

Shaping public policy from the perspective of a data builder

by Allen Dobson and Ronald Bialek

During the past six decades, data analysis and research studies have been instrumental in shaping public and private health care policy. Policymakers obtain the knowledge they need for making policy decisions through exposure to and examination of data generated through research studies, experimentation, demonstrations, and analyses. In this article, U.S. hospital care policy has been divided into phases. As the development of health care policy has progressed in each phase, decisionmakers have consistently increased their reliance on data.

Introduction

In the summer of 1983, we presented a paper at the Public Health Conference on Records and Statistics held by the National Center for Health Statistics. We summarized the influence of data analysis and research projects on health care policies over the past 6 decades. During the research stage, we had developed an extensive information set (data base) containing examples of the cause and effect relationship of data to policy. This data base was not published in the conference proceedings because of space limitations. In this article, we present our entire data base in table form and develop more completely the thesis that "data matter."

The degree to which data analysis and health services research studies influence the development of health care policy has often been debated. The extent of such influence cannot be easily observed or measured, but it is clear that politicians, political appointees, and policy analysts must obtain their knowledge from some source. After all, these individuals are not born with an innate set of public policy options.

Decisionmakers are not typically experts. They rely on information provided to them through a wide variety of sources: newsletters, magazines, oral information, briefings, and, occasionally, original data and research sources. Data analysis and research studies are used on three levels: identifying the problem, developing and testing a range of solutions, and evaluating the policy's eventual effectiveness. The process is thus dialectic, with data and analysis being used progressively for problem identification, policy development, program assessment, and eventually for new policies and programs.

Three assumptions underlie our analysis. First, we assume that health care data essentially reflect reality,

that the wealth of information generated in the area of health services research is more right than wrong in the way it portrays health status and related activities. Second, we assume that data are used for policy development, but not necessarily for policy choice. Once the problem is defined and policy alternatives are developed, the actual policy is chosen based on political and philosophical considerations as well as economic constraints. Presented with the same data and analyses, different policymakers might legitimately come to different conclusions. Our contention is that data have historically led to better informed judgments. Our third assumption is that decisionmakers do not have complete evidence, but their decisionmaking is improved when they take account of the information that is available. This places great responsibility on providers of information to present the best information available and to make decisionmakers aware of the information's limitations.

Development of the argument

For the purpose of this article, the term "data" includes survey and other data, data analyses and research studies, and results from experimentation and demonstrations. The term "policy development" refers to activities associated with the design and implementation of public and private health care programs.

To test the hypothesis that "data matter," we built the data base referred to earlier. It was compiled from many books, periodicals, and reports used throughout the past 60 years for identifying public health care problems, developing policy options, and evaluating program impacts. An investigation related to all aspects of public and private health care policy development would have been too vast, so we decided to concentrate on hospital care policy development. We then examined our data base for time periods that possessed two basic components: a similar theme dominating the health care policy debate and a similarity in the degree and way in which data were used for problem identification, policy development, and program evaluation. This examination resulted in the designation of five phases of health care policy development during the past 6 decades.

Our analysis of these phases indicated that policy determination in successive phases relied increasingly on research studies and data analysis. No single study or data source, in and of itself, can set the stage for policy development. However, data in aggregate and their subsequent interpretations clearly were used to identify and focus the issues that have culminated in health care policy over the past 60 years. We make no claim that our presentation is all inclusive, but rather that it is representative of the events taking place during each phase and is adequate to support our claim that "data matter."

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Overview

The breakdown of the five phases we use for examining the hypothesis is as follows.

- Phase 1, Emergence of hospital care as a policy issue, 1920-46.
- Phase 2, Widening access gaps, 1947-65.
- Phase 3, Conflicts in hospital care policy, 1966-72.
- Phase 4, Emphasis shifts in hospital care policy, 1973-79.
- Phase 5, Fiscal constraints and competitive solutions, 1980-present.

The first phase began around 1920, when the ability to obtain hospital care became an important health care policy issue. It culminated in 1946 with passage of the Hill-Burton Act. During the second phase, 1947-65, access to hospital care improved for some subgroups, yet lagged behind for others. This period resulted in the enactment of Medicare and Medicaid program legislation, which improved health care access by increasing financial access.

At the beginning of the third phase, statistical data showed rapid and continuing increases in expenditures, but also indicated residual access problems. Throughout the period 1966-72, regulatory programs to control costs were designed, and federally funded health care programs were expanded to improve access for additional subgroups. Public interest in some form of national health insurance (NHI) also increased at this time. During the fourth phase, 1973-79, the results of medical care spending analyses dominated public policy discussion. Debate over the merits of NHI lessened. Regulatory programs to control hospital expenditures were implemented and assessed during this period.

Inability to control costs through regulatory efforts prompted calls for other approaches to health care policy development in the fifth phase. This period began in 1980 and still is evolving. States have been given greater flexibility in operating Medicaid, the Medicare hospital prospective payment system (PPS) has been enacted, and approaches that facilitate competition are gaining favor over regulatory options. Analysis of demographic data and cost projections indicates that without measures for reducing expenditures growth or lessening the impact of continually rising expenditures, the Medicare trust funds will be insolvent prior to the end of the next decade. This has led to much urgency and a rapid succession of newly implemented programs during this phase. During the 1980's, policymakers probably will continue to be pressured to bring health care expenditures under control.

As can be seen in Figure 1, growth in health care expenditures, and more specifically hospital care expenditures, has continuously outpaced the general rate of inflation. It will become evident through the discussion of each phase's research and policies that the most consistent underlying driving force behind the policy debate has been concern over these expenditures. At first, the concern centered around limited consumer access because of health care costs. As the Federal Government began to take a more active role

in ensuring adequate health care for the underserved, concern shifted from the emphasis on access to an emphasis on the strain health care expenditures exert on Federal Government funding mechanisms.

To assist the reader in following the discussion, tables have been included in which activities occurring during each of the five phases are summarized chronologically. The information shown supports the notion that data analyses preceded the development of many of our health care policies.

In the remainder of this article, these policy development phases are discussed, and speculations are made on how data will be used in the future as new phases emerge.

Phases of hospital care policy

Phase 1, Emergence of hospital care as a policy issue, 1920-46

Overview

Until the beginning of this phase, health care had been treated in a manner similar to other goods and services available to the consumer. However, this attitude began to change with the development of antibiotics and technological advances that led to improved surgical techniques and better delivery of health care services. These improvements contributed to a rapid growth in demand for health care.

With the growing demand for health care, especially physician and hospital care, concern emerged over ways to meet this demand. The need for health care research became more broadly recognized. By the midpoint of this phase, research indicated that the middle-income family's demand for health care was not being adequately met. However, it was unclear whether this was caused by supply limitations or by the high cost of medical care, which placed health care beyond the reach of many middle- and low-income families.

It is clear from an examination of Table 1 that the Federal Government became more active in health care research during this phase. As research indicated the likelihood that access problems were attributable to limited supply and high costs of care, policies were developed to specifically address these perceived problems. Attempts were made to ease this access problem through financial assistance and by increasing the supply of health care.

Public debate thus centered around both supply and cost questions. By the end of this phase, it had been determined that hospital and physician supply needed to be expanded. What, if anything, needed to be done about cost was less clear. As a result, legislation was enacted authorizing Federal Government support for hospital construction. In a sense, this legislation satisfied those concerned with hospital costs, because it was thought that an increase in supply could reduce cost escalation. Debate for increasing the physician supply through government programs was seemingly nonexistent, probably because of the strength of the physician lobby.

Figure 1
Average annual percent change in hospital expenditures,
total health expenditures, and the Consumer Price Index: 1920-83

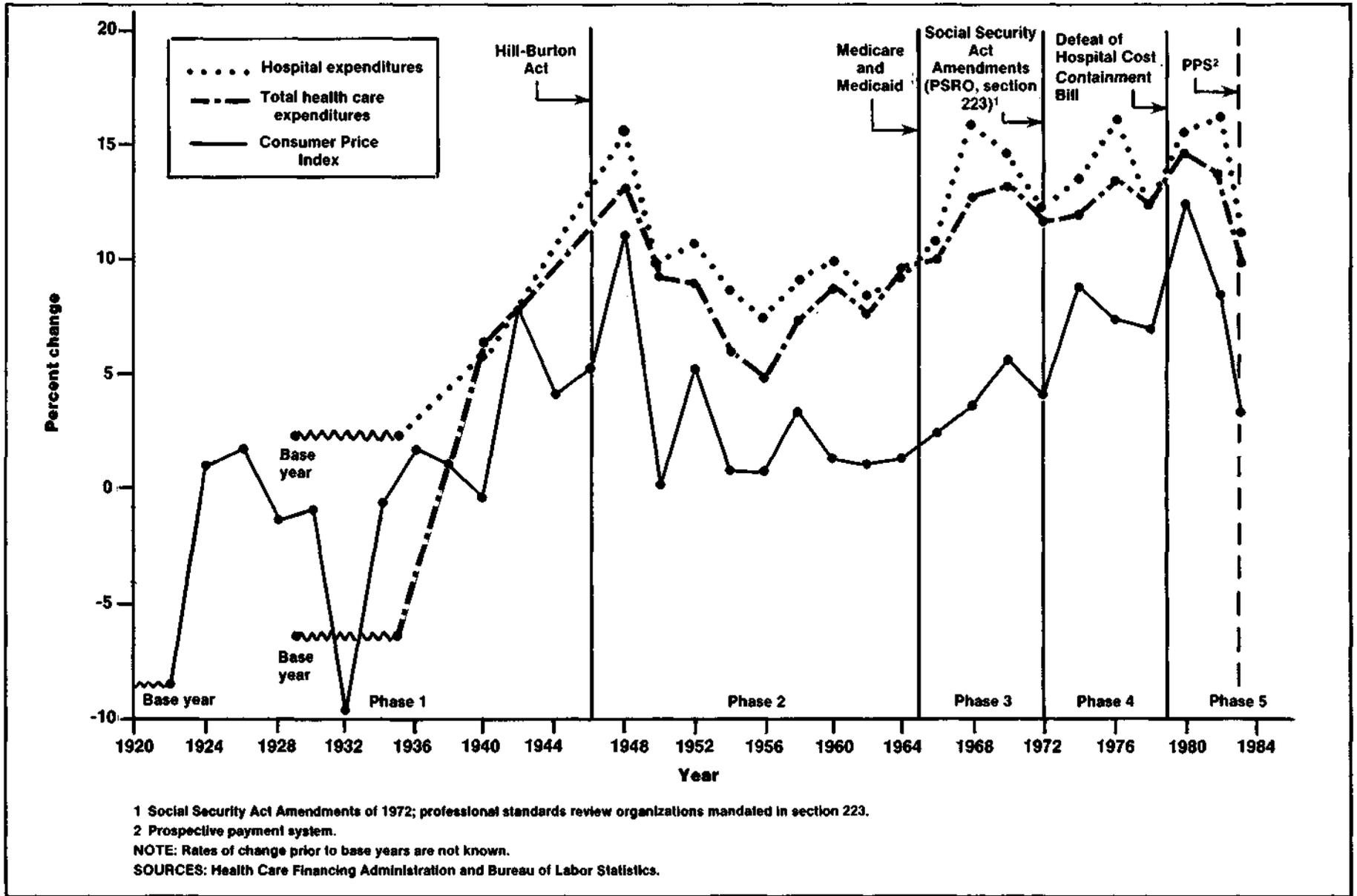


Table 1

Phase 1: Emergence of hospital care as a policy issue: 1920-46

Data development—problems and solutions	Policy development—the response
<p>1924: Mayers and Harrison study</p> <ul style="list-style-type: none"> • Demand for physicians increasing, but per capita supply decreasing. <p>1927: Privately funded Committee on the Cost of Medical Care (CCMC) to study Nation's health care economics</p>	<p>1930: National Institutes of Health established</p>
<p>1932: CCMC report</p> <ul style="list-style-type: none"> • Low-income groups having difficulty obtaining access to health care because of supply shortages and cost. 	<p>Early 1930's: National health insurance (NHI) debate</p> <ul style="list-style-type: none"> • Great Depression intensifies hardships. • Seemed to work in Europe. • Physicians claim it would lower quality. <p>Early-middle 1930's: Private health insurance</p> <ul style="list-style-type: none"> • Improves access to hospital care for middle- and high-income families <p>1935: Social Security Act</p> <ul style="list-style-type: none"> • Modest response to NHI. • Funds to States for increasing access to health care for some needy groups. • Continued study of the Nation's health needs mandated.
<p>1936: U.S. Public Health Service reports</p> <ul style="list-style-type: none"> • Poor are sicker more often and receive less adequate care. • Majority of population have no financial cushion to pay for hospital care. 	
<p>1938: Gallup Poll</p> <ul style="list-style-type: none"> • Cost problem indicated. 	
<p>Early 1940's: Mountin and Pennell studies of hospital supplies and needs</p> <ul style="list-style-type: none"> • Supply of hospitals should be expanded. <p>1944: American Hospital Association Commission on Hospital Care survey of hospital needs.</p> <ul style="list-style-type: none"> • Preliminary results—hospital supply insufficient. 	<p>Early 1940's: Veterans' Hospitals</p> <ul style="list-style-type: none"> • Number of hospitals expanded. • Expansion of treatment to injuries not related to military service.
	<p>1946: Hospital Survey and Construction Act (Hill-Burton)</p> <ul style="list-style-type: none"> • Funds for hospital construction and planning. • Mandate to study access problems.

Data and policies

As early as 1924, research results indicated that demand for physician services was increasing while per capita physician supply was declining (Mayers and Harrison, 1924). Some concern was raised over this disparity and its possible contribution to rising medical care costs. As a result, in 1927, the privately established Committee on the Cost of Medical Care (CCMC) conducted a comprehensive study of the Nation's health care economics. The results of the project, presented in 1932, indicated that the proportion of families consulting physicians was highly correlated with income. In the final report, it was stated that health care was not sufficiently affordable and available to the middle-income family because of limited health care supply and resultant high costs (Committee on the Cost of Medical Care, 1936). In fact, even those in the highest income groups experienced insufficient access to care. This apparently was attributable to supply limitations.

As health care problems worsened with the onset of the Great Depression, the Federal Government became more involved in health care research and policy debate. The National Institutes of Health were established in 1930 to support Federal Government research efforts.

As the depression intensified, the public experienced problems in satisfying many basic social needs. A great deal of debate concerned the need for various forms of social legislation. One such piece of social legislation was a proposal for national health insurance (NHI).

The most vocal opponent to NHI, or any form of government intervention in the health care sector, was the American Medical Association (AMA). The AMA launched a well-organized and well-funded attack on NHI proposals. Proponents of the bill had much less funding than the AMA had and were relatively unorganized. Their argument that NHI was working well in European countries was mostly unheard. The American Hospital Association (AHA) took a position between these two extremes. Many members of the AHA favored some form of health insurance to alleviate fiscal problems caused by the large number of nonpaying patients. Because of the disparity of views and the power of the AMA, NHI legislation was not enacted.

In 1934, President Franklin D. Roosevelt appointed the Committee on Economic Security, whose task was to examine a multitude of economic problems being experienced by the American people. In the health care area, the committee advocated the extension of public health services (as recommended by CCMC)

and noted that it would keep the debate open and continue research on NHI issues. However, a report on the health insurance issue was never published, largely because of AMA opposition.

Hospitals and physicians experienced greater adverse financial effects as the depression continued. For the first time, physicians asked welfare departments to pay for treatment of people on relief. In an attempt to preserve the solvency of hospitals, private forms of health insurance were advocated. Hospitals began underwriting insurance policies that later evolved into the Blue Cross insurance system. In 1935, the AMA House of Delegates denounced compulsory health insurance but found voluntary insurance to be acceptable, "so long as the plans were under control of county medical societies and followed AMA guidelines" (Starr, 1982). Given this climate, hospital insurance policies expanded under the auspices of medical societies.

Initially, private sector insurance plans assisted only a small proportion of middle-income families. There still remained a vast need for insurance in other sectors of the population. However, during this period, the Nation was more concerned with unemployment insurance than with health insurance. President Roosevelt realized that if health insurance legislation were proposed, AMA opposition to Federal Government involvement in health care could jeopardize passage of his unemployment legislation. In addition, research on the steps necessary for improving the health care system was inconclusive. As a result, President Roosevelt deleted any mention of compulsory health insurance in his unemployment legislation.

In 1935, the Federal Social Security Act (Public Law 271) was passed. As expected, it dealt substantially with economic security rather than health care reform. However, it did make funds available to States on a matching basis for maternal and infant care, rehabilitation of crippled children, general public health work, and aid to dependent children under 16 years of age. This legislation also created the Social Security Board, which was mandated to perform research and data gathering tasks involving health care.

Following passage of the Social Security Act, both Federal Government and private research efforts continued to show growing problems in access to health care. The National Health Survey of 1936, conducted by the U.S. Public Health Service (PHS), indicated that the poor were sicker more often than the nonpoor but received less adequate medical care. High-income families had 46 percent more physician visits per year than low-income families. Survey data also showed that the majority of the population had no financial cushion to pay for medical care (Pihlbland, 1937). A Gallup poll produced information to support the contention that access problems were partly attributable to cost considerations (Gallup, 1938).

As the cost of health care became a bigger concern, some sectors of the population, mainly middle- and high-income families, relied increasingly on private health insurance. By 1945, Blue Cross had 19 million

subscribers, and the newer physician insurance plan, Blue Shield, had 2 million subscribers (Starr, 1982). However, a large number of people in all income groups continued to delay medical care because of their inability to pay.

A hospital supply shortage was beginning to be diagnosed as a key access problem. Hospital construction was suggested as a mechanism for improving the availability of care. With more hospitals, access to medical care would be improved.

However, involvement in World War II diverted attention from public health care issues. As the war continued, President Harry Truman expressed concern about the Nation's health care, but was apprehensive about introducing specific legislation. However, seizing on the wartime spirit, he was able to improve access in one area through expanding the number of veterans' hospitals. In addition, treatment privileges were expanded to veterans with ailments not related to military service.

When the end of World War II finally appeared imminent, President Truman began to shift some of the Federal Government's attention to domestic problems such as access to health care. Existing research (e.g., the PHS reports noted in Table 1) had already indicated a need for a hospital construction program. With support from both the administration and private interest groups, hospital construction legislation was introduced.

In 1946, the Hospital Survey and Construction Act (Hill-Burton Act, Public Law 725) was passed. This major piece of legislation mandated funds for hospital construction and planning, as well as further study of hospital care access problems. The legislation was designed to directly improve access by expanding the number of available hospital beds. In addition, the Hill-Burton Act was based on the traditional economic view that increased supply would result in decreased cost. The cost issue, at this point secondary to the access problem, was only indirectly dealt with through legislation.

Throughout Phase 1, questions were raised about what factors contributed to cost and access problems and what could be done to alleviate these problems. Health care research was beginning to provide answers to these questions.

Phase 2, Widening access gaps, 1947-65

Overview

Technological accomplishments were instrumental in the World War II victory. As a result, postwar America tended to equate scientific achievement with national security. The medical profession achieved higher status during and after the war because of its treatment of the wounded and an increasing ability to control disease. Medical accomplishments and a national interest in scientific advancement led to significant public support for medical research. To improve Federal Government research and to administer programs, the Department of Health, Education, and Welfare (DHEW) was established on April 11,

1953, and the National Center for Health Statistics in 1960.

Throughout this phase, data continued to play a key role in identifying health care problems. As shown in Table 2, hospital costs continued to rise even as hospital supply increased; the increased supply did not appear to create any downward pressures on costs. One reason for this condition may have been the rise in the demand for health care that accompanied the increase in hospital supply. In addition, research indicated that physicians were in short supply.

The growth in demand for health care may be attributable partly to policies that improved health care access through both direct subsidies and private health insurance. However, even though access improved for much of the population, data continued to indicate that the poor and the elderly still were experiencing significant problems in obtaining adequate health care. As Table 2 shows, by the end of Phase 2, health care policies reflected the social welfare trend of the day, to assist the needy through public funding of health care expenditures.

Data and policies

In a series of studies conducted by Odin Anderson during the late 1940's and early 1950's, private health insurance was shown to be emerging as a major mechanism for improving health care access for middle- and high-income families. However, hospital costs continued to increase. Insurance helped certain subgroups of the population, but access problems were intensified for low-income families.

Responding to the need for improving health care access for the poor, the Social Security Act Amendments of 1950 (Public Law 809) were enacted. The amendments expanded coverage under the existing Social Security Act to 10 million more persons by increasing the income cutoff for the disabled poor and raising the existing reimbursement levels. However, the doubling of hospital costs during the 1950's (Corning, 1969) severely limited legislative attempts to improve health care access for the disadvantaged.

As hospital costs continued to rise, the popularity of health insurance increased. In 1954, an Internal Revenue Tax Code ruling that employer-provided

Table 2
Phase 2: Widening access gaps: 1947-65

Data development—problems and solutions	Policy development—the response
Late 1940's and early 1950's: Anderson surveys and studies <ul style="list-style-type: none"> Hospital costs rising. Private insurance improves access for middle- and high-income groups. 	1950: Social Security Act Amendments <ul style="list-style-type: none"> Coverage expanded to 10 million more poor. Payments raised.
1954: Presidential Commission on Health Needs report <ul style="list-style-type: none"> Physician shortage requires additional training. 	1953: Department of Health, Education, and Welfare established
Mid-1950's: Government and private surveys <ul style="list-style-type: none"> Hospital supply increasing. 	1954: Internal Revenue Tax Code <ul style="list-style-type: none"> Employer-provided health insurance tax exempt.
1957: Public Health Service, Health Interview Surveys initiated	1956: National Health Survey Act <ul style="list-style-type: none"> Mandate to collect data and conduct research and statistical analysis on health needs.
1959: Surgeon General's Report <ul style="list-style-type: none"> Severe shortage of medical personnel. 	Late 1950's: Private health insurance <ul style="list-style-type: none"> "Experience rating" lowers premiums and makes policies more comprehensive for low-risk groups.
1950's and early 1960's: Department of Health, Education, and Welfare data <ul style="list-style-type: none"> 1950-60, hospital costs doubled. 1955-64, inpatient costs per day rose at annual average rate of 10.4 percent. Nonpoor see physicians more frequently than the poor. 	1960: National Center for Health Statistics established
1963: Presidential Commission report on the Kerr-Mills Act <ul style="list-style-type: none"> Not implemented by most States. Not serving enough of the population. 	1960: Social Security Act Amendments (Kerr-Mills) <ul style="list-style-type: none"> Matching funds to States for aiding medically indigent elderly Study of expenditure and access impacts mandated.
1963: Survey of the Aged <ul style="list-style-type: none"> Only 50 percent of elderly have health insurance. 	1962: Migrant and Refugee Assistance Act
1964: Senate study <ul style="list-style-type: none"> Elderly population has insufficient health insurance. Health of poor worse than others. 	1963: The Health Professions Education Assistance Act <ul style="list-style-type: none"> Loans to undergraduates in health field. Funds for construction of undergraduate institutions.
	1965: Health Professions Education Assistance Act Amendments <ul style="list-style-type: none"> Capitation payments to medical schools for increasing enrollment.
	1965: Social Security Act Amendments <ul style="list-style-type: none"> Aid to elderly under Medicare. Aid to poor under Medicaid. Mandate to evaluate program impacts on access to health care, health services, and health expenditures.

health insurance was tax exempt made private health insurance even more attractive. By 1954, 12 million workers and 17 million dependents already were enrolled in health plans under collective bargaining agreements (Garbarino, 1960). The Internal Revenue Tax Code ruling was viewed as an incentive for continuing and expanding the trend toward private health insurance. The Federal Government also became involved in providing a form of health insurance in the mid-1950's: Armed forces dependents became eligible to receive Federal Government health insurance benefits.

As the demand for health insurance increased, competition among insurers became fierce. Private insurers began offering expanded coverage and reduced premiums for low-risk groups. This new approach to premium setting, referred to as "experience rating," was used by many companies as a way to set rates based on risk: The greater a group's risk, the higher the premium. At first, Blue Cross and Blue Shield did not opt for this form of ratesetting, but by the late 1950's, increased competition forced them to adopt "experience rating." "Experience rating" resulted in much higher premiums for the poor and the aged, making it even more difficult for these groups to obtain private health insurance.

Financing of hospital construction through the Hill-Burton Act increased the number of hospitals. However, new supply was merely keeping pace with the increasing demand. As demand for health care continued to increase, physician supply appeared to be lagging behind.

In 1954, the Presidential Commission on Health Needs report confirmed that there was a physician shortage; more training of physicians was now considered necessary (Newhouse, 1978). The Surgeon General in 1959 reported that there existed a severe shortage of medical personnel (Newhouse, 1978). However, the time for legislation that would address the physician shortage problem still had not come. The AMA remained opposed to Government intervention in this area.

For the time being, the Federal Government was responding to growing gaps in the health care access of different economic groups through initiation of new research programs. Health care research received a boost in 1956 with enactment of the National Health Survey Act (Public Law 654). This legislation required data collection and research on the Nation's health care needs. A year later, PHS initiated a new comprehensive set of surveys, the Health Interview Surveys.

Around this time, growing sentiment emerged for direct aid to a seemingly neglected sector of the population, the elderly. In 1959, one out of six elderly persons was hospitalized at some point during the year (Marmor, 1973). The elderly population required 2.5 times more hospital care than all other age groups combined (Corning, 1969). However, this segment of the population lagged behind other age groups in hospital insurance coverage (Anderson, Collette, and Feldman, 1963). The elderly without health insurance frequently could not afford proper medical care.

There was a consensus that something needed to be done, but few could agree on what and how much.

Continued awareness of the health care problems of the poor and mounting data on the plight of the elderly led in the late 1950's to the introduction of legislation to subsidize care for various groups of the population. Most of the programs were modeled after what was seen as a successfully proven and workable social security system. Finally, in 1960, Amendments to the Social Security Act (Kerr-Mills, Public Law 86-788) were passed. To close the access gap for the aged, Kerr-Mills provided matching funds to States for aiding the medically indigent elderly. The amendments also authorized more research on the impacts of continued health care expenditures growth and of the new legislation.

This piece of legislation did not address the problems of the poor, but in 1961, President John Kennedy tried to expand the program to include more aged, the poor, and the disabled. Opposition to expanding Kerr-Mills in this manner was too great, and the initiative was defeated. Questions have been raised regarding the reasons for approval of legislation for the elderly but not for the poor. Perhaps the populace was able to relate more directly to the problems of the elderly because most people expected to be part of that population at some point. In addition, more families were posed with the problem of paying for the medical expenses of an aged family member.

As the public increased its support for aid to the elderly, the medical profession had to choose between supporting such legislation and demonstrating a desire to aid the needy, or opposing it and chancing a public upheaval that could lead to more government control of the health care profession. In this situation, the medical profession, although not wholeheartedly supporting Kerr-Mills, did not mount a very strong campaign to defeat the bill. However, after Kerr-Mills passed, the medical profession opposed all major subsidy programs for the poor.

Instead, less dramatic subsidy legislation, enacted in 1962, improved access to health care for American migrants and for refugees. The Migrant and Refugee Assistance Act (Public Law 87-580) had less to do with health care issues than with international politics. Little opposition from the medical profession preceded passage of this legislation because of its relatively minor impact on the health field.

After the enactment of legislation to ease the health care access problems of certain groups through financial assistance, attention was turned toward addressing access and cost problems associated with a shortage in physician supply. In 1963, loans to undergraduate students and funds for the construction of undergraduate institutions were authorized under the Health Professions Education Assistance Act (Public Law 88-129). In 1965, the Act was amended to provide capitation payments to medical schools as an incentive for increasing enrollment.

Meanwhile, the Kerr-Mills Act was being evaluated. In 1963, the *Presidential Commission Report on the Kerr-Mills Act* was less than flattering to the program. Five States, having one-third of the national popula-

tion, were consuming 90 percent of the legislated funds. The act was not being implemented by most States, and the program was not serving the intended population. The 1963 Survey of the Aged by the Social Security Administration reaffirmed the Commission's findings. Only 50 percent of the elderly population were found to have any form of public or private health insurance coverage (Rice, 1964).

Following the Administration of President John Kennedy, President Lyndon Johnson stressed his desire to move toward better health care access for all disadvantaged groups of the population. A Senate study in 1964 showed that the nonpoor saw physicians 20 percent more often than the poor did, and the health of poor people remained worse than that of others (Starr, 1982). The elderly also continued to have problems receiving health care because of high costs. From 1960 to 1964, the average daily cost of hospital care rose from \$29 to \$40 (Corning, 1969). From 1955 to 1964, inpatient costs rose at an annual average of 10.4 percent, at a rate 7.5 percentage points higher than increases in the general economy during the same period. This made access to medical care even more difficult for the poor and elderly (Board of Trustees, 1981).

The growing civil rights movement and the finding that the Kerr-Mills Act did not fully meet its intended objectives provided the necessary impetus for President Johnson to introduce and gain passage of a new direct-aid program, the Social Security Act Amendments of 1965 (Public Law 87-97). Aid to the elderly was provided under Medicare (Title XVIII) and aid to the poor under Medicaid (Title XIX). Medicare and Medicaid reimbursement methods were based on the private health insurance industry practice of the day, essentially retrospective cost reimbursement models. In addition, the amendments mandated evaluation of the program's impacts on access to health care, health services supply and delivery, and health care expenditures.

The amendments of 1965 were the culmination of a phase in which the Federal Government began to take a much more active role in the national health care system. More research programs were formalized, incentives were provided for increasing physician supply, and legislation was enacted directing aid to the elderly and subsets of the poverty population.

Phase 3, Conflicts in hospital care policy, 1966-72

Overview

Throughout the third phase, the sophistication of data-gathering techniques and computer assisted analyses grew. Demonstrations became mechanisms for experimenting with alternative policy options that departed from the private sector reimbursement models on which the original Medicare and Medicaid programs were based. These developments increased decisionmakers' reliance on data for identifying problems, developing solutions, and evaluating impacts.

In this phase, decisionmakers were presented with two basic conflicting problems. On the one hand, new evidence emerged showing that health care access for some sectors of the population remained poor. On the other hand, accelerated growth in the Federal Government's share of health care expenditures led to discussion of mechanisms for reducing the magnitude of expenditures increases. This "Catch 22" situation resulted in a variety of legislative initiatives both to develop policies to improve health care access and to reduce the level of expenditures increases.

Both health care access and expenditures problems were addressed through legislation in a somewhat eclectic fashion (Table 3). Congress may have realized that the piecemeal policies of this phase might not be sufficient to alleviate the Nation's health care problems and, as a result, also turned toward the health care community for assistance. During this phase, additional research on ways to improve health care access to the underserved and limit the growth of Federal Government spending was mandated in legislation.

Data and policies

Access to health care rose dramatically after implementation of the Medicare and Medicaid programs. By July 1966, 19.1 million persons were enrolled in the Medicare hospital insurance program; 93 percent of those eligible for hospital insurance also signed up for Medicare supplementary medical insurance, which primarily covered physician care (Davidson and Marmor, 1980). Even with these major increases in the accessibility of health care through insurance, approximately 1 million elderly were ineligible to receive Medicare hospital insurance (Davidson and Marmor, 1980). These persons had not paid into the social security insurance system through payroll taxes in prior years and were ineligible for automatic coverage.

The key problem of the disabled was identical to that of the elderly: insufficient finances to afford required health care. Disability usually results in a person's being unable to continue employment; at the same time, the disability may require the disabled to seek medical treatment. Health care often cannot be afforded because of the reduction in earned income. One reason for developing the Medicare program was the elderly's reduction in earned income. During the onset of this phase, the appropriateness of similar benefits for the disabled was being discussed.

The Medicaid program improved health care access for its intended beneficiaries, but problems still remained for people who were nearly poor or temporarily poor. These people often were ineligible for Medicaid and unable to afford private health insurance.

These continuing access problems were addressed through a variety of programs. In 1966, community health centers were established, increasing the supply of low-cost health care facilities. Also in that year, the Comprehensive Health Planning and Services Act (Public Law 89-749) was enacted, giving States au-

Table 3
Phase 3: Conflicts in hospital care policy: 1966-72

Data development—problems and solutions	Policy development—the response
1966: Medicare Statistical System designed	1966: Community health centers established
1967: Presidential Commission on Health Manpower report	1966: Comprehensive Health Planning and Services Act
<ul style="list-style-type: none"> • Improvements can be made in hospital efficiency. • Some form of peer review is desirable. 	<ul style="list-style-type: none"> • States authorized to form voluntary planning agencies
1967: Bureau of the Budget, report of the Committee on Chronic Kidney Disease	1967: Social Security Act Amendments
<ul style="list-style-type: none"> • Recommended establishment of national treatment benefit program. 	<ul style="list-style-type: none"> • Early and periodic screening, diagnostic, and treatment program. • Study of potential impacts of extending Medicare coverage mandated. • Development of experiments and demonstrations for reimbursement systems mandated.
1965-70: Federal hospitalization expenditures soar.	1968: National Center for Health Services Research established
<ul style="list-style-type: none"> • Utilization review of hospital services has impact in some States. • Group prepayment plans moderate costs and utilization. 	1970: Health Training Improvement Act
Early 1970's: Lave and Lave, hospital rate-control studies	<ul style="list-style-type: none"> • Funds for physician training
<ul style="list-style-type: none"> • Examines case mix rather than length of stay • Sees hospitals as multiple product firms. 	1970: Medical Facilities Construction and Modernization Amendments
1966-72: Department of Health, Education, and Welfare reports and data	<ul style="list-style-type: none"> • Funds for hospital construction and modernization.
<ul style="list-style-type: none"> • Elderly and poor gain access to more health care. • Access still a problem for over 1 million elderly, children of poor families, and the nearly poor. • Access problems for disabled persons. • Treatment of end-stage renal disease a significant financial burden. 	Early 1970's: National health insurance debate
	Early 1970's: States act to control costs
	<ul style="list-style-type: none"> • New Jersey, New York, Maryland, and others try rate control.
	1971: Manpower Omnibus Bill
	<ul style="list-style-type: none"> • Funds for training medical personnel.
	1971: Economic Stabilization Program
	<ul style="list-style-type: none"> • Wage and price controls, including hospital rates and physician fees.
	1972: National Health Service Corps legislation.
	1972: Social Security Act Amendments
	<ul style="list-style-type: none"> • Medicare eligibility expanded to disabled and person with end-stage renal disease. • Elderly not covered by Medicare may pay a premium. • Professional standards review organizations. • Benefits to health maintenance organizations. • Medicare may withhold payments to hospitals and physicians. • Research and experimentation for improving health care access and controlling costs mandated.

thority and funding to form voluntary health care planning agencies. Improved long-term planning could serve to make health care more widely available. In addition, the Medicare Statistical System was developed for evaluation of the operation and effectiveness of the Medicare program. No similar Federal data base existed for Medicaid, which is essentially run by the States. This is still the case.

In 1967, Social Security Act Amendments (Public Law 90-248) were passed, establishing early and periodic screening, diagnosis, and treatment programs for children. Findings that poor children continued to receive less adequate health care than others (Corning, 1969) were addressed in this program. The amendments also authorized DHEW to study the impacts of expanding health coverage to the disabled and persons with end-stage renal disease. (Now that persons with end-stage renal disease could be successfully treated,

the problem of the affordability of the treatment arose). Finally, the amendments explicitly mandated studies, experiments, and demonstrations for developing alternative reimbursement systems to help control growing health care expenditures.

It had become clear that the existing Federal Government reimbursement methods modeled after those used by the private insurance industry had led to rapid increases in health care expenditures. For 1965 to 1970, Federal Government health care expenditures rose from \$2.5 billion to \$9.6 billion, an annual rate of change of 31 percent (Freeland and Schendler, 1983). Hospital expenditures were the major contributor to the Federal Government's increasing share of health care expenditures. As seen in Figure 1, hospital care expenditures continued to rise much more rapidly than did the Consumer Price Index. DHEW realized that more research was necessary for developing

alternative reimbursement approaches: "Such experimentation . . . is designed to test alternative methods of reimbursing providers and physicians, under Medicare, and other Federal health programs, which might lead to increased efficiency and economy in providing health services without adversely affecting the quality" (U.S. Department of Health, Education and Welfare, 1969).

One of the earliest studies addressing cost-containment approaches was issued in 1967 by the Presidential Commission on Health Manpower. The Commission concluded that costs could be held down through improved hospital efficiency and reducing overutilization of hospital services. A form of peer review was recommended to achieve this goal. In the report, the use of physician extenders and nurse practitioners was mentioned as a way to increase physician productivity and reduce costs (Flook and Sanazaro, eds., 1973).

To add to the Federal Government's research capabilities, the National Center for Health Services Research was established in 1968. The Center was to study cost-containment programs, encourage prepaid group practice, and develop and evaluate comprehensive community health care systems as an alternative to hospital care.

L. B. Lave and J. R. Lave conducted a number of nongovernment studies of hospital rate controls during the early 1970's. They began looking at hospital case mix rather than length of stay. Hospitals were beginning to be viewed as multiple-product firms (Lave and Lave, 1970). Researchers were attempting to better define hospital products so that payment mechanisms could be developed that would be equitable across hospital settings yet effective in controlling expenditures growth. Research had moved from the role of identifying problems to the role of developing solutions.

The multitude of research studies on health care access and cost problems resulted in a wide range of debate and legislation throughout the later part of this phase. A variety of NHI proposals were submitted by the AMA, the hospital industry, health insurance companies, and both liberal and conservative legislators. These proposals ranged from comprehensive government involvement in all aspects of health care to limited amounts of government financial assistance and industry guidelines. However, there was some apprehension about embarking on major new Federal Government financial commitments because of the high rate of inflation during the early 1970's. Inflation, combined with the confusion generated by a large number of NHI proposals, undermined the efforts for NHI. One might speculate that many of the legislative proposals were introduced to confuse issues and to bring a deadlock to debate.

State governments also were concerned about the growth in health care expenditures, because Medicaid program expenditures were expanding much faster than originally projected. There was a growing sentiment among States that the Federal Government was not doing enough to control costs. From 1965 to

1970, the total annual State share for Medicaid increased from \$847 million to \$3.9 billion (Sawyer et al., 1983). As a result, some States—including New Jersey, New York, and Maryland—were implementing forms of hospital rate control. These regulatory programs, not previously tested, represented first-generation "trial and error" approaches to rate control.

Although it was felt that the Federal Government should act to control health expenditures, it was not yet clear what it could or should do. Health care access problems still existed, so policymakers were attempting to develop programs to both improve access and contain costs. This was an extremely difficult task to accomplish.

Four new Federal programs in the early 1970's were enacted to increase the supply of health care facilities and manpower: the Health Training Improvement Act of 1970 (Public Law 91-519); the Medical Facilities Construction and Modernization Amendments of 1970 (Public Law 91-296); the Manpower Omnibus Bill of 1971 (Public Law 91-677); and the National Health Services Corps legislation of 1972 (Public Law 92-585). There was some hope that an increased supply of facilities and health care professionals would indirectly create a downward pressure on prices throughout the health care market.

A more immediate and direct approach for containing prices throughout the economy was implemented in 1971 by President Richard Nixon through the Economic Stabilization Program (ESP). This program was a temporary freeze on wages and prices in all economic sectors. Physician fees were limited to an annual increase of 2.5 percent. Hospital charges were permitted to increase 6 percent per year, less than one-half of the increase prior to the freeze. However, the ESP was only a temporary measure for controlling costs, with the freeze scheduled to be lifted in 1974.

In 1972, new Social Security Act Amendments (Public Law 92-603) were passed as a more comprehensive approach to health care access and expenditures problems.

DHEW studies, as well as those conducted by the private sector since the mid-1960's, showed that the disabled required significantly more health care than others did. However, most disabled persons were not working and had no form of health insurance (Davidson and Marmor, 1980). As a result of this situation, the 1972 amendments extended Medicare protection to the disabled. Research showed that approximately 2 percent of the elderly were not eligible for automatic Medicare benefits (Davidson and Marmor, 1980). The amendments made Medicare hospital insurance available to this group for a premium that was far below the amount charged by commercial insurers.

The Social Security Act Amendments of 1972 also extended benefits to persons with end-stage renal disease. The inclusion of these benefits resulted from research originating as early as 1967, when a report by the Bureau of the Budget's Committee on Chronic Kidney Disease was issued in which recommendations

were made for establishment of a national treatment benefit program. Inclusion of a program to cover end-stage renal disease victims under the Social Security Act was specifically recommended (Rettig and Marks, 1981). Once again, research led to the specific inclusion of a program in legislation.

Research and demonstrations were also instrumental in developing cost-containment programs for inclusion in the 1972 amendments. By 1970, 20 States had some form of Medicaid utilization review performed by medical care foundations. Evidence suggested that this form of local review might be an effective mechanism for containing medical care expenditures (U.S. Department of Health, Education, and Welfare, 1973). As a result of some positive signs from the DHEW-supported experimental Medical Care Review Organization Program, the 1972 amendments included a provision for professional standards review organizations (PSRO's). These organizations, composed of physicians in an area, were charged with the responsibility of reviewing the appropriateness of admissions to local hospitals. The purpose of PSRO's was to "promote the effective, efficient, and economical delivery of health care services of proper quality" (Davidson, 1980).

A second cost-control measure of the 1972 Social Security Act Amendments involved expanding coverage to services offered by health maintenance organizations (HMO's). Research indicated that use of group practice payment plans reduced the number of per capita hospital visits. As a result of these findings, this form of payment plan was used as the prototype in expanding coverage to HMO's, with organizations paid an annual capitation fee rather than a per-service rate.

Coverage also was expanded to additional outpatient services such as physical therapy. This was done because Medicare recipients used high-cost inpatient care in order to be eligible for benefits.

Under these amendments, the Medicare program was given authority to withhold payments to hospitals and physicians. Under Section 223, DHEW was authorized to group hospitals by factors such as size and location and to determine reasonable prospective per diem charge limits. Payments to hospitals also could be withheld for equipment or plant capital expenditures if a State health planning agency had recommended that the hospital's proposed plan not be carried out. In addition, reimbursement of physicians for amounts above a predetermined physician's customary fee could be withheld. These fees were preset by DHEW based on the usual, customary, and reasonable rates for a particular area, but the way to determine the physician fees was not as well defined as the determination of hospital costs. The 1972 legislation also reduced physician reimbursement from the 80th percentile to the 75th percentile of actual charges in an area for similar services. Under the Medicaid program, States were permitted to impose copayment requirements on medically needy recipients. Each of these provisions was an attempt to contain health care expenditures.

The Social Security Act Amendments of 1972 went beyond making technical changes in the Medicare and Medicaid programs. New research projects, demonstrations, and experimentation were mandated by Congress for the determination of ways to increase access to health care and at the same time cut costs. The amendments provided for:

- Experimentation and demonstration projects to test the potential of prospective reimbursement mechanisms.
- Projects to determine whether coverage of intermediate care facilities and homemaker services would provide suitable alternatives to present posthospital benefits.
- Evaluative studies on the use of ambulatory surgical centers and other incidental services.
- Development of appropriate and equitable methods of payment for services to physicians' assistants.
- Studies to expand the use of negotiated reimbursement.
- Research performance incentive contracts for carriers and intermediaries.
- Adoption of experimental State-established payment rates.

Even more projects were mandated by the amendments, but the listed items show clearly that the Congress believed that more cost-control measures needed to be taken if access were to continue to improve. It also was clear, from the research initiatives as well as from the new program provisions, that the Congress had not ruled out the possibility of altering the basic structure of health care delivery in this country.

Phase 3 culminated with the Social Security Act Amendments of 1972. The Congress had attempted to strike a balance between two competitive factors: the desire to expand services and coverage under Medicare and Medicaid, and continuing concern over the runaway costs of these programs. This dilemma was not an easy one to solve. Decisionmakers were now relying more heavily on data not only for identifying problems and evaluating programs but also for developing the solutions. Many program initiatives of the 1972 amendments were based on earlier research and demonstrations. The Congress assured the development of new initiatives as well as refinement of existing programs through authorizing a wide variety of additional studies and experimentation and through the continual assessment of legislative initiatives.

Phase 4, Emphasis shifts in hospital care policy, 1973-79

Overview

As health care access continued to improve, federally sponsored research and demonstrations on ways to contain health spending expanded dramatically. Attention was placed almost entirely on cost containment.

New data sources became available: the Medicaid Management Information System, the National Ambulatory Medical Care Survey, and the National

Medical Care Expenditure Survey. Not only was there a larger quantity of data, but the quality was vastly enhanced because of improved survey methods. Improved econometric and other analytic techniques and computer developments enabled larger quantities of data to be analyzed in a relatively short time.

With these new techniques, policy analysis became more important as a decisionmaking tool for evaluating existing programs and developing new ones. As stated in an article by Ruth S. Hanft (1981): "A reliable data base is a necessary political condition for determining needs of the population and assessing the consequences of intervention." The increased sophistication of research throughout this period is evident (Table 4).

The Health Care Financing Administration (HCFA) was established during this period for administering health care financing programs and assuring their quality. In addition, HCFA was responsible for coordinating and conducting research to assist in the development of methods to improve reimbursement for publicly financed health care programs.

Policies during this phase were somewhat slow in coming about, even though the health care expenditures problem was worsening. Policymakers may have felt that findings from evaluations of existing programs and from demonstrations of potential alternatives were not sufficient to justify new regulatory programs.

As this phase ended, data indicated that Federal Government cost-containment programs had little impact on health care expenditures growth. A voluntary program developed by hospitals to control expenditures appeared to be more plausible. This program eventually received legislative support through the defeat of additional regulations mandating new Government programs.

Data and policies

The growth in hospital expenditures slowed with the implementation of the Economic Stabilization Program (ESP). From August 1971 to April 1974 (when the wage and price controls were lifted), medical services expenditures increased at an average annual rate of only 4.9 percent, although services in other sectors of the economy increased by 5.2 percent (Council on Wage and Price Stability, 1976). However, the Congress anticipated that ESP would only temporarily hold expenditures down and continued its search for effective cost controls.

To encourage the development of more HMO's, the Congress passed the Health Maintenance Organization Act (Public Law 93-222) in 1973. This legislation required employers of 25 workers or more to give them the option of comprehensive HMO coverage (if available) in addition to offering more traditional health insurance plans. Loans and grants were provided to encourage formation of HMO's. It was anticipated that prospective group payment practices would have greater incentives for operating more efficiently than fee-for-service practices had.

Additional controls were placed on the hospital industry to encourage more cost-effective planning through the National Health Planning and Resource Development Act of 1974 (Public Law 93-641). This legislation authorized the establishment of approximately 200 health systems agencies and other planning agencies, incorporating community representation into the health care planning process. Also established was the institutional requirement for certificates of need (CON). These certificates were required prior to significant capital investments. In addition, DHEW was given authority to place prospective limits on hospital charges.

This legislation constituted an expansion and refinement of the 1972 Social Security Act Amendments. The Congress was attempting to create a situation whereby hospital expenditures would not accelerate as rapidly after the ESP limits were lifted as they had before controls. Unfortunately, these legislative initiatives were not sufficient to control the acceleration of health care expenditures. Following the lifting of ESP controls, medical service expenditures rose at a 12.1-percent average annual rate, although other services increased at a slower 9.5-percent rate (Council on Wage and Price Stability, 1976).

State ratesetting programs seemed to be more effective than Federal programs in controlling the growth of hospital expenditures. A State ratesetting study conducted by the Social Security Administration's Office of Research and Statistics in 1975 showed that ratesetting reduces the magnitude of hospital costs increases (Social Security Administration, 1975). However, this study was plagued with methodological and data problems, as well as problems caused by external influences such as ESP. In 1978, the Congressional Budget Office released a report showing that State ratesetting reduced hospital expenditures increases by 3 to 4 percent (Sloan, 1982). This report improved on the earlier study, but research findings remained inconclusive. As a result, HCFA commissioned other studies for evaluating all State ratesetting programs.

By the late 1970's, eight States had mandatory ratesetting programs. Most addressed the relationship of hospital expenditures to case mix. To refine these State programs, researchers tried to better define and measure case mix. One such research effort was undertaken by Yale University with the support of DHEW. By the mid-1970's, this research had led to the development of 383 diagnosis-related groups (DRG's) that could be used for categorizing hospitalized patients based on case mix. The DRG system was later tested in State demonstrations.

Expenditures problems at this point, from the perspective of the policymaker, appeared to outweigh remaining access deficiencies in health care. In fact, the poor actually were showing slightly higher per capita use of physicians than higher income groups (Davis and Reynolds, 1976). The elderly had achieved vastly improved access to health care. By 1977, the elderly were consuming services constituting 29 percent of health care expenditures, although they repre-

Table 4
Phase 4: Emphasis shifts in hospital care policy: 1973-79

Data development—problems and solutions	Policy development—the response
<p>Early 1970's: Medicaid Management Information System established</p> <p>1973-76: Department of Health, Education, and Welfare reports and data</p> <ul style="list-style-type: none"> • Economic stabilization program (ESP) kept hospital increases down. • Costs accelerate rapidly after ESP lifted in 1974. <p>Mid-1970's: Yale University case-mix research</p> <ul style="list-style-type: none"> • 383 diagnostic-related groups established. <p>Mid-1970's: Data available from National Ambulatory Medical Care Survey</p> <p>1975: Social Security Administration, Office of Research and Statistics, State ratesetting studies</p> <ul style="list-style-type: none"> • Preliminary results show hospital ratesetting reduces increases. <p>1978: Congressional Budget Office</p> <ul style="list-style-type: none"> • State ratesetting reduces hospital cost increases by 3-4 percent. <p>Late 1970's: Data available from National Medical Care Expenditures Survey</p> <p>1977-79: Health Care Financing Administration, hospital ratesetting study and other reports</p> <ul style="list-style-type: none"> • Professional standards review organizations not effective. • Voluntary hospital rate control lowers rate increases. <p>1979: State studies</p> <ul style="list-style-type: none"> • Preliminary results—certificate of need program has little impact. 	<p>1973: Health Maintenance Organization Act</p> <ul style="list-style-type: none"> • Loans and grants to spur formation. <p>1974: National Health Planning and Resource Development Act</p> <ul style="list-style-type: none"> • 200 health systems agencies and planning agencies. • Certificate of need for hospital capital expenditures. • Limits can be set on hospital charges. <p>Mid-1970's: State hospital cost controls</p> <ul style="list-style-type: none"> • Mandatory ratesetting programs in 8 States. • Federal grants for encouraging additional State programs. <p>1977: Health Care Financing Administration established</p> <p>1977: Hospital Cost Containment (HCC) bill debate</p> <ul style="list-style-type: none"> • Slow hospital charge increases to levels significantly below present rate. <p>1978: Voluntary hospital rate control</p> <ul style="list-style-type: none"> • 50 State committees for controlling rates. • Alternative to HCC. <p>1979: HCC defeated</p> <ul style="list-style-type: none"> • Voluntary measures preferred.

sented only 11 percent of the total population (Davidson and Marmor, 1980). Because of the greater health problems experienced by the poor and the elderly, their disproportionate per capita use of health care services appeared to be equitable. These positive developments in the health care system reinforced the almost complete switch in legislative and regulatory focus from concern for improving access to concern for controlling expenditures. This remained the case through the remainder of this phase and into the next.

As can be seen from Tables 3 and 4, a variety of cost-containment programs were implemented by the Federal Government in the 1970's. In the late 1970's, policymakers turned to researchers for evaluations of the various programs' impacts on health care expenditures.

In one such evaluative study, the impact of HMO's on health care expenditures was addressed. A detailed analysis of one of the largest and most established HMO's, the Kaiser plan, showed that program members were hospitalized for significantly fewer days than nonmembers were (Califano, 1981). To encourage the establishment of more HMO's, the Congress reduced the number of mandatory benefits that had

been required in previous HMO legislation. This made it easier to form an HMO. In addition, the Congress again amended the HMO law in 1978 and increased the amount of Federal aid. By mid-1979, there were 217 HMO's with an enrollment of 7.9 million persons (Califano, 1981). Still, this represented only a small fraction of the entire U.S. population.

HMO's, with their limited enrollment, and the small number of States with mandatory ratesetting, were having a minimal national impact on reducing the magnitude of the growth of health care expenditures. During the mid-1970's, hospital expenditures increased by approximately 18 percent per year. Total Medicare expenditures grew from \$10.1 billion in 1973 to \$30.3 billion in 1979 at a compounded rate of 20 percent. Medicaid expenditures rose slightly more slowly: from \$9.7 billion in 1973 to \$22.9 billion in 1979 at a compounded rate of 15 percent (Freeland and Schendler, 1983).

The continued rise in hospital expenditures created an unprecedented drain on Federal and State budgets. Enrollees in government programs also were paying more through premiums and cost sharing. In addition, 26 million Americans had no form of health insurance

protection (National Center for Health Services Research, 1980). More extensive cost controls seemed necessary.

In 1977, the Hospital Cost Containment (HCC) bill was introduced in the Congress as a comprehensive approach to regulating hospital expenditures growth. The HCC bill was intended to limit future hospital charge rates to levels significantly below those experienced during the mid-1970's. At first, it appeared that the bill would be passed by the Congress. However, two developments ultimately led to its defeat in 1979.

The first development concerned mounting evidence that Federal regulations for controlling costs often were not effective. In a 1978 HCFA report on PSRO's, the evaluation indicated an aggregate reduction in days of care of 1.5 percent. Savings were extremely small relative to Federal expenditures for acute inpatient care (Health Care Financing Administration, 1979). In fact, savings from PSRO's were just barely large enough to offset program costs. The CON program also was proving to be ineffective. A Government Accounting Office study and a Congressional Budget Office study resulted in similar conclusions (Davidson, 1980).

The second development was the introduction of voluntary hospital rate controls in 1978. The hospital industry established oversight committees throughout the 50 States for the purpose of limiting expenditures increases. These voluntary controls resulted in a slower annual rate of increase at a time when the second boycott by Organization of Petroleum Exporting Countries (OPEC) was contributing to a much higher inflationary period throughout the economy (Davis, 1983).

The seeming success of voluntary controls and the failure of Federal regulations were enough to convince the Congress that the voluntary hospital program and continued support of State ratesetting programs were more desirable than the HCC bill. In fact, by the end of the Carter Administration, there were calls for cutting Federal Government costs, not through more regulation but through reduced Federal financial support. There was a growing sentiment that programs such as the National Health Service Corps and Community Health Centers might be significantly reduced.

However, action was not taken on these measures because of considerable uncertainty over the potential impacts of such cutbacks. As with other policies during this phase, policymakers preferred to base their decisions on well-researched programs.

Throughout the fourth phase, policymakers increased their reliance on research studies, experiments, demonstrations, and data analysis for finding answers to the continued problem of rapidly rising health care expenditures. Research was used more extensively for developing and refining programs to solve the problems and for evaluating the various programs' impacts. As research results indicated that regulatory programs were ineffective, voluntary programs that were supported and tested by the hospital industry were given their chance. The evaluation of these

voluntary programs set the stage for a barrage of new Federal programs during the fifth phase.

Phase 5, Fiscal constraints and competitive solutions, 1980-present

Overview

Evaluations of demonstrations and existing policies have provided a great deal of data for developing new Federal policies throughout this phase. These programs became necessary because of the failure of voluntary hospital controls. From 1979 to 1980, after the defeat of the HCC bill, hospital expenditures rose 16.6 percent (Freeland and Schendler, 1983). Voluntary controls seemed to have worked only in response to the HCC bill.

One can infer from Figure 1 that hospital expenditures will continue to rise faster than the rate of inflation under existing health care strategies. This has spelled trouble for Medicare. Continued increases in hospital costs combined with the "aging" of the population have led the Social Security Board of Trustees to project insolvency for the Medicare Hospital Insurance Trust Fund by 1998 at the latest (Board of Trustees, 1985).

As seen in Table 5, a variety of new legislation has been enacted during this phase. These policies have evolved from research conducted during previous phases. Evaluations and demonstrations have continued, and even more data are becoming available to assist in the development of future health care policy.

Data and policies

HCFA-sponsored ratesetting studies continued to show that State controls can reduce the magnitude of cost increases. However, the programs still were not ready for nationwide application, either technically or politically. When voluntary hospital control programs appeared to be failing, the Congress reacted with a barrage of legislative programs. In 1980, the Omnibus Reconciliation Act (Public Law 96-499) lifted Medicare restrictions on home health agency visits and authorized the use of "swing-beds." Earlier HCFA evaluations supported this legislative action.

A year later, in 1981, the Congress passed the Omnibus Budget Reconciliation Act (Public Law 97-35). This legislation cut the Federal share of Medicaid funding, gave States more flexibility over their programs, and permitted higher Medicare copayment rates. These explicit budget controls were intended to encourage greater competition and more efficiency in the health care market.

Along with fiscal constraints, policymakers opted for changes in the reimbursement system as a means of controlling costs. As a result, testing and revision of the DRG system continued. The development of this program serves as an excellent current example of our hypothesis that "data matter."

The first explicit directive for transforming prospective reimbursement research into a national program emerged in the 1982 Tax Equity and Fiscal Responsibility Act (TEFRA) (Public Law 97-248). Recognizing

Table 5
Phase 5: Fiscal constraints and competitive solutions: 1980-present

Data development—problems and solutions	Policy development—the response
<p>1980: Health Care Financing Administration State ratesetting studies</p> <ul style="list-style-type: none"> • Ratesetting reduces cost increases. <p>1980: Health Care Financing Administration swing-bed experiment</p> <ul style="list-style-type: none"> • Cost-effective means of providing long-term care and acute care needs. • Appropriate to implement swing-bed program. <p>1980-82: Health Care Financing Administration National Medical Care Utilization and Expenditure Survey, National Health Accounts, and other reports and data</p> <ul style="list-style-type: none"> • Aging of the population will increase hospital use. • Voluntary programs fail to control costs. • Expenditures likely to continue rapid increases. • Diagnostic-related grouping is effective. <p>1981: Yale University diagnostic-related groups (DRG's)</p> <ul style="list-style-type: none"> • Refined and expanded to 467 groups. 	<p>1980: Omnibus Reconciliation Act</p> <ul style="list-style-type: none"> • Medicare restrictions on home visits lifted. • Use of swing beds. <p>1981: Omnibus Budget Reconciliation Act</p> <ul style="list-style-type: none"> • Federal share of Medicaid cut. • States given more flexibility over Medicaid. <p>1982: Tax Equity and Fiscal Responsibility Act</p> <ul style="list-style-type: none"> • Development of hospital reimbursement cost limits. • Constraints on rate of growth of hospital budgets. • Incentive to operate below budgets. • Peer review organizations. • Development of a prospective reimbursement system mandated. <p>1982: State hospital cost controls</p> <ul style="list-style-type: none"> • 17 States require disclosure, review, or regulation of hospital rates or budgets. • DRG's being used by some States for ratesetting and utilization review. <p>1983: Social Security Act Amendments</p> <ul style="list-style-type: none"> • Implement DRG system for Medicare hospital reimbursement. • Adjust rates yearly based on inflation, new technology, and changes in treatment practices. • Evaluate effectiveness and impacts. • Study alternatives and expansion.
<p>1983: Social Security Board of Trustees Annual Report</p> <ul style="list-style-type: none"> • The Health Insurance Trust Fund will be depleted by the end of the decade. <p>1983: George Washington University Intergovernmental Health Policy Project Report</p> <ul style="list-style-type: none"> • 30 States have reduced Medicaid health benefits. <p>1983: Department of Health and Human Services</p> <ul style="list-style-type: none"> • 1982 hospital costs rose more than 13 percent; general inflation was less than 4 percent. 	

that continued massive increases in hospital expenditures could cripple the Medicare program, the Congress, under TEFRA, mandated the Department of Health and Human Services (DHHS, formerly DHEW) to develop a Medicare prospective payment system (PPS) for future implementation. But what approach would be used for developing a PPS?

Any PPS would represent a significant change from past reimbursement practices. Therefore, there was a need to develop a national program that had been well researched, refined, and tested. DHHS identified the DRG-based system as a program that seemed to meet these criteria.

As discussed earlier, DRG's had been under development since the early 1970's. By 1981, under HCFA sponsorship, Yale University had refined its initial set of 383 DRG's into 467 groups. This refinement addressed earlier concerns, identified through demonstrations and evaluations, that the data base for developing the original DRG's was too narrow and that too few medical care experts were consulted on the development of clinical categories. After their refinement, DRG's continued to be used and tested in State demonstrations.

The Congress also seemed to favor a DRG-type system, as indicated through a major legislative initiative under TEFRA. This legislation mandated DHHS to establish limits on hospital reimbursements based on case mix (controlling ancillary and operating costs). For the first time, payment limits were based on per-case rather than per-diem costs, and a Medicare case mix index was introduced. This case mix reimbursement system could be seen as a natural precursor to a DRG-based prospective payment program. (TEFRA also replaced PSRO's with peer review organizations as the local medical care monitoring authorities.)

After implementation of TEFRA, Medicare hospital expenditures continued their rapid increase. In 1982, hospital payments increased at an annual rate of 18.8 percent (data from Medicare Statistical Files, 1984), although the rate of inflation dropped to 3.9 percent (Bureau of Labor Statistics, 1984). The Congress responded to this condition with the Social Security Act Amendments of 1983 (Public Law 98-21).

The time for implementation of a DRG-based reimbursement program had finally arrived. These amendments provide for phased in implementation of

prospective DRG rates for Medicare hospital reimbursement. The link between costs and reimbursements was finally broken under PPS. With a fixed price being set for every hospital case, hospitals have a very strong incentive to control utilization. Activities which formerly were cost-centers are now profit-centers. These changes in incentives could dramatically alter hospital behavior.

The Congress mandated not only implementation of a DRG-based program, but also refinement through a variety of studies and surveys. Studies and demonstrations also are required for expanding the Medicare PPS to facilities other than hospitals and to physicians in the inpatient setting. PPS represents the most recent and dramatic example of a situation in which data were used as a tool for identifying a problem (rising expenditures), developing a solution to the problem (DRG's), and evaluating and refining an enacted program (mandated PPS studies).

A successful PPS may be a vital factor in maintaining the solvency of the Medicare Hospital Insurance Trust Fund. However, the Congress may need to further refine or strengthen PPS and to implement other measures for preserving the trust fund.

Future phases: Data needs and health care issues

If the recent past is any indication, data will continue to be heavily relied on for evaluating existing policies and developing new ones. Congressionally mandated studies will provide much new data. To the extent that current prospective payment and competitive approaches are successful, they will be expanded to other providers. Expansion might eventually entail developing a capitation system. If PPS is not successful, alternative and more comprehensive regulatory programs may be sought.

An editorial in *Business Week Magazine* (1983) enlists the cooperation of providers in making PPS work, stating: "If providers try to evade the intent of the new system—shifting costs to the private sector, stepping up their volume of services—health care costs will continue to soar. If that happens the almost inevitable result will be a tightening network of government regulations that will in effect, convert the industry into a public utility." Alternatives to PPS—financing less care by cutting taxes, benefits, and/or beneficiaries—might be politically unattractive. For instance, despite cost-containment concerns, during 1983, the Congress contemplated increasing beneficiaries because of the high unemployment rate.

PPS has entered its third year, and indications suggest that it is highly successful—lengths of stay, admissions, and expenditures are down, and hospital profits are up. As yet, there is no systematic evidence that quality and access have suffered. It would appear that a solid base is being set for future systems of capitation.

However, if the present PPS does not continue to work and the same or a higher degree of care is desired, the *Business Week Magazine* scenario of

more regulation seems a likely outcome. Regulatory programs might only slow expenditure growth, eventually increasing the call for more tax revenue.

If the cost problem ever appears to be solved, a new phase may emerge in which quality and access to care receive greater emphasis than cost concerns. The increased rate of technological innovation will underlie future activities. The allocative questions of the future will concern which technologies should be used and who should benefit from them.

The Congress has authorized continued support of health care research programs for examining existing program needs and for improving and expanding data for future policy needs. A variety of studies have been mandated in the most recent Social Security Act Amendments. These studies include examinations of the following issues:

- Impacts of PPS on services, providers, patients, and technologies.
- The possibility of including capital expenditures and inpatient physician fees in DRG rates.
- Differences between rates in rural and urban areas.
- The need for adjustments to DRG rates based on severity of illness and intensity of services.
- Impacts of DRG's on the volume of admissions.
- Impacts of DRG's on State reimbursement systems, Medicare, and Medicaid.
- The possibility of including more hospitals and other institutions in the DRG program.

In addition, the Congress has authorized and encouraged the expansion of State demonstration programs.

Data analysis and research studies to examine emerging concerns over health status, technology, and efficacy also will be improved and expanded. Data will be needed to answer such questions as: Which organ transplants (and other procedures) are effective and should be covered by government programs? Who should receive organ transplants? How much does health care improve health status?

Finally, the variation in hospital use across geographic areas should be explained. DRG's, in their capacity as hospital product measures, might be particularly well suited for investigating this issue.

Final observations

The cycles of public health care policy appear to be occurring in shorter time frames, partly because of the increasing pace at which data are collected and analyzed and partly because of the rapid aging of the U.S. population. The availability of data has heightened concerns for developing effective policies and for providing immediate as well as long-term solutions to the health care expenditures problem.

The increasing frequency and complexity of congressional mandates for new studies reflect a heightened awareness of the degree to which research, demonstrations, and data analysis can and should affect the public policy process. In each phase, we have observed the Federal Government's increasing

involvement in health services research. Large numbers of grants have been awarded, Federal data gathering and analysis institutions have been established, and studies have been mandated by the Congress.

Mechanisms are in place for providing ever-increasing and more reliable research studies and data analysis for assisting future problem identification, policy development, and program evaluation. However, as the amount of data grows, the form in which decisionmakers receive the data will, by necessity, continue to evolve. More analyses will be presented in summary form. Even fewer original sources will be read by policymakers. Instead, policymakers will increasingly rely on briefings and issue papers in which study findings are summarized and integrated. A heavy responsibility rests on those who condense, summarize, and combine study results. The health care services research community must devise improved methods of communication with decisionmakers and those who advise them. This responsibility must be shouldered if health care services research is to continue to have an impact.

As has been demonstrated throughout this article, "data matter." Data have been instrumental in the examination of the entire spectrum of public health care issues. It is likely that research studies and data analysis will continue to play a key role for decisionmakers in identifying problems, developing appropriate and effective policies, and evaluating program impacts.

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