distribution of health services or health status. In complex policy choices, such as choosing among alternative public and private strategies for financing health services, HSR facilitates maximally informed decisions by identifying and clarifying the objectives of those decisions and the trade-offs that must be made when objectives conflict.

### Levels of Analysis

The effectiveness, efficiency, and equity perspectives of HSR offer specific criteria for evaluating health services and systems at clinical and population levels (Exhibit 1.3). At the **clinical level**, the focus is on personal health-care resources (technology, expertise, equipment, and facilities) and on

organizations and systems that transform these resources into healthcare services and distribute them to individuals in a specific community or health system (Longest Jr. 2005). Outcomes are measured in terms of the health of individuals served by a single provider, an institution, a group of providers or institutions, or an entire healthcare system, and that information is used to assess the contribution of personal health services to improving or maintaining the health of service recipients. The clinical level also addresses the financing of health services. At this level, production efficiency is concerned with the combination of inputs required to produce services for individuals at the lowest costs and procedural equity assesses the fairness of health services delivery across individuals with comparable needs and wants.

At the **population level**, HSR assesses the design and contribution of personal and community efforts to improve population health. Population-level activities and services usually are conducted by public health agencies, but the personal healthcare system may overlap. For example, personal healthcare might be one component among other environmental, social,

**EXHIBIT 1.3**  
Definitions of  
Effectiveness,  
Efficiency, and  
Equity Criteria

Criteria	Level of Analysis	
	Clinical	Population
<b>Effectiveness</b>	<i>Clinical effectiveness:</i> Improving the health of individual patients through the delivery of healthcare services	<i>Population effectiveness:</i> Improving the health of populations through medical or nonmedical services
<b>Efficiency</b>	<i>Production efficiency:</i> Combining inputs to produce services at the lowest cost	<i>Production efficiency:</i> Combining inputs to produce services at the lowest cost <i>Allocative efficiency:</i> Combining health services and other health-related investments to produce maximum health given available resources
<b>Equity</b>	<i>Procedural equity:</i> Maximizing the fairness in the distribution of services across individuals <i>Substantive equity:</i> Minimizing the disparities in the distribution of health across individuals	<i>Procedural equity:</i> Maximizing the fairness in the distribution of services across groups <i>Substantive equity:</i> Minimizing the disparities in the distribution of health across groups

and biological interventions organized at the community level. Examples of public health activities include immunizations; sanitation; disease control; occupational health and safety; health education; epidemiology; and regulation of air, water, and food quality (NICHSR 2007). At this level, population effectiveness is concerned with how the mix of personal healthcare services and community-based social and environmental factors produces the greatest improvements in population health. Allocative efficiency at this level is concerned with identifying the mix of service and non-service investments in social and environmental interventions that produces the highest level of population health relative to the costs of production. Substantive equity at the population level is judged ultimately by the extent to which the health benefits of personal and community-based interventions are shared equitably across populations in the community.

### **Historical Perspective**

Although HSR is a relatively young field of inquiry, its origins may be traced to the early 1900s in the United States. Selected historical contributions of HSR are highlighted in the following paragraphs to illustrate the evolving scope of the field and its role in the formulation of health policy. (For more detail, see Anderson 1991, Colby et al. 2008, Flook and Sanazaro 1973, IOM 1995, McCarthy and White 2000, and NICHSR 2007.)

The Flexner Report, based on a comprehensive study of medical schools in the United States and Canada, was published in 1910 (Flexner 1910). This report, requested in part by the American Medical Association (AMA) and sponsored in part by John D. Rockefeller's philanthropic education effort, the General Education Board, highlighted the great variation in physician training among 168 medical schools. Along with other events, publication of this report led to the closure of 20 percent of the medical schools reviewed (Hiatt and Stockton 2003), and the AMA gained influence over the standardization of medical education in the United States, including physician licensure requirements (Beck 2004). Thus, this systematic review of health services workforce characteristics and training affected private policy (through initiatives of the AMA) and instituted changes to public policy (through states' revision of physician licensure standards).

The Committee on the Costs of Medical Care, sponsored by several private foundations, was established in 1927. This prestigious 42-member committee played a major role in the design and conduct of research on the utilization and costs of personal healthcare services in the United States and on inequities of access that existed across income groups. The Committee published 28 reports, including a series of recommendations that affected and continue to affect how medical services are organized and delivered in the United States.

In 1935 and 1936, the Public Health Service, an agency of the US executive branch, conducted a national health survey and a census of hospitals. The purpose was to provide basic data on the health and health services needs of the population and on the financial structure of US hospitals. No such broad assessment of the profile of health services needs and resources had ever been attempted. An outgrowth of this early research was the development of the concept of service areas for hospitals and health centers.

In 1944, the American Hospital Association (AHA), a private beneficent organization, established its Commission on Hospital Services (AHA 2010). The commission provided the first complete inventory of the nation's hospitals. This inventory and the Public Health Service's hospital census identified a need for more general hospital beds, especially in rural areas. This finding prompted the passage of the federal government's Hill-Burton Act in 1946, which authorized a massive nationwide hospital survey and construction program.

The Commission on Chronic Illness, established in 1949 under the auspices of the AHA, AMA, American Public Health Association, and American Public Welfare Association, carried out a number of studies regarding long-term residential and community-based services and community prevalence and prevention of chronic illness. The AHA Commission on Financing, established in 1951, attempted to address many of the financing issues (i.e., factors affecting the cost, prepayment, and financing of services for non-wage-earning and low-income groups) that the 1944 AHA Commission on Hospital Services had not dealt with directly. The research carried out by these nationally representative, private beneficent organizations contributed to early deliberations concerning the appropriate role of the federal government in health services (e.g., the role of President Truman's Commission on the Health Needs of the Nation) and to the development of methods of survey research and statistical and economic analysis that provided the foundation for contemporary HSR.

The US Department of Health, Education, and Welfare was established in 1953, and the National Health Survey Act, which authorized the major data-gathering efforts of the National Center for Health Statistics, was passed in 1956. The research done under the auspices of these agencies documented the same inequities in health and health services among the poor, the disabled, and the elderly that the Committee on the Costs of Medical Care had identified 20 years earlier. Their findings provided empirical evidence of the need for Medicaid and Medicare. The establishment of these federal programs in 1965 initiated federally subsidized health services coverage for these groups.

The formalization of HSR at the federal level began with the creation of a National Institutes of Health study section on HSR in 1960, formed from the merger of Public Health Research and Hospital Facilities Research study sections. The lead federal agency supporting formal HSR activities, the National Center for Health Services Research and Development

(NCHSRD), was established in 1968. Over the following years, a number of other federal agencies (e.g., Veterans Administration, Health Care Financing Administration [now the Centers for Medicare & Medicaid Services (CMS)], National Institute of Mental Health, National Institute of Aging) and private foundations (e.g., Robert Wood Johnson Foundation, Commonwealth Fund, Kaiser Family Foundation, Pew Foundation) also assumed a greater role in the design and conduct of HSR activities.

The first national meeting of the Association for Health Services Research and the Foundation for Health Services Research was held in Chicago in June 1984. In 1989, NCHSRD received substantial funding for research on patient outcomes and medical effectiveness as a result of major outcomes research bills introduced by Congress, and the agency was subsequently renamed the Agency for Health Care Policy and Research (AHCPR) to reflect its policy-oriented focus. In 1999, AHCPR was reauthorized as the Agency for Healthcare Research and Quality, establishing it as the lead federal agency on the quality of HSR and the coordinator of HSR and all federal quality improvement efforts (AHRQ 2011).

In the mid-2000s, the term *comparative effectiveness research* came into prominence as health services researchers increasingly focused on contrasting the relative benefits of various medical treatments. Greater attention also was given to issues regarding the efficiency and equity of personal health services delivery posed by rising health services costs and gaps in insurance coverage. This rise has been characterized most commonly in terms of the effectiveness and efficiency implications of having an increasing portion of the US gross domestic product (GDP) claimed by health services but also in terms of the equity implications of rising health insurance premiums and consequent increases in the proportion of the population without health insurance.

By 2009, the promise of comparative effectiveness research as a policy strategy for more effective and efficient healthcare delivery was strong enough for the landmark American Recovery and Reinvestment Act to include more than a billion dollars of funding for this effort (Sox 2010). Following this significant economic stimulus legislation, Congress enacted the Patient Protection and Affordable Care Act (ACA) of 2010. The ACA includes a range of support for HSR, including grants for comparative effectiveness research; funding for the establishment of the Patient-Centered Outcomes Research Institute, Center for Medicare & Medicaid Innovation, and Independent Payment Advisory Board; and a significant role for HSR in the design, implementation, and evaluation of new coverage provisions and service delivery reforms.

Thus, recent years have seen unprecedented changes in HSR and increased appreciation of the role of the HSR perspectives (effectiveness, efficiency, and equity) in formulating and assessing health policy. This increased support suggests that the demand for HSR in the United States is likely to

heighten significantly in coming years (Pittman 2010). Whether these developments will fulfill the promise on which they were promoted remains to be seen. They do, however, fully acknowledge the need for health services delivery that is effective, efficient, and equitable and the imperative to institute mechanisms for formally incorporating HSR into the policymaking process to ensure these aims are achieved.

## Overview of Health Policy Analysis

The principal aims of health policy analysis are described as (1) the production of information relevant to understanding the importance and causes of policy problems and identifying and evaluating policy alternatives and (2) the translation of this information into reasonable arguments to guide governmental decision making (Bardach 2009; Dunn 2009; Munger 2000). The objectives of information gathering and the issues addressed in the field of health policy analysis overlap those of HSR: to document the origins, scope, and causes of quality, cost, and access problems in health services delivery that are of concern to policymakers (e.g., the proportion of the population or subgroups without health insurance, the components and causes of the rising cost of healthcare, the frequency of inappropriate care delivery and medical errors) and to estimate the probable consequences of alternative strategies for addressing such concerns (e.g., comparisons of various government programs or market-enhancing regulations designed to expand public and private coverage of health services or reduce waste in the delivery of healthcare services).

Information translation—increasingly demanded by policymakers (Colby and Baker 2009) and embraced by policy-oriented health services researchers—involves using existing empirical evidence and theory to develop reasonable characterizations of the nature, importance, and cause of a policy problem or to support a specific option among policy alternatives to achieve a given goal. The primary emphasis of this objective is normative and prescriptive: to provide a logical, evidence-based rationale for government action (e.g., the status quo regarding the mixture of public and private health insurance coverage versus a potential future state of greater public insurance) toward a desired goal (e.g., a maximal combination of effectiveness, efficiency, and equity of health services delivery), based on consideration of multiple criteria (e.g., cost versus quality versus access).

Health services researchers engaged in translation must become familiar with the complexities of the policymaking process and policy analysis. Although what constitutes a specific policy initiative from any branch of government (legislative, executive, or judicial) is usually fairly well specified, with objectives, rules, and responsibilities for implementation and outcomes, health policies that deal with a common condition or issue, taken together, may be

fragmented, duplicative and, in some cases, conflicting. Thus, there is potential for conflict among policy objectives and tension between analysis and political influence in the policy process. The de facto influence of policy analysis in a given policy process varies depending on whether the process lends itself to rational problem solving or is driven by political consensus gathering. In a rational problem-solving process, policy evidence and reasoning tend to be highly valued in the debates that influence decisions. However, in a highly politicized, adversarial policy process, the primary constraint on action may be disagreement about the criteria to be used in selecting and judging policy rather than about the most effective strategy for achieving a mutual end.

Besides politics, a number of other factors may enhance or constrain the influence of policy analysis on policy decisions. Included among these factors are the attitudes, concerns, and opinions of the public and of special interest groups; these constituencies' ability to influence the decision-making process; the values of elected and nonelected officials; and the nature and content of competing items on the agenda (Longest Jr. 2005).

The primary research objectives of policy analysis contrast with those of other types of basic and applied scientific inquiry, including HSR (see Exhibit 1.4). Basic science and social science disciplines provide useful theories to explain biological or social phenomena (e.g., the economic theory of supply and demand to explain the operation of consumer and provider behavior in the medical services marketplace). These theories underlie the methods of HSR and the ways a policy analyst may describe and assess a policy problem or evaluate a policy proposal. Health program evaluation is concerned with assessing the effect of specific policies and programs (e.g., alternative health education, clinical screening strategies for cancer prevention) on a defined outcome of interest (e.g., survival, quality of life) and comparing the alternatives. A major activity of HSR has been evaluating the effect of community-based outreach, physician education, financial incentives, and other health services programs on preventive behavior and service use (Casale et al. 2007; Fisher et al. 2009; Grembowski 2001; Wennberg et al. 2007).

Bringing the benefits of HSR and policy analysis together in the policy process presents many challenges (Brownson et al. 2006; Gagnon, Turgeon, and Dallaire 2007). Although the interests of researchers and policy analysts may overlap, Brownson and colleagues (2006) describe the two factions as travelers in parallel universes who have differing perspectives, time frames, and incentives. Indeed, HSR has been criticized historically for not being sufficiently involved in the conduct of research that directly informs health policy decisions (Anderson 1991; Choi and Greenberg 1982; Flook and Sanazaro 1973; Ginzberg 1991; IOM 1995, 1991, 1979; Lavis et al. 2002; Tunis, Stryer, and Clancy 2003). However, compilations of HSR's contributions to health policy—its insight into both the causes of health system problems and the potential and actual consequences of major reforms—clearly indicate that the

**EXHIBIT 1.4**

Comparison of Objectives of Health Policy Analysis and Those of Other Types of Inquiry

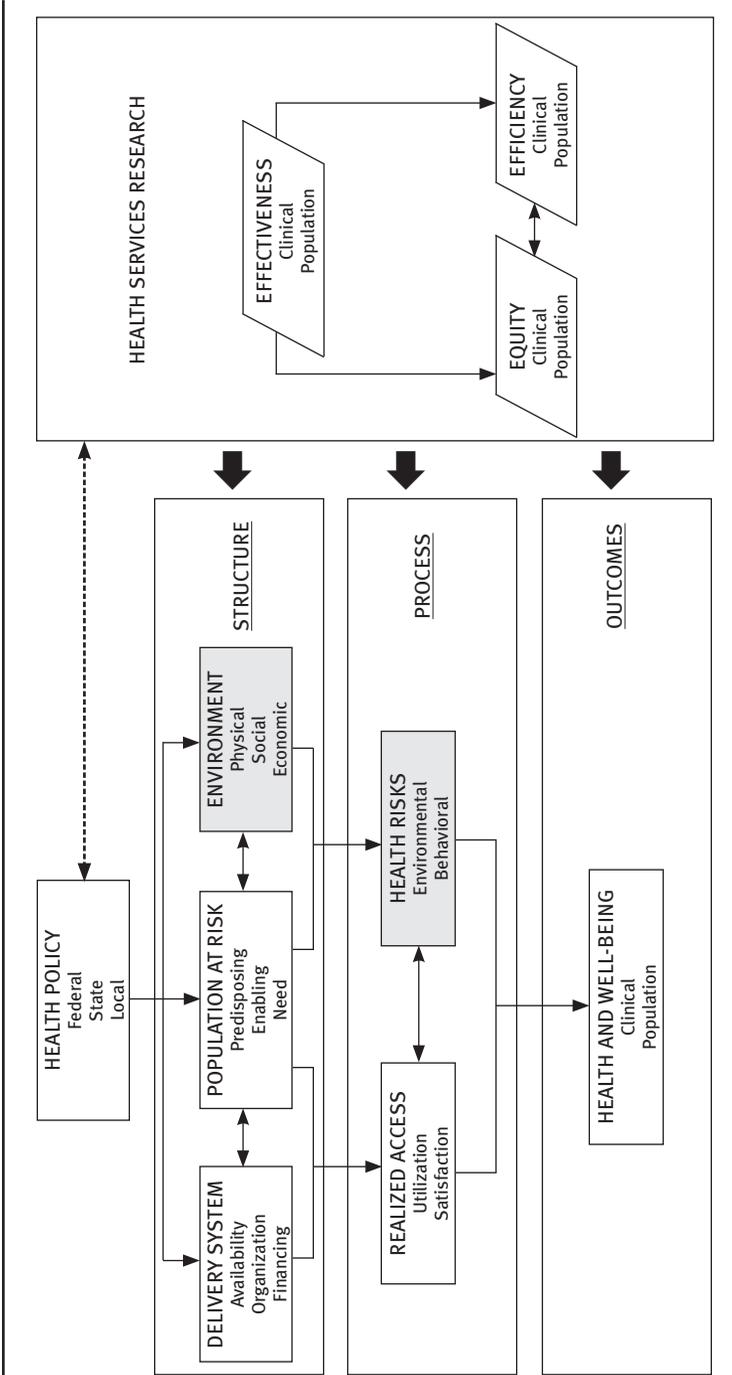
Type of Inquiry	Objective
Disciplinary research	To explain biological or social phenomena  X → Y
Health services research	To describe and assess the performance of the healthcare system  Structure    Process    Outcome X → Y
Health program evaluation	To evaluate the effect of health policies and programs  X <sub>0</sub> → Y <sub>0</sub> X <sub>1</sub> → Y <sub>1</sub> X <sub>2</sub> → Y <sub>2</sub> X <sub>3</sub> → Y <sub>3</sub>
Health policy analysis	To analyze and compare alternative (1) problem definitions and (2) health policy solutions  (1) Problem analysis    (2) Solution analysis  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>X<sub>1</sub> ———— ↓</p> <p>vs. ———— → X</p> <p>X<sub>2</sub> ———— →</p> <p>vs. ———— ↑</p> <p>X<sub>3</sub> ———— ↑</p> </div> <div style="text-align: center;"> <p>Y<sub>1</sub> ———— ↓</p> <p>vs. ———— → Y</p> <p>Y<sub>2</sub> ———— →</p> <p>vs. ———— ↑</p> <p>Y<sub>3</sub> ———— ↑</p> </div> </div>

lines between HSR and policy analysis are more aptly characterized as diffuse rather than distinct (Altman and Reinhardt 1996; Brown 1991; Colby et al. 2008; DeFriese, Ricketts III, and Stein 1989; Ginzberg 1991; Shi 1997; Shortell and Reinhardt 1992; White 1992). Organized efforts are being made to bring the fields closer together (Colby et al. 2008).

## Integration of Health Services Research and Policy Analysis

A framework for integrating HSR and policy analysis is provided in Exhibit 1.5. This framework portrays the HSR focus on describing, analyzing, and evaluating the **structure**, **process**, and **outcomes** of health services

**EXHIBIT 1.5**  
 Framework for  
 Integrating  
 Health Services  
 Research and  
 Policy Analysis



and systems while recognizing the influence of population characteristics and environmental factors on health. *Structure*, as defined by Donabedian (2003), refers to the availability, organization, and financing of health services and systems; the characteristics of the populations served by them; and the physical, social, and economic environments to which the populations are exposed. *Process* encompasses the transactions between patients and providers in the course of actual service delivery as well as the environmental and behavioral transactions exacerbating health risks. *Outcomes* are the consequences of health policies and services for the health and well-being of individuals and populations.

HSR provides basic descriptive data on the organization and delivery of health services, such as the number and distribution of providers, the percentage of the population that is uninsured, and the rates of service utilization. HSR also analyzes relationships among health services and other determinants of health (represented by the arrows in Exhibit 1.5) and the impact of the delivery system on the health and well-being of individuals and populations. The shaded boxes in Exhibit 1.5 represent the community-wide structural factors and environmental and behavioral risk factors that influence health, as described by Evans, Barer, and Marmor (1994) and extended by Roos and colleagues (1996) and Kindig (1997). Incorporation of environmental aspects and health risks acknowledges the important effect these factors have on health outcomes. For example, discriminatory housing practices may increase health disparities by increasing poor and ethnic/racial populations' exposure to environmental toxins. The provision of childcare centers in workplaces may increase infant health through breastfeeding. Income maintenance programs may reduce the stress of meeting survival needs and improve participants' diets. Pathways linking these factors to health and, in turn, affecting the demand for and use of health services are becoming increasingly recognized.

Information from both the clinical and population levels of HSR may be required to fully understand and interpret the effects of health policies. Commitments to developing medical technologies or procedures to optimize individual patient outcomes may fail to consider whether, given limited resources, they are the best investments for enhancing the health and well-being of the community as a whole (including service recipients and non-recipients). Treatments that have been demonstrated to be efficacious for individual patients may not be as effective when delivered across institutions or even within the same institution. System outcomes may be influenced by organizational and financial incentives that affect patterns of health services provision. Population outcome studies explore the health service and health status variations that may result from differential access to health services and from different styles of practice not detectable by outcomes research at the clinical level alone. A focus on the effects that personal lifestyles, behaviors

(e.g., smoking), and attitudes (e.g., toward regular physical activity) have on individuals' health status may not fully reveal the array of social, structural, and environmental factors (e.g., poverty, lead paint, toxic waste) that may have consequences for the health of populations residing in a community.

Effectiveness is placed before efficiency and equity in the integrative framework (Exhibit 1.5) to indicate the central role it plays in assessing the efficiency of producing health benefits and the equitable distribution of these benefits and costs across groups. Evidence of the effectiveness of clinical or population-level interventions is needed to make informed judgments regarding the efficient allocation of resources and the types of services to which equitable access should be ensured.

This framework has been adapted and applied in a variety of policy contexts, such as evaluation of the availability of community child health services, the health and health services needs of homeless populations, and the effectiveness, efficiency, and equity of behavioral health services; comparative health systems analysis; and assessments of safety net programs (Aday et al. 1999; Aday and Awe 1997; Andersen 1995; Begley et al. 2002; Davidson et al. 2004; DuPlessis, Inkelas, and Halfon 1998; Gelberg, Andersen, and Leake 2000; Halfon and Hochstein 2002; IOM 2002b, 1993; Morgan et al. 2009). As reflected in Exhibit 1.5, effectiveness, efficiency, and equity research may lead to different conclusions regarding the best policy option. Optimally, analyses of competing health policy alternatives measure and evaluate each of these criteria and the trade-offs resulting from emphasizing some to the exclusion of others. The double-headed arrow between HSR and health policy indicates that health policy can directly influence the role and focus of HSR. There also is an increasing impetus, grounded in research on the fundamental social, economic, and environmental determinants of health, to expand HSR to better understand the role of non-service health determinants, such as education, employment, community development, and other social and economic determinants of health.

Chapters 2 through 7 describe the specific concepts and methods of HSR and present evidence for the effectiveness, efficiency, and equity perspectives of health services delivery and policy. Chapter 8 elaborates on the integration of HSR in policy analysis, and in Chapter 9 a case study of a policy change addressing health disparities illustrates how HSR can be applied to answer a specific policy question.

## Overview of Health Services in the United States

As a foundation for the next chapters, the following discussion highlights the basic resource availability, organization, and financing characteristics of the US healthcare system, focusing in particular on the major issues and changes

that have taken place over the past three decades in both personal and community health services.

## **Personal Health Services**

### **Managed Care Systems**

Managed care encompasses various forms of health maintenance organizations (HMOs), point-of-service plans (POSs), and preferred provider organizations (PPOs). HMOs guarantee delivery of a comprehensive prepaid benefit package to a voluntarily enrolled population through a system of care. POSs are HMOs that offer partial reimbursement for services an enrollee chooses to obtain outside the HMO network. PPOs contract to provide services at a discounted rate under conditions of utilization review that offer providers a wider network of enrolled populations—and enrolled populations a wider choice of providers—while restricting the scope or increasing the out-of-pocket costs of the benefits provided (Sultz and Young 2011).

HMO plans and enrollment have grown since the early 1970s. HMOs became vigorous competitors of traditional health insurance plans in several metropolitan areas, enrolling about 27 percent of covered workers by 2002 (Claxton et al. 2010). HMOs then began to lose ground to PPOs and non-traditional HMOs, which allow enrollees to select a non-HMO provider in exchange for a financial penalty. By 2009, HMO enrollment had declined to 20 percent of covered workers. In that same period, PPO enrollment grew from 52 percent to 60 percent of covered workers, reflecting consumer preference for a less restrictive form of managed care.

As growth in the commercial market slowed in the early to mid-1990s, managed care plans competed vigorously to enroll public beneficiaries. Seventeen percent of Medicare beneficiaries were enrolled in managed care plans in 1999. Strong growth was projected to continue, reaching one-third of beneficiaries by 2007 (Lamphere et al. 1997), but managed care enrollment share declined to 12 percent of the Medicare population by 2003 (CMS 2011b). With more generous payment, Medicare managed care enrollment rose to 18 percent in 2009. Managed care enrollment has remained strong in the Medicaid program, representing more than 70 percent (36.2 million) of Medicaid beneficiaries in 2009 (CMS 2011a).

### **Physician Organizations**

Of the 740,867 physicians in patient care in 2008, 75.2 percent were in office-based practice, 14.6 percent were in training, and 10.3 percent were full-time hospital staff. Almost half of physicians in office-based practice were in primary care specialties (Smart 2010). Nearly all physician practices had one or more managed care contracts, and around one-third had contracts with capitation payment (Havlicek 1996; Wassenaar and Thran 2003).

The physician practice size has been growing. In 1965, about 90 percent of physicians were in solo or two-person practice. By 1996, that number had decreased to 41 percent, and by 2004, to 33 percent. The average number of physicians per medical practice was 20.4 in 2004, ranging from 7.8 in obstetrics/gynecology to 41.5 in radiology. About 25 percent of patient care physicians were in solo practice in 2007 and 2008 (Kane 2011).

### **Hospital Systems**

The hospital industry also has undergone tremendous change. The past 40 years have seen rapid advancement in medical technology; the expansion of outpatient services; the growth of multihospital systems; the emergence of increased competition among hospitals and between hospitals and other providers; mergers and conversion of community not-for-profit hospitals to for-profit status; and a fundamental change in the Medicare payment system, which supplies about half of the hospital revenue in the United States. The shift, described in more detail later in this chapter, has been from a retrospective reimbursement system to a prospective payment system (PPS) based on diagnosis-related groups (DRGs) (CDC 2011c).

The number of community hospitals declined from 5,875 in 1975 to 5,010 in 2008; over the same period, total beds decreased from 942,000 to 808,000 (AHA 2010). The decline was accompanied by a shift toward investor-owned (for-profit) community hospitals and away from state and local government community hospitals. The former represented 13.2 percent of community hospitals in 1975 compared to 19.6 percent in 2008. However, not-for-profit community hospitals continue to represent the majority of hospitals and hospital beds (AHA 2010).

Another reaction to managed care and other cost containment strategies has been the development of strategic alliances between hospitals. Not-for-profit hospitals affiliated with other hospitals in their region during the 1990s to establish referral patterns, share services, and protect against the expansion of proprietary hospital chains (Luke, Begun, and Pointer 1989). In the proprietary sector, large hospital corporations have purchased hospitals in different markets and instituted centralized and standardized management practices to achieve greater efficiency and profits. Merger activity was especially strong in the mid-1990s, with 235 deals affecting 768 hospitals. Thereafter, merger activity decreased; only 52 transactions took place in 2009 (AHA 2009). This move to horizontal integration (coordination of similar services across providers) was followed by efforts to achieve vertical integration (coordination of different types of services, such as primary and specialty). Hospital systems and physician groups also formed organized systems of care in the 1990s (Shortell and Hull 1996). However, the trend toward vertical integration and tightly managed care failed to yield the anticipated efficiencies and

was largely abandoned by hospitals, physician groups, and health plans across the nation by 2000 (Lesser et al. 2003; Robinson 2001).

The reacceleration of healthcare cost growth and the passage of the ACA have reinvigorated the search for more integrated and efficient healthcare delivery models, including accountable care organizations (ACOs) and patient-centered medical homes. These models, while more flexible for patients and providers, embody aspects of managed care, including care coordination, use of electronic medical records, a focus on primary care, and payment incentives for greater efficiency and quality. CMS and the ACA support development of these organizations, which are reviewed in Chapter 5.

### **Payment Arrangements**

Until the 1980s, physicians in the United States controlled their means of payment and the amount they could charge through fee-for-service (FFS) reimbursement. Physician incomes were high relative to those of other professionals, and healthcare delivery practices were both inefficient and inequitable. The FFS system, which is difficult to understand and complex to administer, was the predominant form of payment. Under this system, overpayments for procedural care at the expense of visits and consultations have been well documented, as have wide variations in fees for identical services (Simon and Born 1996).

A new physician payment system under Medicare, the resource-based relative value scale (RBRVS), was developed in the early 1980s in response to these problems (Physician Payment Review Commission 1991). The relative value was the sum of physician work, practice expense, and malpractice costs, adjusted for geographic cost differences and converted to dollars using a conversion factor. The aim was to develop a physician payment system that would (1) rationalize FFS payments under Medicare, (2) reduce the rate of growth of physician expenditures, (3) protect Medicare enrollees' access to care, and (4) support quality care (Epstein and Blumenthal 1993).

The implementation of Medicare's PPS in 1984 was the cornerstone for a corresponding movement to contain hospital costs. Under PPS, hospitals are paid a prospectively determined amount per discharge rather than on a retrospective, reasonable-cost basis. Payment varies by DRG category and is updated annually to reflect changes in average reported charges among US hospitals (McClellan 1997). The Deficit Reduction Act of 2005 modified the DRG system to reduce payment for certain cases with hospital-acquired infections that could have been averted had care been provided according to evidence-based guidelines (CMS 2011c). In 2008, CMS expanded the payment system from 538 DRGs to 745 Medicare Severity DRGs (MS-DRGs) to better account for severity of illness. This change shifted payment toward hospitals with more severe cases (CMS 2010a). Hospital payment has been sharply affected by the growth in managed care and competition

in the private sector since the 1990s. As a result, hospitals are increasingly engaging in cost cutting, participating in mergers, forging closer relations with physicians and other providers, assuming insurance functions, and contracting directly with employers. New payment initiatives, including pay for performance and bundled-payment experiments within the context of ACOs, are the latest healthcare reforms designed to restrain cost growth and yield greater value for money in healthcare.

### **Availability and Utilization**

In the 1960s, the physician shortage in the United States appeared to be worsening. In response, federal and state governments greatly expanded investment in medical schools, thereby increasing the number of medical school graduates. These trends, along with the growth in managed care organizations, raised subsequent concerns in the 1980s and 1990s about a burgeoning physician surplus (NCHS 2011, 1997; Politzer et al. 1996; Reinhardt 1991; Weiner 1994).

Later reports suggested that there was no surplus of physicians in the United States (Salsberg and Forte 2002). The medical market has continued to absorb the growing number of physicians in both primary and specialty care. Demand kept pace with the increasing supply of physicians in the 1990s, driven by the aging population, the increasing complexity and intensity of treatments, physicians' reduced work hours, and the backlash against managed care (Staiger, Auerbach, and Buerhaus 2010). The policy to increase the number of primary care physicians in the 1990s failed to address the payment gap between primary care and specialists, and growth in the number of primary care practitioners has been slow relative to the growing demand for primary care, which, given the ACA's increased focus on the primary care-based medical home, is likely to further intensify (Bodenheimer and Pham 2010; Colwill, Cultice, and Kruse 2008). A critical shortage of hospital nurses and nursing school faculty also exists in many regions of the United States, particularly rural areas. These problems are worsening due to retirement (more nurses are exiting practice than entering) and the aging patient population (Buerhaus 2008).

HSR has documented substantial variations by geography in the levels of healthcare resources, rates of administering various medical diagnostic procedures, and rates of performing surgical operations. The association of these variations with health outcomes is a major focus of current research. The following paragraphs focus on evidence of this variation. Descriptive information on widely used indicators of the utilization of and satisfaction with healthcare is highlighted in Chapter 7.

Glover (1938) is credited with first reporting the phenomenon of variation in the rates of surgical procedures performed, specifically tonsillectomy rates in England. Since then, a host of studies have reported variation in the delivery rates of common surgical procedures, including within

US states (Lewis 1969; Wennberg and Gittelsohn 1973), within a Canadian province (Roos 1984), within countries (McPherson et al. 1981; Wennberg, Bunker, and Barnes 1980), and between countries (Bunker 1970; McPherson et al. 1982, 1981; Vayda 1973; Wennberg, Bunker, and Barnes 1980). All of these studies found that the rates varied as much as sixfold from one geographic area of a state/province to another and as much as threefold between countries. Variation also has been found in the rates of diagnostic and medical procedures administered in the United States (Chassin et al. 1986; Wennberg 1990). Using data from 16 university hospital or large community hospital market areas, Wennberg (1990) found that the ratios of high to low in the number of procedures per person varied from 2.0 for inguinal hernia repair to 3.6 for coronary artery bypass graft surgery to 19.4 for carotid endarterectomy. More recently, researchers have found that regions that practice the most intensive and costly form of care may achieve worse patient outcomes than those achieved by regions characterized by more conservative use of resources (Skinner and Staiger 2009; Skinner, Staiger, and Fisher 2010, 2006).

Studies have also demonstrated variation in breast cancer screening and treatment. For example, Sabatino and colleagues (2008) found that only 38 percent of uninsured women had undergone a mammogram within the previous two years versus 74 percent of insured women and that this disparity had not changed since 1993. Researchers continue to disentangle factors related to worse breast cancer outcomes for African-American women, including access to screening and care, disease characteristics, and cultural differences (Banerjee et al. 2007).

The ACA intends to change the organization and delivery of services in the US healthcare system by increasing regulation of health insurers, expanding government coverage programs, subsidizing the purchase of health insurance, developing health insurance exchanges for competing health plans, and experimenting with new payment and organization models to reduce variation in medical practice and control costs. These changes are designed to increase access to insurance and the demand for healthcare services while improving the performance of healthcare providers and systems. The net impact of these changes on the effectiveness, efficiency, and equity of US healthcare remains to be assessed by health services researchers. Their findings will help the United States tailor policy to keep moving toward the goal of achieving affordable healthcare for all citizens.

### **Expenditures and Financing**

National healthcare expenditures for the complex and highly technological US medical care enterprise were \$2.6 trillion in 2010, compared to \$27.3 billion in 1960. During the same period, healthcare expenditures grew from \$147 to \$8,402 per capita and from 5.2 percent to 17.9 percent of GDP (CMS 2011c; Martin et al. 2011). Driven mainly by an increase in outpatient

hospital services, spending on hospitals began increasing rapidly in 1997 and reached 12 percent growth in 2001 (Strunk, Ginsburg, and Gabel 2002). While hospital expenditures have continued growing, recent shifts in the distribution of spending for services mainly have been toward nursing home and home care. Hospital expenditures remain the largest share of total spending, followed by expenditures for physician services. Although the absolute levels of expenditures increased, the share for drugs declined from about 10 percent in 1960 to near 4 percent in 1982 and then rose again to 10 percent in early 2000 due to new drug development and more aggressive medical treatment guidelines (CMS 2011c; Martin et al. 2011; Thorpe 2005).

The growth of personal healthcare expenditures (i.e., spending for the direct provision of care to individuals) increased sharply after the passage of Medicare and Medicaid in 1965 and continued to trend upward in the 1970s, a period of high general inflation. Growth decreased initially in the 1980s in response to cost containment measures and the decline of general inflation. However, average annual cost increases between 9 and 10 percent continued during the late 1980s and early 1990s. Growth slowed again in the mid-1990s but reaccelerated in early 2000, only to slow yet again after 2003 and after the 2008 financial crisis (CMS 2011c). While healthcare cost growth has since slowed, it still exceeds the growth in income; as a result, an increasing percentage of income is being spent on healthcare. The major factors affecting the growth of personal health expenditures have been economy-wide inflation, medical price inflation in excess of general inflation, and the use and intensity of services per capita during periods of economic growth and decline (Martin et al. 2011).

Government and private insurers have expanded their roles in financing healthcare services in the United States. Government programs covered about 44 percent of the cost in 2009, almost double the proportion covered in 1960 (CMS 2011c). Around 14 percent of personal health expenditures were paid out of pocket in 2009, compared to 56 percent in 1960. Private insurance (primarily Blue Cross and Blue Shield plans), employer self-insurance, independent plans, and commercial insurance company plans covered 34 percent of the cost in 2009, compared to 21 percent in 1960. Despite the growth of government and private insurance, 50.7 million persons were uninsured in 2009, and an equal or greater number did not have adequate insurance coverage (DeNavas-Walt, Proctor, and Smith 2010; NCHS 2011). (Additional evidence on the uninsured is presented in Chapter 7.)

Changes in financing are under way in the US personal health services system. One of the primary objectives of the ACA is to expand health insurance coverage by requiring most individuals to obtain coverage, expanding Medicaid to low-income adults, providing premium assistance for the purchase of private insurance, using tax credits and penalties to encourage

employers to offer coverage, and increasing regulation of the benefits of private coverage. A number of ACA coverage provisions are already in effect for the population under age 65, such as elimination of lifetime coverage limits and prohibition against canceling the coverage of policyholders who become sick, limits on insurance companies' administrative costs and profits, prohibition against denying coverage for children with preexisting medical conditions, and permission for adults aged 19 to 25 who cannot obtain health insurance through an employer to stay covered by their parents' health plan. Although these provisions are significant, the provisions with the largest potential impact on coverage do not take effect until 2014 and are expected to be fully implemented by 2019–2020. In 2014, all US citizens and legal immigrants will be required to have health insurance coverage or pay a tax penalty. The Medicaid expansions and health insurance exchanges will also be implemented in 2014.

### **Public Health**

CMS estimated that expenditures for US public health activities by all levels of government were about 3 percent of total national health expenditures, or \$64.1 billion, in 2007 (NCHS 2011). A 2008 survey of local public health agencies (LPHAs) conducted by the National Association of County and City Health Officials (NACCHO 2009) documented that the majority (60 percent) of local public health agencies were county based. The most common programs and services provided included adult and child immunizations, communicable disease surveillance, tuberculosis screening and treatment, food service establishment inspection, environmental health surveillance, food safety education, tobacco use prevention, and school / daycare center inspection.

The occupations LPHAs usually employed included public health nurses, environmental scientists, and administrative/clerical staff. In 2008, the average LPHA staff size in full-time equivalents (FTEs) was 58, with a median of 15 FTEs. Median annual LPHA expenditures were \$1.12 million. The largest proportion of LPHA budgets came from local sources (25 percent), followed by state sources (20 percent). Funding streams varied by metropolitan and nonmetropolitan area location and the size of the population served. Local public health officials consistently indicated that workforce and partnerships with their local communities were their agencies' greatest strengths, while funding was consistently mentioned as their biggest challenge (NACCHO 2009).

Health departments face major additional challenges today. The September 11, 2001, terrorist attacks placed greater expectations and burdens on local and state health departments to expand their emergency response systems. With increased funding from the Centers for Disease Control and Prevention, the majority of health departments have hired additional staff,

participated in tabletop emergency drills and exercises, and trained staff on emergency preparedness. A growing body of research on the social determinants of health has also broadened the public health mandate to develop intersectoral programs and policies to address them. These and other challenges are compelling health departments to reconsider their mission and ways to accomplish it. Fifty-eight percent of local public health departments reported supporting community efforts to address health disparities in 2008 (NACCHO 2009).

A series of IOM reports have assessed the strengths and limitations of the US public health system and suggested fruitful new directions for better achieving US public health policy objectives (IOM 2003, 2002a, 1988). The 1988 IOM report presented a vision for the future of public health in terms of the core public health functions of policy assessment, development, and assurance and ten other essential services. The more recent IOM reports argue that innovations in the design and implementation of public health policies and programs need to be grounded in an ecological model of population health, based on research on the multifactorial determinants of health, and developed through broader intersectoral collaboration to ultimately improve the health of populations and reduce persistent health disparities.

According to the 2003 IOM report on the future of public health in the twenty-first century, public health advocates need to take action in six areas to move public health to the level at which it should be (IOM 2002a):

1. They need to consider all the factors (physical, environmental, social, and economic) that affect health when implementing population-based programs.
2. They need to lobby for strengthening the governmental public health infrastructure—the backbone of the public health system.
3. They need to build a new generation of integrated, multidisciplinary partnerships that draw on the perspectives and resources of diverse communities and actively engage these partnerships in health action.
4. They must develop systems of accountability to ensure the quality and availability of public health services.
5. Scientific evidence should be the foundation of public health decision making and the measure of success.
6. They must improve communication within the public health system.

The ACA will have substantial effects on public health. While primarily an insurance coverage and healthcare improvement act, it includes many provisions relating to public health prevention and wellness activities. For example, it encourages prevention services by primary care providers by requiring insurance companies to cover the cost of clinical preventive services, provides for the creation of home visitation programs for pregnant

teens and new mothers, and proposes student reimbursement for public health programs to shore up the public health workforce. The establishment of the Prevention and Public Health Fund may increase funding for public health system activities and research. The ACA also provides for allocation of funds for expansion (approximate doubling) of funding for federally qualified primary care clinics, which should increase primary care capacity and cover individuals who remain uninsured on a sliding-scale fee basis.

## International Perspective on Health Services

Effectiveness, efficiency, and equity concerns with health services and systems are universal, from the wealthiest to the poorest nations. Developed countries are most concerned with macro-level cost control issues, whereas developing nations strive to allocate extremely limited resources to areas that will achieve the greatest health benefit (European Observatory on Health Care Systems 2002). Therefore, while the clinical perspective of effectiveness is more important in developed countries (where the emphasis is on improving the monitoring of process and outcome indicators for measuring clinical effectiveness), the need for a population perspective of effectiveness (which focuses on such issues as health needs assessment and provision of community-based and personal healthcare services) is highlighted in developing countries.

All systems could benefit from more efficient methods of producing, financing, and delivering health services. Highly market-minimized systems in Sweden, the Netherlands, and the United Kingdom have introduced aspects of market competition to improve efficiency and reduce costs. These countries have been relatively successful at controlling health spending as a proportion of GDP. Their focus is making their systems more responsive to consumers, but they are cautious about the threat of market strategies to the equity of their systems. As the most market-maximized country, the United States has been less successful at achieving cost control and equity in health services delivery. The ACA is introducing market-based competitive and government-based regulatory strategies to improve efficiency and control spending while striving to achieve greater equity in health insurance coverage and access to care.

There is concern that too much reliance on market-driven policies has failed to control cost and that equity and efficiency will be enhanced by a more balanced public–private approach (Cutler 2002; Ma, Lu, and Quan 2008; Reinhardt 1998). Limitations on the efficiency and equity achievable in healthcare markets are an opportunity for government entities to improve the allocation of healthcare resources and the provision of health services. Without competitive market price signals, however, alternative methods and information

are needed to make efficient resource allocation decisions. An understanding of consumer and provider behavior and application of economic evaluation methods is needed to guide public and private decision makers. While optimal economic analysis requires extensive information on incentives, costs, health consequences, and people's valuation of resources and health outcomes, evaluation methods can be populated with the best available information and applied to even the least-developed countries (Marseille, Kahn, and Saba 1998). HSR is needed to examine resource allocation issues and identify strategies that are likely to be more efficient and highlight areas of uncertainty on which more information is needed for a complete assessment.

Though equity in health services delivery and in the distribution of health is a universal goal of health services, systems, and policies, countries differ with regard to the emphasis they place on equity relative to other goals when designing and evaluating systems and policies. In developed countries with large and complex health service systems, the bulk of HSR expenditures for evaluating equity are focused on the operation and performance of the system itself. A particular equity concern, for example, is the universality of insurance coverage. The health reform debates in the United States and other countries typically have centered on methods for ensuring universal insurance coverage. Wide variations exist across countries in the availability and means of financing care. The heart of the debate regarding health reform is often related to whether more market-maximized versus market-minimized methods for the financing and delivery of services would be most effective for achieving the equity objective (Blendon et al. 2002; Daniels, Saloner, and Gelpi 2009; Hacker 1996; Skocpol 1996).

In developing countries, equity considerations assume a great importance because of the countries' prevalent health problems, such as environmentally related risks, infectious diseases, and maternal and child health needs, and because the countries lack the resources needed to support a complex health services infrastructure. Correspondingly, the focus of equity research and policies concerns fundamental public health and primary care investments. The World Health Organization (WHO) has, through a variety of national and international programs, attempted to better ensure "health for all" and facilitated the development of indicators and data systems for monitoring and evaluating progress toward this goal across countries. WHO has identified five common problems that policymakers in both developed and developing countries face when making choices to improve their health systems: (1) confusion over the goals of health systems, (2) relatively sparse and often conflicting evidence on strategies for improving health system performance, (3) a lack of public or private institutions and individuals who are accountable for system outcomes, (4) a societal focus on the development of new technologies and less attention to technology delivery, and (5) the increasingly technical nature of health system debates (Murray and Evans

2003). Since its inception in 1999, WHO's Alliance for Health Policy and Systems Research has aimed to promote the generation and use of health policy and systems research as a means of improving health and health systems in developing countries. The Alliance pursues this goal by developing and harnessing existing methods and approaches to improve the quality of research and its use to address the problems faced by policymakers (Alliance for Health Policy and Systems Research 2011). By fostering a common framework and set of measurement methods for HSR and policy evaluation, the effectiveness, efficiency, and equity perspectives help to remedy many of these difficulties.

## **Summary and Conclusions**

The three HSR perspectives of effectiveness, efficiency, and equity offer a useful framework for distinguishing intermediate structure and process goals from the end goal of improved health and demonstrating how the intermediate goals are the means for achieving the end goal. They are a universal basis of measurement that may be used to develop databases, define problems, and determine best practices for assessing health services and systems performance. The application of the combined HSR perspectives in policy analysis requires policymakers to consider quality, cost, and distributional issues in program planning and to understand the interaction of services with other determinants of health (e.g., intersectoral programs with education and sanitation programs).

The chapters that follow introduce methods of operationalizing and applying the effectiveness, efficiency, and equity perspectives in evaluations of the performance of health services and systems. Chapters 8 and 9 show how the concepts and methods of HSR can be integrated in policy analysis.