



## CHAPTER ONE

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# IMPROVING ACCESS TO CARE IN AMERICA

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## Individual and Contextual Indicators

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This chapter presents basic trends as well as research and policy issues related to health care access. We define *access* as actual use of personal health services and everything that facilitates or impedes their use. It is the link between health services systems and the populations they serve. Access means not only visiting a medical care provider but also getting to the right services at the right time to promote improved health outcomes. Conceptualizing and measuring access is the key to understanding and making health policy in a number of ways: (1) predicting use of health services, (2) promoting social justice, and (3) improving effectiveness and efficiency of health service delivery.

The chapter presents a conceptual framework for understanding the multiple dimensions of access to medical care. The various types of access are considered and related to their policy purposes. Examples of key access measures are given, and trend data are used to track changes that have occurred over time in these access indicators. The chapter addresses the questions: Is access improving or declining in the United States? for whom? according to what measures? It concludes by discussing future access indicators and research directions.

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## Understanding Access to Health Care

This section proposes a conceptual framework based on a behavioral model of health services use that emphasizes contextual as well as individual determinants

of access to medical care. Also reviewed are the dimensions of access defined according to components of the framework and how access might be improved for each dimension.

## Conceptual Framework

The framework presented in Figure 1.1 stresses that improving access to care is best accomplished by focusing on contextual as well as individual determinants.<sup>1</sup> By contextual, we point to the circumstances and environment of health care access. Context includes health organization and provider-related factors as well as community characteristics.<sup>2</sup> Contextual factors are measured at some aggregate rather than individual level. These aggregate levels range from units as small as the family to those as large as a national health care system. In between are workgroups and teams, provider organizations, health plans, neighborhoods, local communities, and metropolitan statistical areas. Individuals are related to these aggregate units through membership (family, workgroup, provider institutions, health plan) or residence (neighborhood, community, metropolitan area, national health system).

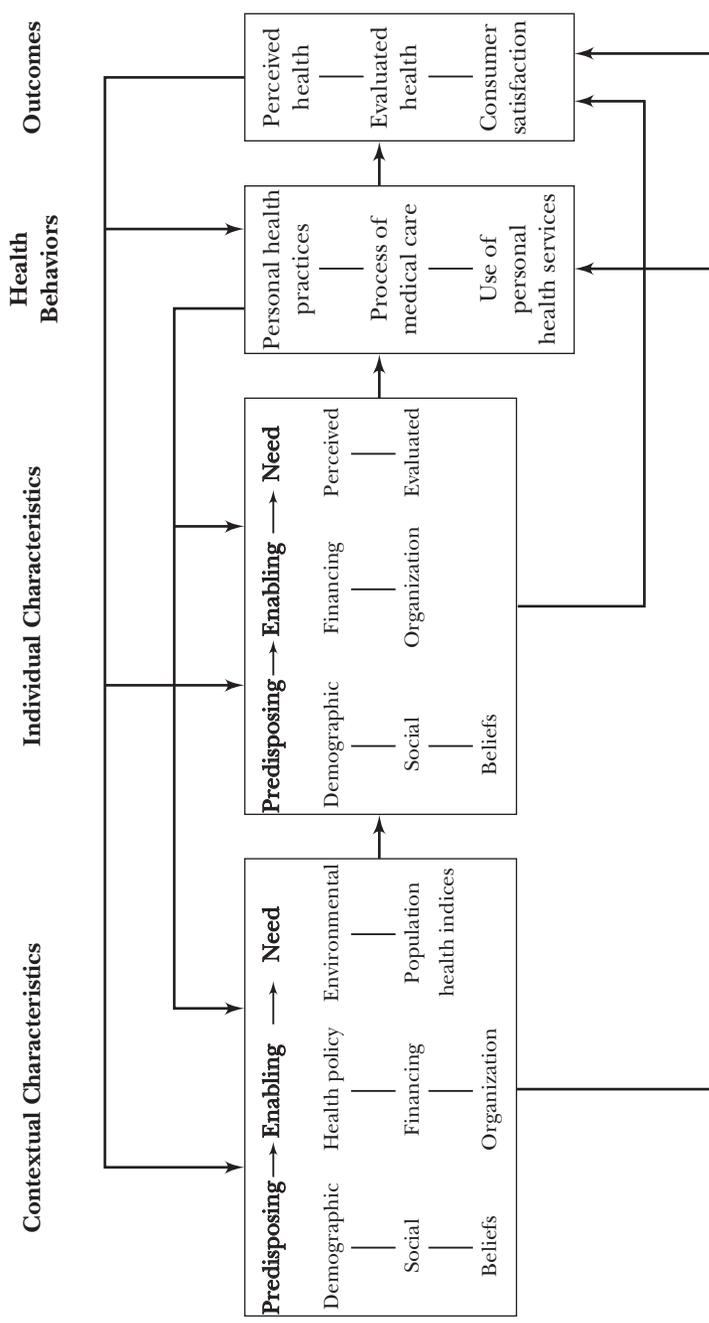
The model suggests that the major components of contextual characteristics are divided in the same way as individual characteristics determining access: (1) existing conditions that predispose people to use or not use services even though these conditions are not directly responsible for use, (2) enabling conditions that facilitate or impede use of services, and (3) need or conditions that laypeople or health care providers recognize as requiring medical treatment.<sup>3</sup> The model emphasizes contextual factors in recognition of the importance of community, the structure and process of providing care,<sup>4</sup> and the realities of a managed care environment.<sup>5</sup> Still, the ultimate focus of the model remains on health behavior of individuals (especially their use of health services) and resulting outcomes regarding their health and satisfaction with services.

We now turn to brief consideration of each major component of the model shown in Figure 1.1.

***Contextual Predisposing Characteristics.*** Demographic characteristics include the age, gender, and marital status composition of a community. Thus a community populated primarily by older persons might well have a different mix of available health services and facilities from one in which the majority are younger parents and children.

Social characteristics at the contextual level describe how supportive or detrimental the communities where people live and work might be to their health and access to health services. Relevant measures include educational level, ethnic

**FIGURE 1.1. A BEHAVIORAL MODEL OF HEALTH SERVICES USE INCLUDING CONTEXTUAL AND INDIVIDUAL CHARACTERISTICS.**



and racial composition, proportion of recent immigrants, employment level, and crime rate.

Beliefs refer to underlying community or organizational values and cultural norms and prevailing political perspectives regarding how health services should be organized, financed, and made accessible to the population.<sup>6</sup>

***Contextual Enabling Characteristics.*** Health policies are authoritative decisions made pertaining to health or influencing the pursuit of health.<sup>7</sup> They can be public policies made in the legislative, executive, or judicial branch of government, at all levels from local to national. They can also be policies made in the private sector by such decision makers as executives of managed care organizations concerning product lines, pricing, or marketing, or by accrediting agencies such as the Joint Commission on Accreditation of Health Care Organizations (JCAHO) or quality assessment organizations such as the National Committee for Quality Assurance (NCQA).

Financing characteristics are described by an array of contextual measures that suggest resources potentially available to pay for health services, including per capita community income, and wealth. Other financial characteristics are incentives to purchase or provide services, such as rate of health insurance coverage, relative price of medical care and other goods and services, and method of compensating providers. Also included here are per capita expenditures for health services.

Organization at the contextual level includes the amount and distribution of health services facilities and personnel as well as how they are structured to offer services. Structure includes supply of services in the community, such as the ratios of physicians and hospital beds to population. Structure also includes how medical care is organized in a particular institution or delivery system where people receive care, as with office hours and location of service, provider mix, utilization and quality control oversight, and outreach and education programs.

***Contextual Need Characteristics.*** Environmental need characteristics include health-related measures of the physical environment, among them the quality of housing, water, and air (for example, residing in a county that met national ambient air quality standards throughout the year).<sup>8</sup> Other measures suggesting how healthy the environment might be are injury or death rate (such as rate of occupational injury and disease and related deaths) as well as death rates from motor vehicle injuries, homicides, and firearms.

Population health indices are more general indicators of community health that may or may not be associated with the physical environment. These indices include general and condition-specific rates of mortality (for example, infant

mortality; age-adjusted mortality; and mortality rates for heart disease, cancer, stroke, HIV); morbidity (incidence of preventable childhood communicable diseases and AIDS, and prevalence of cancer, hypertension, and untreated dental caries); and disability (disability days due to acute conditions and limitation of activity due to chronic conditions).

The arrows in Figure 1.1 leading from the contextual characteristics indicate that they can influence health behaviors and outcomes in multiple ways. They can work through individual characteristics, as when increased generosity of a state Medicaid program leads to previously uninsured low-income children being covered by health insurance and subsequent increase in their use of health services. Contextual characteristics can also influence health behaviors and outcomes directly, over and above their influence through individual characteristics, as when presence of community health clinics in a metropolitan statistical area leads to increased use of primary care services by low-income persons independent of personal income or other individual characteristics. Understanding the nature of contextual influences on access to care presents many analytic challenges,<sup>9</sup> but it may permit important new insights into how to improve access to care.

***Individual Predisposing Characteristics.*** Demographic factors such as age and gender of the individual represent biological imperatives suggesting the likelihood that people will need health services.<sup>10</sup> Social factors determine the status of a person in the community as well as his or her ability to cope with presenting problems and command resources to deal with those problems. Traditional measures include an individual's education, occupation, and ethnicity. Expanded measures might include people's social network and social interactions that can facilitate or impede access to services.<sup>11</sup> Health beliefs are attitudes, values, and knowledge people have about health and health services that can influence their subsequent perception of need and use of health services.

***Individual Enabling Characteristics.*** Financing of health services for the individual involves the income and wealth available to the individual to pay for services. Financing also includes the effective price of health care to the patient, determined by having insurance and cost-sharing requirements.

Organization of health services for the individual describes whether or not the individual has a regular source of care and the nature of that source (private doctor, community clinic, emergency room). It also includes means of transportation and reported travel time to and waiting time for care.

***Individual Need Characteristics.*** Perceived need is how people view their own general health and functional state. Also included here is how they experience and

emotionally respond to symptoms of illness, pain, and worry about their health condition. Perceptions about the importance and magnitude of a health problem or symptom lead to a decision to seek medical care (or not to do so). Perceived need is largely a social phenomenon that, when appropriately modeled, should itself be largely explainable by social characteristics (such as ethnicity or education) and health beliefs (health attitudes, knowledge about health care, and so on).

Evaluated need represents professional judgment and objective measurement about a patient's physical status and need for medical care (blood pressure readings, temperature, and blood cell count, as well as diagnoses and prognoses for particular conditions the patient experiences). Of course, evaluated need is not simply, or even primarily, a valid and reliable measure from biological science. It also has a social component and varies with the changing state of the art and science of medicine, clinical guidelines and protocols, and prevailing practice patterns, as well as the training and competency of the professional expert doing the assessment.

Logical expectations of the model are that perceived need helps us better understand the care-seeking process and adherence to a medical regimen, while evaluated need is more closely related to the kind and amount of treatment that is given after a patient has presented to a medical care provider.

**Health Behaviors.** Personal health practices are behaviors on the part of the individual that influence health status. They include diet and nutrition, exercise, stress reduction, alcohol and tobacco use, self-care, and adherence to medical regimens. The process of medical care is the behavior of providers interacting with patients in the process of care delivery.<sup>12</sup> General process measures might relate to patient counseling and education, test ordering, prescribing patterns, and quality of provider-patient communication. Process measures might also describe the specifics of caregiving for particular conditions, such as whether a provider checks a CD4 cell count in a person with HIV disease or reviews the patient's record of home glucose monitoring in a diabetic.

Use of personal health services is the essential component of health behaviors in a comprehensive model of access to care. The purpose of the original behavioral model was to predict health services use, measured rather broadly as units of physician ambulatory care, hospital inpatient services, and dental care visits. We hypothesized that predisposing, enabling, and need factors would have differential ability to explain use depending on what type of service was examined.<sup>13</sup> Hospital services used in response to more serious problems and conditions would be primarily explained by need and demographic characteristics, while dental services (considered more discretionary) would more likely be explained by social conditions, health beliefs, and enabling resources.

We expected all the components of the model to explain ambulatory physician use because the conditions stimulating care seeking would generally be viewed as less serious and demanding than those resulting in inpatient care but more serious than those leading to dental care. More specific measures of health services use are now being employed to describe a particular medical condition or type of service or practitioner, or they are linked in an episode of illness to examine continuity of care.<sup>14</sup> For example, a longitudinal study of rheumatoid arthritis measures patient visits to various types of providers, treatment used, level of patient compliance with treatment, and associated changes in functional status and pain over time. Although specific measures are, in many ways, likely to be more informative, the more global ones (number of physician visits, self-rated general health status) still have a role to play. Global measures are used to assess the overall effects of health policy changes over time.

**Outcomes.** One kind of result or outcome of health behavior and contextual and individual characteristics is an individual's or patient's perceived health status. This depends on many factors in addition to use of personal health services, including all of the contextual factors as well as an individual's demographic and social characteristics, health beliefs, and personal health practices. Perceived health status indicates the extent to which a person can live a functional, comfortable, and pain-free existence. Measures include reports of general perceived health status, activities of daily living, and disability.

Evaluated health status is dependent on the judgment of the professional, on the basis of established clinical standards and state-of-the-art practices. Measures include tests of patient physiology and function as well as diagnosis and prognosis regarding their condition. Outcome measures of perceived and evaluated health may appear suspiciously like perceived and evaluated need measures. Indeed, they are. The ultimate outcome validation of improved access is to reduce individual needs previously measured and evaluated.

Consumer satisfaction is how individuals feel about the health care they receive. It can be judged by patient ratings of waiting time, travel time, communication with providers, and technical care received. From a health plan perspective, an ultimate outcome measure of patient satisfaction in this era of managed care might be whether or not enrollees choose to switch plans.<sup>15</sup>

Central to the model shown in Figure 1.1 is feedback, depicted by the arrows from outcomes to health behaviors, individual characteristics, and contextual characteristics. Feedback allows insights about how access might come to be improved. For example, outcomes might influence contextual characteristics, as illustrated by Karen Davis, president of the Commonwealth Foundation.<sup>16</sup> Davis noted that the continued failure of our health services system to provide access

to care, particularly for vulnerable populations, as well as the generally low level of satisfaction of the public with the health services system lead her to conclude that our health care system needs to be fundamentally changed. Such conclusions, drawn by enough influential people, as well as dissatisfaction on the part of the public might ultimately lead to health policy changes in the country and subsequent reforms in financing and organizing health services with the intent to improve access to care. These health policy reforms would represent a major contextual change in the American health care delivery system.

Feedback, of course, can occur at the community or institutional level as well as at the national level. Certainly there are expectations that feedback to health care institutions from JCAHO or NCQA might result in contextual changes in the institutions' organization and processes of care for their patients.

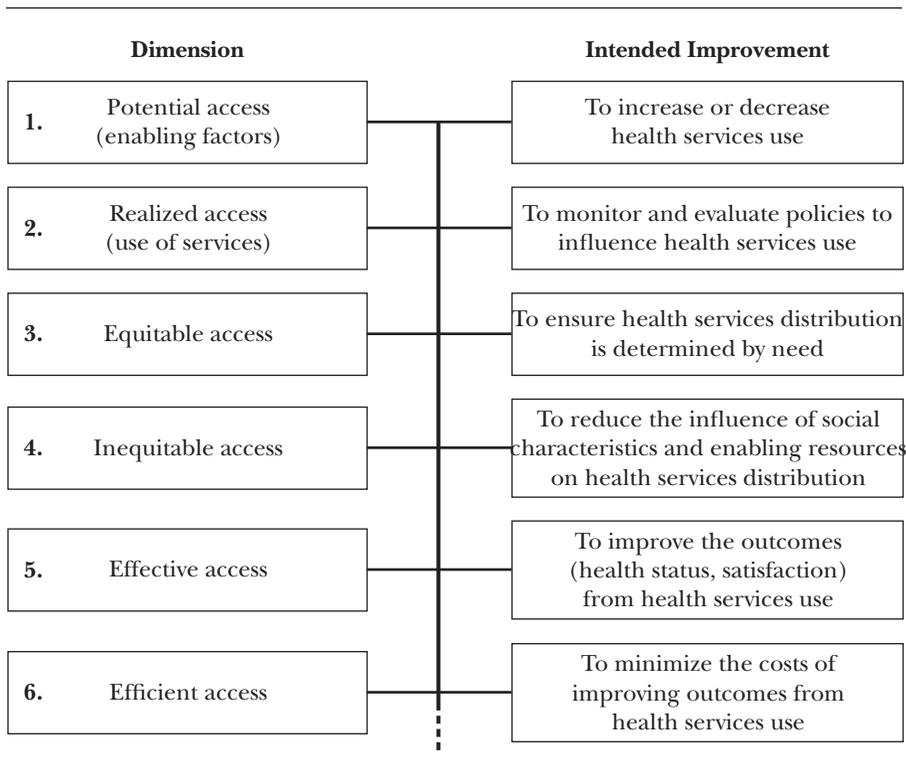
## Defining and Improving Dimensions of Access to Care

Access to medical care is a relatively complex multidimensional phenomenon. Over several decades, the behavioral model has been used as a tool to help define and differentiate these dimensions.<sup>17</sup> In this section, we review dimensions of access and suggest how access can be improved through health policy and delivery system intervention (see Figure 1.2).

**Potential Access.** Potential access is measured by the enabling variables of the behavioral model at both the contextual (health policy, financing) and individual (regular source of care, health insurance, income) levels. More enabling resources constitute the means for use and increase the likelihood that it will take place.

**Realized Access.** Realized access is the actual use of services. Realized access indicators include utilization of physician, hospital, dental and other health services. Historically, the United States experienced improving trends in access as measured by an increasing health services utilization rate. Access to health services was considered an end goal of policy change. Progressive policies designed to increase access were implemented in the 1950s and 1960s to increase the number of physicians, augment hospital beds in rural communities, and create Medicare and Medicaid. Potential access measures (regular source of care, health insurance) were used as indicators of greater access. Realized access measures (utilization of hospital and physician services) were employed to monitor and evaluate policies designed to influence health services use.

The U.S. health care system evolved from decision making grounded in altruism through increasing access and supply of resources to a position of caution and financial prudence.<sup>18</sup> The predominant focus on increasing medical care

**FIGURE 1.2. THE POLICY PURPOSES OF ACCESS MEASURES.**

utilization shifted in the 1970s to concern for health care cost containment and creation of mechanisms to limit access to health care. Examples of policies designed to limit access are coinsurance, deductibles, utilization review, and the genesis of managed care. In the 1980s and early 1990s, in competing with fee-for-service organizations, managed care enjoyed double-digit growth in profit margins.<sup>19</sup> However, over time its growth slowed, and managed care organizations came under considerable scrutiny regarding whether they limited needed services for their enrollees.

This managed care backlash led to a downward trend in health maintenance organization (HMO) enrollment in the mid-1990s through 2000; however, during the same time period Medicaid managed care continued to expand rapidly.<sup>20</sup> In response to the managed care backlash and escalating health care costs, the major commercial health plans turned from capitation and utilization review to high co-payments, shifting costs to consumers, tied networks with variable coinsurance, and medical management programs focusing on high-cost patients.<sup>21</sup> Plans continue to experiment with new provider networks, payment systems, and

referral practices designed to lower costs while improving service delivery, which has been a challenging proposition for the industry.<sup>22</sup>

Another incremental health policy reform initiative, the Medicare prescription drug benefit, for years has been at the forefront of congressional debate. Pharmaceuticals are a major out-of-pocket expense and threaten the financial security of lower-income beneficiaries. Policy makers grappled with deciding who should bear these costs and whether subsidies could be extended to assist lower-income beneficiaries.<sup>23</sup> These issues are discussed in some detail in Chapter Twenty, on Medicare reform.

Among commercial plans, 64 percent of prescription drug benefits offered through employers used tiered co-payment systems in 2004, up from 28 percent in 2000.<sup>24</sup> Under these arrangements, employees paid lower co-pays for generic drugs and higher fees for branded drugs, which encouraged use of less costly generic drugs. However, cost sharing for prescription drugs has the potential for reducing utilization and health status of seniors,<sup>25</sup> and high out-of-pocket expenditures for prescription drugs have been associated with adverse health outcomes.<sup>26</sup> Other methods used by companies to control utilization and costs include shifting costs to employees, disease management programs, providing incentives to doctors who meet treatment guidelines, and reducing workers' co-pay if they go to doctors with the best track record in efficiency (best result for the best price).<sup>27</sup>

***Equitable Access.*** Equitable (as well as inequitable) access is defined according to which determinants (age, ethnicity, insurance status, symptoms) of realized access are dominant in predicting utilization. Equity is in the eye of the beholder. Value judgments about which components of the model should explain utilization in an equitable health care system are crucial to the definition. Traditionally, equitable access has been defined as occurring when demographic variables (age and gender), and especially need variables, account for most of the variance in utilization.<sup>28</sup>

***Inequitable Access.*** Inequitable access occurs when social characteristics and enabling resources such as ethnicity or income determine who gets medical care. The social justice movement, dominant in the 1960s and early 1970s with the passage of Medicare and Medicaid, sought to ensure that health services distribution was determined by need and to reduce the influence of social characteristics and enabling resources on health services distribution.

Equity of access to medical care is the value judgment that the system is deemed fair or equitable if need-based criteria (rather than enabling resources such as insurance coverage or income) are the main determinants of whether or not—or how much—care is sought. Subgroup disparities in use of health services (say, according to race or ethnicity, or health insurance coverage) would be

minimized in a fair and equitable system, while underlying need for preventive or illness-related health care would be the principal factor determining utilization.

Policies to improve social justice include the health disparities initiatives, State Children's Health Insurance Program (SCHIP), the Federal Safety Net Initiative, and recruiting more minorities to the health professions. The landmark 2003 report by the Institute of Medicine (IOM), *Unequal Treatment*, revealed that even if insurance status and income are controlled for, blacks and Hispanic Americans have poorer health outcomes.<sup>29</sup> Forty years after civil rights legislation was enacted in the mid-1960s, racial inequities in health and healthcare persist that are due to socioeconomic status, racial segregation, and inequities in access to quality medical care.<sup>30</sup> Policy levers have been proposed to address health disparities, such as the central role of the Centers for Medicare and Medicaid Services (CMS) in overseeing quality of care through measurement and certification, adherence to the HHS Office of Minority Health (OMH) national standards for cultural competence in health care, and creating a state minority health policy report card.<sup>31</sup> For more in-depth analysis of health disparities and policy implications, see Chapters Two, Three, and Four.

A \$48 billion federal action in the form of SCHIP stimulated virtually every state to expand coverage for low-income children.<sup>32</sup> Prior to the enactment of SCHIP, little progress had been made in more than fifteen years to reduce the population of uninsured children.<sup>33</sup> Attracting children into these programs depended on ease of enrollment, cost-sharing requirements, whether programs were packaged in such a way to reduce stigma, the effectiveness of outreach efforts, and overcoming administrative and nonfinancial barriers.<sup>34</sup> But is SCHIP an effective and efficient policy intervention for improving health care access for children's safety-net resources?<sup>35</sup> Several evaluation studies have demonstrated that SCHIP was associated with improved access, continuity, and quality of care, and a greater proportion of care delivered within the regular source of medical and dental care.<sup>36</sup>

Additionally, parents reported that having health insurance for children reduced family stress, enabled the children to obtain the care they needed, and eased family burdens, producing an overall positive impact for children and their families.<sup>37</sup> In sharp contrast to state initiatives to extend public insurance for children, there has been virtually no change in the generosity of public programs for adults nationally, although public coverage has improved in some states (among them Arizona, Tennessee, and Vermont) and declined in others (California and New York as examples).<sup>38</sup>

Other policies promoting social justice have been created to support safety-net providers who care for uninsured and underinsured persons.<sup>39</sup> The institutional safety-net system consists of a patchwork of community clinics, hospitals, and other programs whose nature varies dramatically across the country, many

funded by the Health Resources and Services Administration (HRSA). However, financing for safety-net institutions has always been tenuous and subject to changing politics, available resources, and public policies.<sup>40</sup>

In 2002, the Bush administration launched a five-year initiative to expand the health center system by adding twelve hundred new and expanded health center sites and increasing the number of patients served from 10.3 million in 2001 to an estimated 16 million by 2006.<sup>41</sup>

HRSA manages the consolidated health center program, funding a national network of more than thirty-seven hundred organizations, which include community health centers, migrant health centers, health care for the homeless, school-based health centers, and public housing primary care centers. HRSA's seven strategic goals are to improve access, health outcomes, and quality; reduce disparities; improve public health systems and emergency response; and achieve excellence in management practice.<sup>42</sup>

Other examples of policy and programmatic efforts to improve social justice are initiatives to recruit more underrepresented minorities (URM) to the health professions. Research has shown that URM health professionals are culturally competent and more willing to provide care to underserved populations. One such initiative was funded by the Robert Wood Johnson Foundation and the California Endowment, furnishing a combined \$25 million to sponsor the Dental Pipeline, Profession, and Practice Program in fifteen accredited dental schools in the United States.<sup>43</sup> The Pipeline initiative was developed to help address the critical shortage of oral health care for underserved populations. The Pipeline program objectives are to (1) increase recruitment and retention of underrepresented minority and low-income students; (2) revise didactic and clinical curricula to support community-based educational programs; and (3) establish community-based clinical education programs that give dental students and residents sixty days of experience in this patient care environment. Critical outcomes of the Pipeline initiative are the practice settings selected by recent graduates and the percentage of underserved populations these entry-level dentists expect to serve in their practice.

***Effective Access.*** The cost-containment movement became more sophisticated in the late 1980s and 1990s. The next generation of health services research transitioned to measuring the impact of health services utilization on health outcomes. Accordingly, the IOM Committee on Monitoring Access to Medical Care defined *access* as timely use of personal health services to achieve the best possible health outcomes.<sup>44</sup> This definition relies on use of health services and health outcomes as a yardstick for judging whether access has been achieved. The resulting measures are referred to as effective access.

Measures of effectiveness examine the relative impact of health services utilization within the context of other predisposing, enabling, need, and health-behavior

variables. Predisposing variables, such as age, gender, and social support variables, can influence the patient's health status following treatment. Access to personal enabling resources (health insurance, income, regular source of care) can result in expeditious medical treatment with highly trained practitioners using state-of-the-art medical technology. Conversely, lack of enabling resources can lead to delay in seeking medical advice or episodic, fragmented treatment with a potential negative impact on health outcomes and satisfaction with medical care.

Researchers conducting effectiveness and outcomes research have developed strategies for risk adjustment to control for the effects of medical need (severity of illness, number of symptoms, and comorbidities) before intervention.<sup>45</sup> Personal health practices (diet, exercise, stress management) and compliance with medical regimens prior and subsequent to treatment can also influence health outcomes. Analytical models used to determine the effect of alternative medical treatments on health outcomes must consider the influence of these varying personal and behavioral factors, as well as contextual differences in health care delivery systems and external environment.

***Efficient Access.*** Most recently, concerns about cost containment have been combined with those directed to improving health outcomes. The results are measures of efficient access. They are similar to measures of effective access with the added emphasis on assessing resources used to influence outcome.

Improvement is attained by promoting health outcomes while minimizing the resources required to attain improved outcomes. Aday and colleagues describe efficiency as producing the combination of goods and services with the highest attainable total value, given limited resources and technology.<sup>46</sup> Efficiency is an attempt to quantify the cost-effectiveness or cost benefit of health services to determine the extent to which finite private, public, or personal resources should be invested in ensuring access to those procedures.<sup>47</sup>

An example of policy and programmatic change to improve efficient access is the Government Performance and Results Act mandated by Congress in 1993. The purpose of the legislation was to improve efficiency and accountability for the federal dollars spent on health care. In response, HRSA created the Office of Performance Review (OPR) in 2002. The community health center cottage industry of the past is transforming into a network of professionally managed organizations. OPR's core functions are to collaboratively conduct performance reviews with HRSA funded organizations, track regional and state trends, provide policy and grantee feedback to HRSA, and offer technical assistance on performance measurement and improvement. HRSA is moving toward increased use of common, structured, and standardized data strategies to carry out an effective system of performance measurement. The performance measures, defined as outcomes and effort to produce outcomes, are designed to create a culture and

technology for efficiently using federal dollars to improve access for underserved populations.<sup>48</sup>

Part of a larger trend in the health care industry today, performance measurement and improvement is being promoted by organizations such as the Institute for Healthcare Improvement (IHI) and the National Center for Healthcare Leadership (NCHL).<sup>49</sup>

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## Trends in Access to Care

In this section, trends in access are examined according to several dimensions of access. We consider changes over time in potential access (health insurance coverage), realized access (use of hospital, physician, and dental services), and equitable access (health insurance and health services use according to income and race). We also examine some key research findings concerning effective and efficient access.

### Potential Access (Enabling Health Insurance)

Table 1.1 reports a critical potential access measure: health care coverage for persons under sixty-five years of age from 1984 to 2002. The uninsured proportion of the population increased from 14 to 17 percent in that time period. Medicaid coverage actually increased (from 7 to 12 percent), but the overall decline in coverage resulted from a drop in the proportion covered by private insurance, from 77 to 70 percent.

The proportion of population eighteen to forty-four who were uninsured increased during the 1980s and 1990s, reaching 23 percent in 2002. The proportion covered by private insurance decreased for every age group between 1984 and 2002. Between 1984 and 2002, the proportion of all children covered under Medicaid increased from 12 to 25 percent. This increase reflected the expanded Medicaid income eligibility enacted by Congress in the mid-1980s and SCHIP, first implemented in the late 1990s (see Chapter Two).

The results overall leave little doubt that a decline in potential access has occurred for the U.S. adult population since the early 1980s because of diminution in private health insurance coverage.

### Realized Access (Utilization Over Time)

Table 1.2 presents a historical perspective of personal health care use for the U.S. population from 1928–1931 to 2002. It presents trend data on realized access for three types of service: those in response to serious illness (hospital admissions),

**TABLE 1.1. HEALTH INSURANCE COVERAGE FOR PERSONS UNDER SIXTY-FIVE, BY AGE, RACE AND ETHNICITY, AND POVERTY LEVEL.**

	Private Insurance <sup>e</sup>				Medicaid <sup>e</sup>				Not Covered <sup>e</sup>			
	1984	1995	1999	2002	1984 <sup>f</sup>	1995 <sup>f</sup>	1999 <sup>g</sup>	2002 <sup>g</sup>	1984	1995	1999	2002
Age												
Under 18	73	65	69	64	12	21	18	25	14	13	12	11
18-44	77	77	72	69	5	8	6	7	17	20	21	23
45-64	83	80	79	77	3	6	4	5	10	11	12	13
Race and ethnicity <sup>a</sup>												
White, non-Hispanic <sup>c</sup>	82	79	80	78	5	9	7	9	13	15	15	15
Black, non-Hispanic <sup>c</sup>	59	55	58	56	19	26	19	21	20	18	19	19
Hispanic, Mexican <sup>b</sup>	55	44	48	44	11	19	12	18	33	36	38	37
Hispanic, Puerto Rican <sup>b</sup>	51	49	51	51	29	31	27	28	18	18	20	19
Hispanic, Cuban <sup>b</sup>	72	63	71	62	5	14	8	15	22	22	20	21
Asian <sup>c</sup>	71	68	73	71	9	11	8	10	18	18	16	17
Percent of poverty level <sup>a,d</sup>												
Below 100 percent	33	23	26	27	31	45	35	39	35	32	36	31
100-149 percent	62	48	43	39	7	18	17	25	27	32	35	33
150-199 percent	78	65	59	57	3	8	10	15	17	24	27	26
200 percent or more	92	88	87	84	1	2	2	3	6	9	9	11
Total <sup>a</sup>	77	71	73	70	7	11	9	12	14	16	16	17

Notes:

<sup>a</sup>Age adjusted to year 2000 U.S. Standard populations.

<sup>b</sup>Persons of Hispanic origin may be white, black, or Asian or Pacific Islander.

<sup>c</sup>Includes persons of Hispanic and non-Hispanic origin.

<sup>d</sup>Poverty level is based on family income and family size, using Bureau of the Census poverty thresholds.

<sup>e</sup>The sum of percentages for private insurance, Medicaid, and not-covered may not sum to 100 percent because other types of health insurance (Medicare, military) do not appear in the table and because persons with private insurance as well as Medicaid are counted in both columns.

<sup>f</sup>Includes other public assistance.

<sup>g</sup>Includes state sponsored plans and State Children's Health Insurance Program (SCHIP).

Source: National Center for Health Statistics. Health United States, 2004. Hyattsville, Md.: National Center for Health Statistics, 2004, pp. 345, 348, 350.

services for a combination of primary and secondary care (physician visits), and services for conditions that are rarely life threatening and generally considered discretionary but still have an important bearing on people's functional status and quality of life (dental visits).

**TABLE 1.2. PERSONAL HEALTH CARE USE BY INCOME.**

	1928–31 <sup>a</sup>	1952–53 <sup>a</sup>	1963–64 <sup>a</sup>	1974 <sup>a</sup>	1997 <sup>b</sup>	2002 <sup>b</sup>
Hospital admissions (per 100 persons per year)						
Low-income <sup>c</sup>	6	12	14	19	19	16
Middle-income <sup>d</sup>	6	12	14	14	12	12
High-income <sup>e</sup>	8	11	11	11	8	8
Total	6	12	13	14	12	12
Physician visits <sup>g</sup>						
Low-income <sup>c</sup>	2.2	3.7	4.3	5.3	19%	18%
Middle-income <sup>d</sup>	2.5	3.8	4.5	4.8	15%	15%
High-income <sup>e</sup>	4.3	6.5	5.1	4.9	13%	12%
Total	2.6	4.2	4.5	4.9	14%	13%
Percentage seeing a dentist (within one year) <sup>f</sup>						
Low-income <sup>c</sup>	10	17	21	35	48	48
Middle-income <sup>d</sup>	20	33	36	48	51	52
High-income <sup>e</sup>	46	56	58	64	73	71
Total	21	34	38	49	65	65

*Notes:*

<sup>a</sup>Various national surveys reported in Andersen, R., and Anderson, O. "Trends in the Use of Health Services." In H. E. Freeman, S. Levine, and L. G. Reeder (eds.), *Handbook of Medical Sociology* (3rd ed.). Upper Saddle River, N.J.: Prentice Hall, 1979, pp. 374, 378, 379.

<sup>b</sup>National Center for Health Statistics. *Health United States, 2004*. Hyattsville, Md.: National Center for Health Statistics, 2004, pp. 289, 247, 265.

<sup>c</sup>Lowest 15–27 percent of family income distribution for 1928–1931, 1952–53, 1963–64, 1974. Below poverty for 1997, 2002.

<sup>d</sup>Middle 51–73 percent of family income distribution for 1928–1931, 1952–53, 1963–64, 1974. 100 percent to <200 percent of poverty threshold for 1997, 2002.

<sup>e</sup>Highest 12–32 percent of family income distribution for 1928–1931, 1952–53, 1963–64, 1974. 200 percent or greater of the poverty threshold for 1997, 2002.

<sup>f</sup>Estimates only for persons two years of age and older, 1997, 2002.

<sup>g</sup>Mean number of physician visits per person per year for 1928–1931, 1952–53, 1963–64, 1974. Percent of population with ten or more visits per year for 1997, 2002.

The hospital admission rate for the U.S. population doubled between 1928 and 1931 (six admissions per one hundred persons per year) and the early 1950s (twelve admissions). A rising standard of living, the advent of voluntary health insurance, the increasing legitimacy of the modern hospital as a place to deliver babies and treat acute illness, and the requirements necessary for developing sophisticated medical technology all contributed to expanded use of the acute care hospital. Hospital admissions further increased in the 1960s and early 1970s (reaching fourteen admissions per hundred persons per year in 1974), reflecting continued growth in medical technology, private health insurance, and the advent of Medicare coverage for the elderly and Medicaid coverage for the low-income population in 1965.

However, beginning in the mid-1970s use of the acute care hospital began to decline, dropping to twelve admissions per hundred population by 2002. There was also a substantial decrease in average length of stay per admission during this period, from 7.5 days in 1980 to 6.5 days in 1990 and 4.9 days in 2002.<sup>50</sup> Those declines accompanied increasing an effort to contain health care costs by shifting care from the more expensive inpatient setting to less expensive outpatient settings, a shift from fee-for-service to prospective payments by Medicare, reduced coverage and benefits with increasing co-insurance and deductibles for health insurance, and a shift in certain medical technology and styles of practice that meant reduced reliance on the inpatient settings.

Contributing to the decline of inpatient volume since 1980 has been the significant growth of managed care. (See Chapter Nineteen, on managed care, by Kominski and Melnick.) This growth of managed care with its emphasis on utilization review and cost containment contributed to reduction in hospital admissions and the length of hospital stays.

Physician visits (Table 1.2), like inpatient services, increased substantially from 1928 to 1931 (2.6 visits per person per year) to the early 1950s (4.2 visits), for many of the same reasons hospital admissions were increasing in this period. However, unlike hospital admissions the number of physician visits continued to increase, reaching 4.9 visits in 1974 and 5.8 in 1996.<sup>51</sup> By 2002, 13 percent of the population had 10 or more physician visits per year. In part, the continued growth of managed care, with its relative deemphasis of the inpatient setting and greater focus on outpatient settings, may account for the divergence in trends of these basic realized access measures.

Trends in dental visits (Table 1.2) for the total U.S. population paralleled those for physician visits. Twenty-one percent of the population visited a dentist in 1928–1931, and the proportion increased consistently, reaching one-half of the population in 1974. Further increases in the last three decades resulted in 65 percent of the population visiting a dentist in 2002.

### Equitable Access (Health Insurance and Use According to Income and Race)

Combined with Tables 1.1 and 1.2, Table 1.3 presents health insurance coverage and personal health care use by race and income for the U.S. population for selected years. Recall that we have suggested “equitable access” is indicated by similar levels of insurance coverage and use by various income and ethnic groups. “Inequitable access” is indicated by discrepancies in coverage and use for these groups.

**TABLE 1.3. PERSONAL HEALTH CARE USE BY RACE OR ETHNICITY.**

	1964 <sup>a</sup>	1981–1983 <sup>b,c</sup>	1997 <sup>d,i</sup>	2002 <sup>d,i</sup>
Hospital admissions (per 100 persons per year)				
White <sup>f</sup>	11	12	10	10
Black <sup>e,g</sup>	8	14	13	12
Hispanic <sup>h</sup>	—	—	11	10
Total	11	12	10	12
Percentage seeing a physician (within one year)				
White <sup>f</sup>	68	76	84	84
Black <sup>e,g</sup>	58	75	83	85
Hispanic <sup>h</sup>	58	75	75	74
Total	61	76	84	84
Percentage seeing a dentist (within one year) <sup>f</sup>				
White <sup>f</sup>	45	57	67	67
Black <sup>e,g</sup>	22	39	57	55
Hispanic <sup>h</sup>	—	42	53	53
Total	43	54	65	65

*Notes:*

<sup>a</sup>National Center for Health Statistics. *Health United States, 1993*. Hyattsville, Md.: National Center for Health Statistics, 1994, pp. 174, 179, 180.

<sup>b</sup>For hospital admissions and percentage seeing a doctor: National Center for Health Statistics. *Health United States, 1988*. Hyattsville, Md.: National Center for Health Statistics, 1989, pp. 107, 111.

<sup>c</sup>For percentage seeing a dentist: National Center for Health Statistics. *Health United States, 1999*. Hyattsville, Md.: National Center for Health Statistics, 1999, p. 242.

<sup>d</sup>National Center for Health Statistics. *Health United States, 2004*. Hyattsville, Md.: National Center for Health Statistics, 2004, pp. 289, 247, 265.

<sup>e</sup>1964 includes all other races.

<sup>f</sup>1964 includes white Hispanics.

<sup>g</sup>1964 includes black Hispanics.

<sup>h</sup>Persons of Hispanic origin may be of any race.

<sup>i</sup>For percentage seeing a dentist, includes only persons two years of age and older.

**Health Insurance.** Table 1.1 suggests considerable inequity in insurance coverage in 1980 continuing to the present time. Minorities and low-income people are generally least likely to have private health insurance. However, there are striking differences among minority groups regarding private health insurance coverage in 2002. Blacks (56 percent), Mexicans (44 percent), and Puerto Ricans (51 percent) are far below the national average (70 percent), but Cubans (62 percent) are somewhat closer and Asians (71 percent) essentially equal the national average. Medicaid compensates for some of this inequity but still left an especially high proportion of Mexicans (37 percent) and the lowest-income groups (below 150 percent of federal poverty guidelines, 31–33 percent) uninsured in 2002.

The trends in Table 1.1 suggest a somewhat mixed picture as to whether inequity in health insurance coverage is increasing over time. Between 1984 and 2002 coverage through private health insurance declined while the proportion covered by Medicaid increased for white non-Hispanics and most minority groups. The decrease in private insurance coverage tended to be offset by an increase in Medicaid so that the proportion left uninsured, for both whites and minorities, was about the same in 2002 as 1984—except for Mexicans, for whom the uninsured proportion increased from 33 to 37 percent over this eighteen-year period, indicating greater inequity. One reason for the rise in number of uninsured among Mexicans is their relatively high immigration rate into the United States during this same period. Recent immigrants are less likely to have health insurance coverage.

Trends in insurance coverage according to income level since 1984 generally suggest increased inequity (Table 1.1). Between 1984 and 2002, private health insurance coverage of low-income groups declined considerably (with the greatest decline, from 62 to 39 percent, for those with incomes of 100–149 percent of poverty). There was also a decline for the highest-income group over this period, but it was much less (from 92 to 84 percent) as a large majority of the highest-income group retained private health insurance coverage. Increasing Medicaid coverage compensated for decline in private insurance coverage for the lowest-income group so that the proportion uninsured was similar in 1984 (34 percent) and 2002 (31 percent). This was not the case for the lower-income groups above poverty, for whom the proportion of uninsured rose considerably—from 27 to 33 percent for those at 100–149 percent of poverty and from 17 to 26 percent for those at 150–199 percent of poverty. Consequently, it appears that inequity in insurance coverage has been increasing for these lower-income groups above poverty.

**Hospital Admissions.** Tables 1.2 and 1.3 suggest greater equity according to income and race for hospital admissions since use by low-income and minority groups compared to the rest of the population has grown consistently over the past seventy years.

However, such a general conclusion about improvement in equity needs to be qualified in important ways. First, the relative needs of the low-income and minority populations for acute hospital care are often much greater. Also, higher use of inpatient hospital care suggests that limited access to preventive and primary services at an earlier time might increase subsequent need for inpatient hospital services for serious acute and uncontrolled chronic disease problems (see Chapter Two, by Yancey, Bastani, and Glenn, on health disparities; and Chapter Three, by Morales and Ortega, on health care disparities).

In 1928–1931 the highest-income group had the highest admission rate (Table 1.2). By the 1950s, the rate equalized. In subsequent years, rate by income diverged, with the lowest-income group increasing relative to those with higher incomes so that by 2002 the lowest income had a rate (sixteen per hundred) twice that of the highest-income group (eight per hundred). Does this indicate that inequity exists in favor of the low-income group? Probably not. Studies taking into account the need for medical care suggest that greater use among low-income persons can be largely accounted for by their higher rates of disease and disability.<sup>52</sup>

The hospital admission rate in 1964 for whites (eleven per hundred) was still considerably higher than that for blacks (eight per hundred; Table 1.3). However, by the 1980s the rate for blacks exceeded that for whites, and the higher rate for blacks continued through the 1990s. The higher hospital admission rate for blacks, similar to that for low-income people, can be largely accounted for by greater level of medical need.<sup>53</sup> Unlike the case with blacks, the admission rate for most Hispanics only now approaches the rate for non-Hispanic whites. For the period 1992–1995, the age-adjusted proportion of the population with one or more hospital stays within a year was 6.1 percent for Mexicans and 6.3 percent for Cubans, compared to 6.5 percent for non-Hispanic whites. Among major Hispanic groups, only the percent for Puerto Ricans (8.4) exceeded the non-Hispanic white rate.<sup>54</sup> However, as shown in Table 1.3 by 2002 the admission rate was similar for Hispanics and White non-Hispanics (10 admissions per 100 persons per year).

**Physician Visits.** The trends in Tables 1.2 and 1.3 also suggest increasing equity for physician visits according to income level and ethnicity. In 1928–1931, the lowest-income group averaged only one-half as many visits to the doctor (2.2 visits) as the highest-income group (4.3 visits; Table 1.2). Over time, the gap narrowed. By 1974, the lowest-income group was actually visiting a physician more than the higher-income groups, and the difference increased in the 1980s and 1990s. Again, research suggests that the apparent excess for the low-income population can be accounted for by their greater level of medical need.<sup>55</sup>

Similar trends have taken place among the black population (Table 1.3), but parity with the white population in the proportion seeing a doctor did not take

place until the early 1980s, and the proportion seeing a doctor has remained about the same for blacks and whites in 2002. The average number of physician contacts per year for most Hispanic groups (Mexican, 5.1; Cuban, 4.5) remained considerably below the figures for blacks (6.2) and non-Hispanic whites (6.3) during the years 1992–1995. As with hospital inpatient services, the rate of use of physician visits for Puerto Ricans for physician contacts (6.4) exceeded that for other Hispanic groups.<sup>56</sup>

In 2002 (Table 1.3), 74 percent of all Hispanics had a physician visit within a year, compared to 84 percent for non-Hispanic Whites and 85 percent for blacks.

**Dental Visits.** Tables 1.2 and 1.3 tell a story of major inequity according to income and race in dental visits that existed in 1928–1931 and continued into the first decade of this century. The proportion seeing a dentist has increased considerably for all income and racial groups. Still, by 2002 only 48 percent of the low-income group saw a dentist, compared to 71 percent of those in the highest-income group (Table 1.2). Further, 55 percent and 53 percent of blacks and Hispanics respectively saw a dentist, compared to 67 percent of whites (Table 1.3).

## Effective Access

The effectiveness-and-outcomes movement initiated in the late 1980s was in response to several major developments converging on the national scene.<sup>57</sup> The Health Care Financing Administration (HCFA) proposed a research program called the Effectiveness Initiative, stimulated by its need to (1) ensure quality of care for thirty million Medicare beneficiaries, (2) determine which medical practices worked best, and (3) aid policy makers in allocating Medicare resources. At about the same time, an Outcomes Research Program was authorized by Congress, largely inspired by the work of John Wennberg and associates in small-area variations in utilization and outcomes of medical interventions. A third major development stimulating the effectiveness movement stemmed from efforts led by Robert Brook and associates to determine whether medical interventions within the normal practice setting were being used appropriately. Within the same time period, the Agency for Health Care Policy and Research (AHCPR, renamed the Agency for Healthcare Research and Quality, AHRQ) was created, with responsibility for overseeing development of medical practice guidelines—practical application of the outcomes-and-effectiveness research movement.

Prior to the Effectiveness Initiative, research findings were hampered by weak study designs (that is, observational and cross-sectional) that were incapable of determining the clear direction of effects and their potential causality.<sup>58</sup> Most studies used mortality as the outcome variable, which was shown to be more sensitive to

environmental and socioeconomic factors than medical care utilization.<sup>59</sup> Moreover, the appropriate risk adjustments were usually not available in mortality data sets.

The Medical Outcomes Study (MOS) was undertaken in response to these methodological limitations. The MOS sampled physicians and patients from various health care settings—traditional indemnity (fee-for-service, FFS) plans, independent practice associations (IPA), or HMOs—to investigate the relationships among structure, process, and medical outcomes. Specifically, the MOS was designed to (1) determine whether variation in medical outcomes was explained by differences in the system of care (structure and process) and medical specialty; and (2) develop instruments to assess and monitor medical outcomes (clinical endpoints, functioning, perceived general health status and well-being, and satisfaction with treatment).<sup>60</sup> Ultimately, research results demonstrated that multiple factors—(patient mix, medical specialty and system of care, influence patient outcomes, and—when patient and physician characteristics are controlled—quality indicators of primary care) vary across systems of care.<sup>61</sup>

Now almost two decades later, outcomes research has led to advances such as development of outcome measures for clinical research and practice, insights into current practice and practice variation, refinement and clarification of clinical hypotheses, new expectations for clinical care, and an explosion of interest in outcomes and effectiveness research.<sup>62</sup> However, the expectation that outcomes research would be readily translated into practice has not been realized. It is now understood that effectiveness is strongly influenced by contextual and environmental factors and that evidence should guide not only clinical decision making (evidence-based medicine) but also decision making about the administrative and organizational aspects of care related to access, quality, and outcomes (“evidence-based management”).

“Evidence-based medicine” and evidence-based management have emerged from the effectiveness movement. Evidence-based medicine (EBM) synthesizes research results from multiple clinical trials to help clinicians make judicious use of the best scientific evidence for patient care decisions. EBM has been defined as an “effective series of mechanisms not only for improving health quality, but also for reducing medical errors precipitated in part by clinical practice variation.”<sup>63</sup> These variations translate into sizeable disparity in the quality and safety of medical care and ultimately result in poor outcomes and associated health disparities.

In the late 1990s, AHRQ conceived the Evidence-Based Practice Center Program, designed to encourage private organizations (health plans and professional societies) to improve practice through clinical guidelines, quality initiatives, and coverage decisions.<sup>64</sup> Centers produced evidence reports and technology assessments, and a National Guideline Clearinghouse was created.<sup>65</sup> By the end of the 1990s, it was widely accepted that guidelines should be based on evidence, and

that consensus-based methods were acceptable only if there was insufficient evidence to support an evidence-based approach.<sup>66</sup>

Evidence-based management, on the other hand, has enjoyed less investment in research on managerial practice and few randomized experimental trials to furnish the evidence.<sup>67</sup> Implementation of research knowledge in the practice setting has been even slower in health care management than in medicine to be implemented in the practice setting.<sup>68</sup> In fact, most of the innovation today is occurring within academic-practitioner collaboratives executed in the delivery system setting, where researchers collaborate with practitioners to measure and improve clinical or organizational performance, for example, through the IHI disease collaboratives, or employing a balanced scorecard approach such as that used by the NCHL Leadership Excellence Networks. Moving at a slower pace, evidence-based management is progressing nonetheless in response to growing concern that leaders and managers in large health systems are making strategic decisions based on evidence that is not systematically gathered or assessed.<sup>69</sup>

The demand for health services organizations to demonstrate their effectiveness in providing quality patient services will continue to grow. Federal and state governments, managed care organizations, JCAHO, and businesses and insurers purchasing and paying for medical services have all insisted on greater accountability.<sup>70</sup> Evidence-based medicine and evidence-based management are two complementary approaches for achieving more effective outcomes in the health services industry.

## Efficient Access

Efficiency studies have been conducted at the contextual level (national health care systems and health plans) and the individual level (consumer behavior). At the macroeconomic level, comprehensive data available on major, industrialized countries have been used to compare health services utilization, health resources and expenditures, and health outcomes. For example, the Organization for Economic Cooperation and Development (OECD) study comparing per capita health care expenditures in major industrialized countries found that the United States spent about 40 percent more than Canada and almost three times more than the countries with the lowest expenditures. The large expenditure gap for the United States was not offset by health outcome advantages, which raised concerns that resources were being misallocated to services with low benefit relative to cost.<sup>71</sup>

Efficiency analyses conducted at the level of the health plan have been used to compare traditional indemnity plans with FFS providers to HMOs.<sup>72</sup> Other efficiency studies have concentrated on the size and personnel mix of physician practices and other medical care delivery settings.<sup>73</sup> Results from these efficiency

studies can be used for making managed care contract specifications to ensure that services are accessible, efficient, and effective. Efficiency analyses focusing on consumers and providers have investigated the effects of cost sharing on health services utilization to determine optimal combinations of cost sharing and managed care.<sup>74</sup> In summary, efficiency analysis is conducted at multiple levels (international comparative, health plan, delivery system, provider, consumer) to assess the relative cost for improving health outcomes.

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## Conclusion

Is access improving or declining in the United States? for whom? and according to what measures? Although we have documented continuing increases in some realized access measures, notably physician and dental visits, inpatient hospital use has been declining for twenty-five years. However, the declining hospital use rate reflects, in part, the shift to outpatient services and greater emphasis on primary care, possibly reducing the need for acute inpatient services. A key potential access measure, health insurance, reveals that although a growing number of people are being covered by Medicaid, there has been a decline in the number covered by private insurance in the last twenty years and an overall increase in the proportion without any health insurance coverage.

Low-income and black populations appear to have achieved equity of access according to gross measures of hospital and physician utilization (not adjusting for their greater need for medical care) but continue to lag considerably in receipt of dental care.

Equity has certainly not been achieved regarding health insurance coverage; the proportion of uninsured is 50 percent higher for blacks and more than twice as high for Hispanics and the low-income population, compared to the uninsured rate for whites. Further, numerous investigations have noted great inequity in access for low-income and minority populations regarding not having a regular source of care; not getting preventive care; delay in obtaining needed care; and higher rates of morbidity, hospitalization, and mortality that could have been avoided with appropriate access to care. Many of these documented discrepancies are rising over time.<sup>75</sup> Improving access to care can be greatly facilitated by a new generation of access models and indicators, which should stress the importance of contextual as well as individual characteristics in promoting policies to improve access for defined populations.<sup>76</sup> They should focus on the extent to which medical care contributes to people's health. Access measures should be developed specifically for particular vulnerable population groups. These measures are especially important because of the cross-cutting needs of many of the vulnerable groups: persons with

HIV/AIDS, substance abusers, migrants, homeless people, people with disabilities, and those suffering from family violence.<sup>77</sup> Improving equity, effectiveness, and efficiency should be the guiding norms for research on access.<sup>78</sup>

## Notes

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