EVALUATING THE HEALTHCARE SYSTEM:

Effectiveness, Efficiency, and Equity

Third Edition

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Chapter 8

Integrating Health Services Research and Policy Analysis

CHAPTER HIGHLIGHTS
1. The general objectives of policy analysis include the production and interpretation of descriptive, normative, and prescriptive information—or facts, values, and trade-offs, respectively—for understanding policy problems and identifying solutions.
2. The objectives of policy analysis may vary depending on the decisions faced by policymakers in a particular stage of policy development.
3. The health services research perspectives of effectiveness, efficiency, and equity offer conceptual frameworks, measures, and methods that can be applied in policy analysis.
4. The policy relevance of these perspectives can be enhanced by stronger health services research evidence on the relationship between healthcare structures, processes, and outcomes and the impact of health-related environmental, economic, and social factors.

OVERVIEW
Health services researchers are routinely involved in producing and analyzing policy-relevant information. The objective of this chapter is to show how the two are related. Policy analysis is defined in greater detail (see Chapter 1 for an introduction) in the first section and related to the policy-development process. The second section explores standards in policy analysis revealing the multifaceted nature of the field. In the third section, different tasks in policy analysis are examined and related to the effectiveness, efficiency, and equity perspectives of health services research. The final section reviews some of the limitations in using health services research as a resource for policy analysis.
OBJECTIVES OF POLICY ANALYSIS

Whether public policies take the form of laws, programs, rules and regulations, or judicial decisions, they are made through a process of decisions or choices about what the objectives of government should be and the means of achieving them. This general characterization of policymaking applies at any level of government—federal, state, or local—and in any policy area, including education, defense, welfare, or health. The focus of policy analysis is on determining the need for and supplying descriptive, normative, and prescriptive information to facilitate public debate (Dunn 2003).

Descriptive information is the factual material that documents social conditions and trends (e.g., a decrease in the number of uninsured, an increase in healthcare costs) or analyzes the potential or actual consequences of alternative policy actions (e.g., a forecast of the number of people who would be covered under a Medicare prescription drug program, an evaluation of the reduction in breast cancer mortality that occurred among women receiving Medicaid-covered mammography screening). The types of questions that descriptive information addresses are, Does a particular social problem exist? What are the consequences of past actions to solve the problem? What are the potential consequences of alternative actions? Such information is particularly relevant in the policy formulation stage of the policymaking process (Longest 2002).

Normative information, on the other hand, combines factual analysis with values to ask whether a particular social condition or trend deserves attention or whether a particular policy should be judged potentially valuable. For example, after providing factual information about the populations that would be covered under alternative Medicare prescription drug proposals, the analyst may attempt to determine the preferred alternative to achieve a particular equity objective such as equal treatment patterns across population groups. Note the introduction of values in the selection of the equity objective that may be based on the preferences of elected officials, surveys of the general public, the analyst’s own professional training, interest groups, etc. Such values are debatable and sometimes conflicting, even when each may be justified in terms of some desirable principle for public action. Rational decisions require that such values be clear and quantitatively measurable, if possible, so that trade-offs can be identified (MacRae and Whittington 1997).

Prescriptive information goes further in supporting recommendations for specific action based on trade-offs of valued consequences of policy alternatives. Prescriptive information is important in moving a problem from the discussion agenda in policy development to the action agenda (Kingdon 2003). Assuming a rational policy process, it provides the basis for selection of a particular policy action. For example, after providing normative information about the potential of a particular Medicare prescription drug benefit proposal for achieving a particular equity objective, a policy analyst may be asked to develop prescriptive information of that proposal’s relative worth compared to other similar proposals (i.e., different proposed drug benefit legislation with alternative patient copayment options) in assisting policymakers to arrive at a reasoned choice. Prescriptive information facilitates such choices by clarifying the potential consequences of alternatives, making trade-offs explicit, combining criteria in measuring consequences (i.e., using cost-benefit analysis), and determining priorities or decision rules (Weimer and Vining 1999).

Analysts interested in meeting these informational and analytic needs in the policy-development process are involved in (1) producing and/or interpreting descriptive, normative, or prescriptive information about social conditions and past or future alternatives for improving them; and (2) developing arguments translating such information into claims for government action (Dunn 2003). Findings from the first objective become the information used to develop or influence the arguments in objective number two, leading to the recognition of a specific problem or policy action. The second objective involves creating and critically assessing policy-relevant information by examining the validity of the data being brought forth, the values being explicitly or implicitly applied in interpreting that information, the logic of the claims being made, and the acceptability of the underlying assumptions.

Alternative views of the policy-development process lead to different definitions of the objectives of policy analysis. Awareness of these views facilitates a deeper understanding of the nature of policy analysis and the possible contribution of health services research.

The objectives discussed above are consistent with the national-comprehensive view of policy development, which dates back to the philosophical writings of John Dewey (1927) and other American pragmatists.
According to this view, the policymaking process consists of the following series of logical, well-defined steps in problem solving:

1. Define the problem.
2. Identify a range of alternatives with the potential to resolve the problem.
3. Evaluate and select the alternative that best addresses the problem.
4. Describe and evaluate the consequences of the selected alternative after it has been implemented.
5. Evaluate and modify the alternative in light of its consequences.

This model idealizes the policymaker as an objective, well-informed individual serving the public interest. The model, as applied by one of the founders of modern policy analysis (Lasswell 1933), suggests a process of reasoning and comprehensive analyses to identify policies for resolving problems in a logical and orderly manner. It implies a major role for policy analysis as a “meta-discipline,” providing information and clarifying values needed to pursue logical solutions to substantive problems through multidisciplinary research (Dunn 2003). The objectives of such analysis are to consider in a linear fashion all possible definitions of a problem in arriving at a correct definition, express government goals and values clearly and specifically, conduct a thorough examination of all possible alternatives to address the problem, and undertake an exhaustive assessment of effects of each alternative to arrive at an optimal choice. With this information, policy formulation becomes a logical exercise in social problem solving.

An alternative view recognizes that information needed for policymaking is often limited and difficult to interpret and that policymakers bring conflicting objectives and ideological perspectives to the policymaking process. The objectives of the incremental or satisficing model (Hayes 2001; Lindblom 1959) are less ambitious than the rational-comprehensive model: to find policies that are acceptable to a reasonable number of people and that alleviate some of the shortcomings in past policies. Whereas the rational-comprehensive model looks to correctly define the problem and select the optimal course of action, the incremental model selects the first choice that is minimally acceptable, and by way of a process of discovery through trial and error, strives to improve on the original choice. In this model, prospective policy analysis, which relies on theory and analysis before policy actions are initiated and implemented, is less important than retrospective analysis, which provides feedback after policy actions have been taken.

For example, the rational-comprehensive approach to selecting an outreach policy to increase enrollment in the State Children’s Health Insurance Program would involve an extensive review of existing theory and empirical research on the effectiveness of different marketing and educational strategies. The policy selected would be based on an ideal model of what would maximize the outreach objectives of the state at the least cost. Alternatively, an incremental approach would draw on research to some extent but, recognizing the limits of research and the problem of getting policymakers to agree, look for an approach that modified the current enrollment process to minimally satisfy policy objectives. Proponents of the incremental model believe that successive, limited changes ultimately lead to better definitions of problems, objectives, and consequences of various alternatives and eventually lead to the best policy. The major role of policy analysis is to supply feedback through evaluation of policy outcomes and to translate that information into recommendations for policy modification.

The rationalistic models—comprehensive and incremental—have both been criticized for their failure to recognize the political context of the policy process. As an alternative, a political view has been proposed that emphasizes the limitations of objective analysis to address policy questions; the multiplicity of stakeholders with different views, incentives, sources of power, and influence that are involved; and the complex and sometimes overlapping systems of responsibility between different branches of government (Stone 2002). This model challenges the characterization of policymaking as fundamentally a rational or even quasi-rational process.

According to the political view, policymaking is a messy, fragmented, discontinuous, and often seemingly random process of conflict resolution and consensus building among self-interested groups. Problems and solutions are addressed in this process only to the extent that they happen to reflect the individual goals of interest groups, not as a result of problem solvers attempting to make choices in the public interest. Outcomes of the policy process depend more on the ability of affected groups to organize and influence the political process than on the extent to which a policy achieves a given end. In a recent address, the chair
of AcademyHealth (the professional association for health services
researchers in the United States) stated that “politics is not about truth;
it’s about values, and interests, and votes, and money” (Feder 2003, 3).

The symbolic analogy of the garbage can is used to depict the polit-
ical view of policymaking as irrational and nonsystematic (March and
Olsen 1979). Policy decisions reflect garbage cans whereby the mix of
garbage in the can depends on the actors with influence at the moment,
the number of cans available, and the speed with which garbage arrives
and leaves the scene. In a classic study of the process of agenda setting
and policy formulation, John Kingdon (2003) identified three parts of
the process that come together when items get on the political agenda:
identifying and agreeing on a well-defined and recognizable problem
that needs attention, developing and diffusing solutions, and building
interest in the general public and among political leaders in taking pol-
icy action. These three “streams” flow independently, creating a hap-
hazard process of agenda setting and policy development. The con-
vergence of all three streams creates opportunities for major policy
change. Conducting research related to defining and understanding
problems and determining effective proposals plays a role, but it is the
political interactions of individuals and groups that determine whether
a particular conceptualization of the problem, or proposed solution,
makes it onto the decision agenda.

The postpositivist view, a variation of the political view with a par-
ticular perspective on interest group politics, also is critical of rationalism
and its tendency toward a “tyranny of experts” in service of the status
quo (Dryzek 1993; Habermas 1989). In its place, postpositivists embrace
a bottom-up view of a policy process in which issues arise from affected
populations who do not have the power to influence the process.
Postpositivists maintain that the primary responsibility of the policy ana-
lyst is to attempt to offset the natural tendency for policy decisions to
reflect the unequal distribution of power. The postpositivist model is
lodged in the deliberative justice paradigm and related principles of the
full participation of affected parties in policy formulation and analysis
(considered in Chapter 6). Practicing analysts are to rely on participatory
modes of inquiry (e.g., focus groups or other group processes), collabor-
ating with affected populations in the pursuit of reasonable assessment
and debate in policy design (Durning 1999; Fischer and Forester 1993;
Forester 1993; Friedmann 1987). The emphasis on reasonable discourse
shifts from policy elites to public opinion assessment and consensus for-
modation. A particular analyst’s success depends on eliciting public views
free of the biases of the researcher and policymakers.

Notwithstanding alternative views of the policy process and the lim-
itations of research and analysis, textbooks on policy analysis continue
to adhere to the rational model as a framework for analysts to follow
(Dunn 2003; MacRae and Whittington 1997; Patton and Sawicki 1993;
Weimer and Vining 1999). It is widely recognized, however, that actual
analysis may not follow the sequence of steps suggested by the model,
may not be as thorough or rigorous as the model implies, and will be
more politicized than the model suggests. The implication is that the
policy analyst should generally follow the rational model (i.e., attempt
to apply analytic skills and tools to clarify problems, systematically
search for alternatives, and comprehensively evaluate alternatives) but
he or she should also be aware of the subjectivity of analysis; recog-
ize the multiplicity of legitimate value perspectives; and, to the extent
possible, be involved in ensuring that affected parties are included in the
policymaking process (Romero 2001). The limits of information, the
subjective nature of analysis, and the political nature of the process in
a given context must be considered in determining the type of analy-
sis appropriate to a given question. Analyses should not be viewed as
a substitute for the judgment, insight, and creativity of the policymaker.
It is suggested, however, that systematic analysis at different stages of
the policy process will enhance policymakers’ decisions. Finally, the
analyst should seek greater involvement in the process of analysis of
the groups and individuals to be affected by the policy, encourage an
open and visible process of decision making, emphasize negotiation,
and recognize the role that values play in the entire policy process.

Standards in Policy Analysis

The broad objectives of policy analysis suggest general criteria for iden-
tifying sound policy analysis: relevance, validity, and reasonableness
(Dunn 2003). Relevance refers to the extent that an analysis addresses
actual policy issues of concern, that is, the specific questions about the
social conditions, values, or alternatives being debated at a particular
time in the policy-development process. For example, does the research
address a specific bill before Congress or legislative proposal being
considered in a state governor’s office? It also refers to the extent that
an analysis reflects the constraints and opportunities of a particular policy context. For example, does the analysis reflect the appropriate degree of uncertainty about the nature of a problem, recognize the state of related policies and programs, reflect budgetary or administrative limitations, and adopt appropriate time frames?

Validity refers to the accuracy or precision of information being used to answer a particular question. The standards of validity in policy analysis are context specific (Durning 1999; Lynn 1999). The appropriate level of precision required is based on whether additional precision would add clarity to a choice (MacRae and Whittington 1997). For example, the desirability of a government-subsidized work-site childcare center may depend on information concerning the benefits and costs of establishing the center. If, upon preliminary examination, it becomes clear that the costs are such that the benefits required to favor the policy are beyond what might possibly occur under the most optimistic assumptions, then accurate estimates of the actual benefits may be unnecessary.

Establishing validity in policy analysis in terms of relevant cause-and-effect theories of institutional or individual behavior and carefully defined and empirically tested models of policy consequences based on these theories is beyond what the field has achieved and what most people in the field think possible (Hayes 2001). Establishing validity in policy development is difficult because of the unique context in which most decisions are made. Nevertheless, the pursuit of validity through the use of conceptual frameworks, theories of behavior, logical deduction, and empirical evidence is an important goal for policy analysis and often can illuminate meaningful policy choices (Lynn, Heinrich, and Hill 2001).

Recognizing the limits of validity and the important role of values in policy analysis leads to the importance of reasonableness as a standard. The same facts (e.g., data showing that disparities in health status are growing among socioeconomic groups) lead different analysts to different claims of the nature of policy problems (i.e., the need for reforms in healthcare coverage versus investments in improving social conditions). Such differences often stem from ideological or philosophical differences among stakeholders in the policy-development process, for example, different views among Democrats and Republicans over the basic role and responsibility of government in ensuring equality of health status. Sometimes the differences result from alternative frames of reference of the analyst, such as economic benefit versus political feasibility, as the basis for an argument. The differences may also rest on the underlying assumptions used regarding individual, group, or institutional behavior. Recognizing these differences leads to the realization that all policy analysis is to some extent subjective and, therefore, reasonableness is a more realistic standard to use in evaluating policy analysis than the traditional scientific standard of empirical verification or replication.

Reasonableness in policy analysis has been defined as the extent to which a policy argument meets certain criteria of logical structure and completeness. It is assessed through examining a policy argument's empirical base, its underlying assumptions, and its internal logic. The following specific criteria for evaluating reasonableness in policy arguments have been put forth by Dunn (2003):

1. Completeness—does the argument include all appropriate, policy-relevant information and assumptions?
2. Consonance—are all the elements of the argument valid and internally consistent?
3. Cohesiveness—are all the elements of the argument operationally connected?
4. Functional regularity—are all the elements of the argument in accordance with expected methods, procedures, or patterns?
5. Functional simplicity—are all the elements of the argument arranged in a simple and understandable way contributing to the effective transfer of knowledge?

A recommendation that Medicare recipients be given incentives to enroll in private managed care plans illustrates the nature of each element. The basis of the argument may be information that managed care plans are more efficient than the traditional fee-for-service Medicare plan. Policy-relevant information on the relative efficiency of managed care plans serving the elderly may be referenced to support the recommendation. The analyst might provide further support by referring to healthcare costs in the federal budget or the prospects for insolvency in the Medicare program. Further assumptions, arguments, or principles for the recommendation may also be needed to complete the argument. Additional support for managed care in Medicare might include its functional regularity with the proposition that managed care in the
commercial insurance market and in the Medicaid program has been an effective cost-control strategy. Finally, the analyst should be able to explain the methods used in the analysis (i.e., using observational studies, experiments, etc.) in a manner that can be understood and evaluated by nonexperts in the field.

HEALTH SERVICES RESEARCH IN POLICY ANALYSIS
The policy analyst works with a variety of value frameworks, research methods, and analytic procedures to address policy questions. The appropriateness of a particular approach depends on the kind of question being asked and on the current stage of the policy process. The health services research field offers concepts, measures, and procedures for assessing effectiveness, efficiency, and equity in health services and systems that can be used for examining policy questions. Table 8.1 provides a summary list of policy decisions associated with different stages of policy development, information that may be relevant at each stage, and the various types of research and analysis that may be relevant.

Table 8.1 Stages of Policymaking, Relevant Information, and Type of Research

<table>
<thead>
<tr>
<th>Stages of Policymaking</th>
<th>Relevant Information</th>
<th>Type of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Define problems</td>
<td>Scope, severity, causes, importance of the problem</td>
<td>Conceptual analyses or descriptive studies of the problems and causes</td>
</tr>
<tr>
<td>2. Identify alternatives</td>
<td>Forecasts of likely consequences of alternatives</td>
<td>Conceptual or empirical projections of the consequences of alternatives</td>
</tr>
<tr>
<td>3. Evaluate alternatives</td>
<td>Normative evaluations prior to action</td>
<td>Applications of normative frameworks for prescription</td>
</tr>
<tr>
<td>4. Describe consequences</td>
<td>Implementation and impact of policies and programs</td>
<td>Descriptive studies of program and policy effects</td>
</tr>
<tr>
<td>5. Evaluate consequences</td>
<td>Normative evaluation of consequences</td>
<td>Normative studies of program and policy effects</td>
</tr>
</tbody>
</table>

Selecting Normative Criteria
Definitions of policy problems and solutions are guided by the values that underlie concern about social conditions. Such values may come from policymakers; from the community in terms of individual testimony, surveys, or focus groups; from expert or stakeholder groups; from policymakers themselves; or from the analyst’s own conscience or professional training. To obtain information on values and criteria, the analyst may ask the relevant policymaking body or affected populations or rely on some kind of observational analysis of past decisions, legislation, testimony, or other written material to infer what the norms might be (MacRae and Whittington 1997; Patton and Sawicki 1993). Expert panels can sometimes provide a standard. For instance, the Agency for Healthcare Research and Quality clinical guidelines described in Chapter 3 offer a standard for identifying a problem in breast cancer policy: lack of access to mammography screening and treatment in uninsured populations, an effective screening procedure shown to reduce mortality in women age 40 to 70 years old. There are occasions when government officials have defined a normative standard in specific terms, such as the Healthy People 2010 Health Objectives of the U.S. Public Health Service regarding mammography screening rates for all women age 40 and older (Office of Disease Prevention and Health Promotion 2003).

As indicated in Chapter 2, the health services research literature offers two possible ways of defining effectiveness criteria in health policy analysis: the population perspective, focusing broadly on the importance of social, behavioral, environmental, and medical care factors to the health of the population; and the clinical perspective, focusing more narrowly on the clinical effectiveness of medical care for the individual patient. From the population perspective, effectiveness is defined in terms of the proportion of the population with a health problem who benefit from a healthcare intervention or from changes in social, behavioral, or environmental circumstances. The clinical perspective on effectiveness focuses more narrowly on the benefits achieved by individuals or groups of patients receiving medical care under conditions of actual practice. Although often confused with the population perspective, this perspective leads to an evaluation standard in terms...
of actual benefits in medical practice compared to maximum achievable benefits—that is, compared to efficacy.

As described in Chapter 4, defining policy goals of efficiency in healthcare may also be approached in two ways: at the macro level, by encouraging the right mix of medical and nonmedical, health-related investments to maximize social welfare (i.e., allocative efficiency); or at the micro level, by encouraging the right mix of inputs and production methods to maximize the productivity of targeted services and systems (i.e., production efficiency). Criteria for analysis in both cases include production and cost standards deduced from microeconomic theory and measures derived from applying cost-effectiveness or cost-benefit frameworks.

As discussed in Chapter 6, equity values in healthcare policy have traditionally derived from ethical principles of distributive justice involving the fair distribution of the benefits and burdens of medical care. Public health policy has been primarily governed by the social justice notion of promoting the health of the community as a whole. The deliberative justice paradigm is proposed as a guide in policy development, bridging competing values by suggesting a process for policymaking in which affected parties participate and contribute. While debate continues over specific criteria that should serve as the basis for defining equity in healthcare delivery and policy, such criteria can be derived for a number of alternative principles (Table 6.3). Each can, in turn, be translated into quantitative or qualitative indicators, as explained in Chapters 6 and 7, to evaluate the extent to which equity has been achieved.

Table 8.2 provides a summary list of criteria and possible indicators that can be drawn from the three perspectives of health services research.

Table 8.2 Criteria for Assessing Health Policies in Terms of Effectiveness, Efficiency, and Equity

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td></td>
</tr>
<tr>
<td>Population perspective</td>
<td>Maximize population health.</td>
</tr>
<tr>
<td>Clinical perspective</td>
<td>Maximize actual health benefits of healthcare services compared to potential benefits.</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
</tr>
<tr>
<td>Allocative efficiency</td>
<td>Ensure a mix of healthcare services that maximizes a combination of health outcomes and consumer satisfaction at least cost.</td>
</tr>
<tr>
<td>Production efficiency</td>
<td>Produce healthcare services that maximize output at least cost.</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
</tr>
<tr>
<td>Distributive justice</td>
<td>Maximize freedom of choice of plans/providers/services, cost-effectiveness, similar treatment.</td>
</tr>
<tr>
<td>Social justice</td>
<td>Maximize common good. Meet basic needs.</td>
</tr>
<tr>
<td>Deliberative justice</td>
<td>Maximize participation of affected parties.</td>
</tr>
</tbody>
</table>

As noted previously, the framework for defining problems of clinical effectiveness may involve the system, institution, or patient level (see Table 2.2). Policy analysis aimed at improving effectiveness in this way would compare the relative contributions of medical care and other population-oriented factors to the quality and length of life. The health problems associated with poverty, inadequate housing, smoking, or drug abuse might be contrasted with those resulting from poor access to medical care. Explicit analyses of the health effects of patient behavior and environmental conditions as well as the quality of medical care are relevant in this perspective.

The microeconomic model of healthcare provider performance analyzes the relationship between different levels and mixes of inputs, input
prices, and technology that minimize the cost of services. It can be used in policy analysis when the concern is the production of a specific service or mix of services. For example, each setting for healthcare—such as a community health center, hospital, or nursing home—uses a particular combination of health personnel, supported by other inputs, to produce services. The microeconomic model suggests criteria that can be used to empirically identify the most efficient combination of personnel, supplies, and other inputs to support a particular level of healthcare service.

The cost-effectiveness framework, on the other hand, may be used when the concern is the comparison of the relative efficiency of policies or programs that try to improve health through alternative methods of production. A cost-effectiveness ratio (e.g., cost per encounter, per case found, or per quality-adjusted life year) is computed for each alternative and compared to that of other alternatives. It is important to note that production efficiency also requires that services be effective. Efficiency analysis must be preceded by the technical appraisal of effectiveness. Once a policy or program is shown to be effective, either in clinical- or population-oriented terms, cost-effectiveness analysis compares its relative effectiveness and costs to other effective options.

The broader goal of allocative efficiency is assessed using the cost-benefit framework. The analyst calculates and compares the costs and benefits of a policy, program, or service to determine if it adds to social welfare, that is, if the social benefits exceed the social costs. All relevant social costs—including cost savings that may be associated with prevention services—and benefits must be identified and measured in dollars, if possible, so that comparisons of costs versus benefits can be made across all possible actions. Future costs and benefits must be discounted to reflect their present value. Subtracting costs from benefits yields net benefits, the criterion indicating increased social welfare. Allocative inefficiencies are indicated when the aggregate costs of a policy or program exceed its aggregate benefits.

Equity criteria related to healthcare delivery are based on the characteristics of the delivery system (e.g., the availability and distribution of services), the characteristics of the population (e.g., ethnicity, gender, insurance coverage, the availability of a regular source of care), the use of services, and satisfaction with services (Table 6.3). Equity-of-access objectives may be evaluated at the institutional, system, or population level by applying these criteria. Equity analysis in the context of the social justice paradigm may be applied to the distribution of health and health risks and to the relationship of health risks to the physical, social, and economic environment. Deliberative justice norms would assay the extent to which individuals and groups affected by policies at the micro or macro level participate in the formulation and implementation of these policies.

Successful completion of the tasks involved in problem definition provides necessary information for moving to the next stage of policymaking—suggesting solutions through an understanding of the problem and of the policy objectives at stake. For example, critics of traditional fee-for-service Medicaid cite the following deficiencies in the program: inappropriate, expensive services are often provided (e.g., primary care is obtained in hospital emergency rooms); no accountability for outcomes exists (e.g., information is rarely collected at the provider level on measures such as childhood immunization rates or pregnancy outcomes); and access to care is lacking (e.g., many providers do not accept Medicaid reimbursement). Many states have attempted to remedy these shortcomings by implementing managed care in their Medicaid programs (Freund and Hurley 1995).

Table 8.3 provides a summary list of the problem analyses that can be drawn from the three perspectives of health services research.

**Identifying and Evaluating Policy Proposals**

In this stage of policy development, the objective is to identify policy alternatives that have the potential to correct, compensate for, or counteract policy problems and to project their consequences in terms of defined values and objectives. The generation of policy options for consideration in the policy-development process combines methods for searching among existing strategies and conceiving, or creating, entirely new ideas (Alexander 1982). Analytical tasks in evaluating alternatives are the identification of the mix of goals and objectives that are to be used to evaluate different alternatives, the translation of these goals and objectives into specific quantitative or qualitative criteria, and their application to the projected effects of alternatives (Dunn 2003; Patton and Sawicki 1993).

Facilitating the creation of new solutions involves a variety of tasks ranging from designing group processes that strive to be nonjudgmental or to enhance participants' ability to retrieve unrelated ideas or information from memory to methods for an analyst to develop new
Table 8.3 Problem Analyses in Terms of Effectiveness, Efficiency, and Equity

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td></td>
</tr>
<tr>
<td>Population perspective</td>
<td>Compare the relative contributions of healthcare and other population-oriented factors to the quality and quantity of life.</td>
</tr>
<tr>
<td>Clinical perspective</td>
<td>Compare actual health benefits of individuals or groups receiving a healthcare service to potential benefits.</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
</tr>
<tr>
<td>Allocative efficiency</td>
<td>Identify services, systems, organizational arrangements, and financial mechanisms that are not cost-beneficial.</td>
</tr>
<tr>
<td>Production efficiency</td>
<td>Identify services and systems with similar objectives that are not cost-effective.</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
</tr>
<tr>
<td>Distributive justice</td>
<td>Apply equity-of-access model to estimate disparities in healthcare services and systems.</td>
</tr>
<tr>
<td>Social justice</td>
<td>Estimate disparities in health and health risks.</td>
</tr>
<tr>
<td>Deliberative justice</td>
<td>Estimate lack of participation of affected parties in policy development.</td>
</tr>
</tbody>
</table>

solutions by modifying existing solutions in light of a given problem. A variety of more or less systematic search techniques may be employed to identify alternatives ranging from in-depth research and experimentation to quick surveys and literature reviews. The best approach will vary with the policy context and the resource and time limitations of the analysis.

Forecasting the potential consequences of alternatives provides useful information in this phase of formulation. Statistical models and simulation techniques may aid the analyst in generating projections of policy consequences. For example, during the 1992–94 national health reform debate, U.S. Congressional Budget Office forecasts of the budget effects of the Clinton Health Security Act and other reform plans played a particularly important role (Peterson 1995). The Centers for Medicare & Medicaid Services developed a ten-year projection of health spending by category of service for the first decade of the twenty-first century based on a variety of time series and behavioral modeling techniques (Heffler et al. 2002). More commonly, the analyst must rely on simpler techniques such as theoretical inference or subjective opinion to project consequences.

The structure-process-outcomes framework developed by Donabedian (1966, 2003) and Kane (1997) as the conceptual guide for clinical effectiveness research is useful in the policy-analytic task of a priori identification and evaluation of policy alternatives. This framework can be applied at the system, institution, or patient level to evaluate possible ways to improve the effectiveness of medical care through manipulation of structure and process variables. The framework suggests the kind of data needed to identify possible solutions to an effectiveness problem. Evidence linking the elements of the framework to outcomes suggests targets for interventions. For example, in clarifying a policymaker’s concern about the quality of care in nursing homes, the structure-process-outcomes framework suggests that the quality of nursing home care is influenced by structural factors such as the quantity of staff and their qualifications. Quality, in turn, has an influence on outcomes, including mortality, morbidity, functional status, and client satisfaction. The framework indicates the structure and process factors that are subject to policy manipulation to improve the effectiveness of care.

Research concerned with allocative and production efficiency informs policymakers about what alternatives tend to result in the provision of effective services that are relatively inexpensive to deliver. Numerous empirical studies show, for example, that HMO patients’ use of hospitals is much less than that of fee-for-service patients with no corresponding reduction in the effectiveness of care (Miller and Luft 1994, 1997, 2002; Rosenthal and Newhouse 2002) and that cost sharing results in lower use and lower cost of medical care with little or no decline in health status for the average patient (Newhouse et al. 1987). Researchers are attempting to provide better information on the efficiency of a variety of specific medical care services aimed at common medical problems and on the resources, organizational arrangements, and financing mechanisms involved in their provision.

Solutions to efficiency problems may also be identified and evaluated through analysis of medical care market conditions (see Chapter...
4. Microeconomic theory identifies market conditions that lead to inefficiencies in production or allocation if not corrected. Many of these conditions have been shown to be present in medical care markets. For example, the uncertain consequences of some types of medical care make it difficult for patients to judge what care is in their best interest. The gap in knowledge between patients and providers leaves patients vulnerable to inappropriate care or care they would not choose for themselves if they were well informed. The external benefits and costs of some types of medical care (e.g., immunization to prevent infectious disease, which benefits populations as well as individuals), as well as investments in education, housing, and the environment, may not be appropriately valued by private markets, leading to inefficient allocation. Documenting the presence of such adverse conditions is another method used by analysts to suggest government interventions designed to improve efficiency.

It should be noted that applying the competitive economic model to enhance efficiency in healthcare assumes that maximizing satisfaction of consumer preferences is an appropriate policy goal. This is a value judgment that should be clearly stated when applying the model. An alternative model that emphasizes maximizing the population’s health status, or meeting healthcare needs, is a substitute for consumer satisfaction in efficiency analysis. Both models are discussed in Chapter 4. Criteria for judging the determinants of allocative efficiency in the needs-based model are not as well developed as those in the competitive economic model.

The three primary policy strategies for enhancing equity, lodged in the distributive, social, and deliberative justice paradigms, were identified as (1) enhancing access to medical care, (2) reducing health disparities, and (3) ensuring affected parties’ participation in policy and program design. Empirical analyses of the relative importance of various factors presumed to influence whether or not people receive care, experience social and behavioral risk factors and poor health, and participate in the health policy process point to possible areas of intervention for health policy to enhance equity. Potential access indicators discussed earlier may be used to identify potential solutions to an equity problem by examining the correlation of these indicators with realized access measures—utilization and satisfaction. The factors that most directly influence access to needed services, such as insurance coverage or a regular source of medical care, then become the focus of the development of programs and services to enhance access.

The access model is typically used to examine equitable access to healthcare. Equitable access is defined as when demographic and need variables account for most of the variance in use. Inequitable access occurs when social characteristics (e.g., race/ethnicity) and enabling factors (e.g., income, insurance coverage) determine who gets healthcare. Effective access is defined when use improves health status. Efficient access is defined as the relative improvement in health status compared to healthcare costs (Andersen 1995; Andersen and Aday 1978).

Like efficiency analysis, equity research is ultimately concerned with those medical and nonmedical services that are effective in the clinical or population sense—that is, in improving health and healthcare access and reducing health and healthcare disparities. Equity criteria incorporating distributive justice norms regarding the distribution of medical care can help to identify equity solutions from this perspective (Gelberg, Andersen, and Leake 2000). Criteria incorporating norms regarding the health and health risks related to medical and nonmedical (e.g., social-structural, cultural, environmental) factors embody the population effectiveness perspective. The extent to which norms of democratic participation are involved in policy formulation or implementation is a criterion of equity based on the deliberative justice paradigm.

Table 8.4 provides a summary list of the solution analyses that can be drawn from the three perspectives of health services research.

**Evaluating and Modifying Past Actions**

With a shift in focus from ex ante to retrospective analysis, the objectives become (1) to determine the degree to which a new policy or program was implemented as intended and (2) to measure its anticipated and unanticipated effects. When monitoring implementation, the analyst asks if certain standards are being followed or if the policy or program reflects the intended use of resources. Specific indicators used include measures of inputs (e.g., personnel, facilities, equipment, supplies), processes (e.g., administrative, organizational, clinical, behavioral, political, attitudinal), and outputs (i.e., the goods and services provided). In measuring effects, the analyst attempts to determine whether a policy has brought about change, for example, in the behavior, attitudes, or health status of targeted individuals, groups, organizations, or
Table 8.4 Solution Analyses in Terms of Effectiveness, Efficiency, and Equity

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td></td>
</tr>
<tr>
<td>Population perspective</td>
<td>Apply the structure-process-outcomes framework to identify policies associated with improvements in health.</td>
</tr>
<tr>
<td>Clinical perspective</td>
<td>Apply the structure-process-outcomes framework to identify policies associated with improvements in healthcare services and systems.</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
</tr>
<tr>
<td>Allocative efficiency</td>
<td>Conduct cost-benefit analysis of proposed medical and nonmedical services, organizational arrangements, and financing mechanisms.</td>
</tr>
<tr>
<td>Production efficiency</td>
<td>Conduct cost-effectiveness analysis of proposed services, organizational arrangements, and financing mechanisms.</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
</tr>
<tr>
<td>Distributive justice</td>
<td>Apply equity-of-access model to evaluate impact of proposed healthcare services and systems.</td>
</tr>
<tr>
<td>Social justice</td>
<td>Analyze impact on disparities in health and health risks.</td>
</tr>
<tr>
<td>Deliberative justice</td>
<td>Analyze impact on participation of affected parties in policy development.</td>
</tr>
</tbody>
</table>

In some cases, this stage leads to a redefinition of the original problem. To assess performance, the consequences of a policy are evaluated normatively in light of designated objectives and criteria. The menu of analytic tasks and methods used in the ex ante evaluation of alternatives (see Table 8.4) is also relevant to this stage, but the focus is on evaluating actual rather than potential consequences. To evaluate performance, the analyst must define policy objectives, transform them into specific criteria that can be used in evaluation, and evaluate the consequences of a policy or program in terms of the criteria.

One of the major contributions made by health services researchers is informing policymakers about what does and does not work. The health system performance perspective of much of this research provides evidence that analysts can use to show the effects of past policies. Effectiveness research supplies a conceptual framework, methods, and evidence to describe and evaluate the technical effectiveness of existing health policies. Research linking structural factors—the quantity and efficacy of medical and nonmedical inputs—to health outcomes can be conducted to assess the impact of a particular intervention on desired policy outcomes. In the same way, studies on the effects of process—the quantity, quality, and appropriateness of services delivered or of investments made—on health outcomes guide evaluations of the success of actions to change the process of medical and social service delivery. Analysts may use this information in evaluating the consequences (e.g., lessening health disparities) of any given solution (investments in public housing) that can then be related to desired policy objectives (to improve the health of the population).

The concepts, definitions, and methods that health economists have developed to examine the allocative and production efficiency of healthcare serve as important resources for describing and assessing the consequences of policy actions. There are numerous studies of production efficiency, as outlined in Chapters 4 and 5, to guide evaluations of the organization and production of health services. The RAND Health Insurance Experiment, discussed in prior chapters, is a good example of this kind of research carried out with a rigorous, large-scale, experimental design. Findings from these studies generally document the costs and effects of alternative insurance strategies that range from first-dollar coverage to catastrophic plans. Estimates were made of the excess spending that occurred under first-dollar coverage given the low marginal value of the added medical care services consumed. Studies of the

communities. Approaches in determining effects range from social-systems accounting, in which the analyst monitors overall changes in health or other social status indicators (e.g., infant mortality rates) over time and attempts to relate the changes logically to past policies (prenatal care access interventions), to experimental and quasi-experimental evaluations of specific policies, and to programs to isolate their effects from other factors (overall downward trends in infant mortality) (Dunn 2003).

This stage involves collecting and analyzing performance information to help decide to continue, modify, or terminate existing policies.
efficiency of prepaid group practice are another important example. Many well-conducted cost-effectiveness studies have provided useful information on the relative efficiency of alternative services and technologies (see Chapter 4).

Both analytic research and evaluative research are relevant to the task of describing and assessing the equity consequences of health policy and programs. Analytic research suggests causes of equity problems that are likely to be altered by private or government interventions. Empirical measurement of the effects of specific factors (e.g., social support available to high-risk mothers) form the primary basis for evaluating the equity consequences (prenatal care utilization rates) of alternative service delivery options (case management services). Evaluative research on access (reviewed in Chapter 7) is useful in actually informing policy analysts of the success of specific programs or policies (e.g., Healthy Cities and Community-Oriented Primary Care, aimed at community health) in enhancing procedural and distributive equity.

LIMITATIONS OF HEALTH SERVICES RESEARCH IN POLICY ANALYSIS

To the extent that the conceptual theories and empirical studies from effectiveness, efficiency, and equity research are neither well developed nor clear, the research is limited as a source of information and argument in policy analysis. The prior sections of this chapter reviewed the potential contributions of health services research to policy analysis, whereas the discussion that follows highlights some of the limitations.

Effectiveness

No policy or professional consensus exists on how to apply the population perspective in defining effectiveness in healthcare delivery. The clinical perspective leaves out important factors that contribute to the health of the population. The population perspective requires that health policy research address the impact on health of factors beyond the medical care system (e.g., housing and jobs) for which information is more limited. As indicated in Chapter 2, the clinical perspective has become more prominent of late in the United States in giving emphasis to research evaluating the outcomes of specific clinical practices. Related to the debate over perspectives is the question of defining policy objectives in health. From the population perspective, community health indicators are important. From the clinical perspective, individual patient health status is emphasized.

The imprecision of measures of effective medical practice is a critical weakness in applying effectiveness analysis at both the clinical and population levels. Only rough estimates can be made of the direction and strength of the relationships between structure and outcomes and between processes and outcomes of care. Studies of variations in practice indicate an extremely wide range of acceptable practice patterns (Kane 1997). However, the efforts by the federal government to invest in this type of research notwithstanding, it is difficult to determine precisely how much of the variation can be attributed to the provision of ineffective services.

Another limitation is that the extensive research on the medical and nonmedical determinants of health has not often been well linked across the levels of analysis defined in Chapter 2. Approaches that appear to be beneficial at one level may not be effective at the next level of analysis. For example, improving the quality of care of individual patients may not be effective at the community level because of the limited potency of medical care interventions. In deciding how to invest societal resources in improving the health of the population, policymakers must take into account not only what works for the individual patient but how these resources are best used for the population as a whole. Without information across all levels of analysis, ineffective decisions can and will be made.

Efficiency

Efficiency research provides useful but limited information on the optimal allocation of resources and on optimal production methods. We are only beginning to understand the effects of healthcare and other important medical and nonmedical investments on health and well-being. Without this information, the social value of resource-allocation decisions cannot be determined with precision. The relative efficiency of different organizational models and resource mixes for producing cost-effective medical care are not clear, despite the extensive research in some areas—for example, comparing managed care versus consumer choice models of financing or comparing the costs and effectiveness of hospital inpatient versus outpatient provision of various procedures and services (Altman and Levitt 2002). A conceptual
difficulty in applying allocative efficiency criteria to the evaluation of policy alternatives is that the distributional consequences of alternatives (i.e., some win and some lose as a result of each alternative) cannot be assessed. Pareto optimum criteria, by which the beneficiaries compensate the payers, can be used (Chapter 4), but this may not be ethically acceptable if there are no mechanisms for ensuring that winners compensate losers.

Another important limitation is that different methods are applied by researchers doing efficiency research (e.g., cost-effectiveness, cost-benefit, cost-utility, and cost-of-illness), thereby limiting the ability to make comparisons across projects. Guidelines have been developed, however, for researchers to follow (Gold et al. 1996). There are also limitations associated with macrointernational comparisons of efficiency—the lack of standard definitions of health services, differences in national accounting practices, and difficulties in adjusting for currency differences.

Equity
The focus of equity research would be enhanced if there were greater clarity and consensus on equity objectives. Chapter 6 proposes multiple paradigms that provide the basis for alternative principles, criteria, and indicators of equity. Some of the frameworks potentially conflict, making it difficult to follow this perspective in policy analysis. A conceptual framework of equity (Figure 6.1) has been presented that integrates these criteria, considering procedural and substantive equity and their interrelationship. The causal relationships between procedural and substantive indicators of equity have not been thoroughly and uniformly documented. The challenge to health services research and policy analysis is to more accurately and fully document the contribution of medical and nonmedical factors to reducing healthcare and health inequalities—the ultimate criterion of distributive and social equity—across social and economic groups.

SUMMARY AND CONCLUSIONS
This chapter discusses the objectives of policy analysis that reflect different views of the policy-development process, standards of policy analysis, and the usefulness of health services research in performing the tasks of policy analysis. The rational model is described as a guide that policy analysts and health services researchers generally use to iden-

tify the types of research most relevant to health policy questions. This model identifies the sequential stages of policy development, the relevant policy analysis that is most appropriate, and the information and types of research needed to assist decision making at each stage. The objectives of the rational model of policy analysis, however, have been augmented by adding an awareness of, and attempting to take into account, the critiques of this model offered by the political and radical models. Health services research that meets the standards of scientific integrity and is concerned broadly with both medical and nonmedical determinants of health may be used in the policy-analytic tasks of defining values, clarifying problems, identifying and evaluating policy options, and evaluating and modifying past actions. Offering specific criteria and analytic frameworks for effectiveness, efficiency, and equity, the health services research literature provides a rich resource for policy development and assessment.

NOTE
1. Our discussion focuses on public policy development. However, the concepts, terms, and methods presented are generally applicable to what is referred to as policy development or strategic planning in the private sector as well.

REFERENCES


