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Prevention and Health Policy: A View from the Social Sciences

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This paper is adapted from a presentation at the 74th Annual Conference of the Canadian Public Health Association, St. John's, Newfoundland, on June 3, 1983. At that time both authors were Senior Researchers with the Division of Intramural Research, National Center for Health Services Research, Department of Health and Human Services, Rockville, MD. Dr. Hetherington is now Professor, Department of Sociology, University of Alberta, Edmonton, Alberta, Canada T6G 2H4. Requests for tearsheets to Dr. Hetherington.

Synopsis

A theoretical framework is outlined which identifies four major problem areas which must be dealt with in the formulation, implementation, and evaluation of social policy. Certain issues relevant to policy concerning health promotion and disease prevention are discussed within this framework. The first problem area, adaptation, is concerned primarily with resources; the second area, goal attainment, deals with organizational issues; the third, integration, is concerned with motivations; the fourth, pattern maintenance, concentrates on questions of values. Policymaking is seen as an attempt by governing bodies to resolve problems in all these areas, and the success of any policy may be judged by the extent to which major issues in each area are dealt with equitably and reasonably.

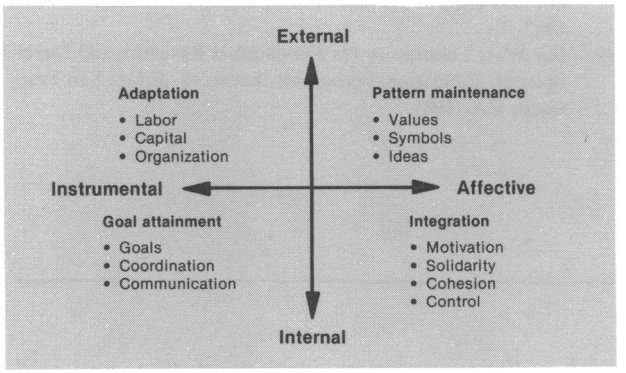
THIS PAPER HAS TWO PURPOSES. The first is to suggest a general theoretical framework which helps organize the complex issues involved in policymaking. The second is to discuss important policy issues in disease prevention and health promotion within this framework.

Theoretical Framework

The theoretical framework is illustrated in figure 1. First, in this framework activities are defined as either internal or external. If a system for the delivery of prevention services, for example, is being considered, all prevention activities, however defined, would be internal within the system. Other nonprevention activities of parts of that system, and activities of other systems, would be external. External activities are relevant when they involve exchanges between the system and its environment. The simplest of these exchanges is the payment (by government, insuring agencies, or the patient) to a provider for rendering a service which is defined as "preventive." Exchanges, however, do not necessarily involve money.

Second, activities are either instrumental or affective. Instrumental activities are means for attaining desired ends. An example of this is the accumulation of money, which has value only insofar as it permits access to other things. Affective activities are valued primarily as ends in themselves, although they may also be employed as means. An example of affective activity would be the universality of Canada's Medicare legislation, which guarantees equal access of all citizens to medical care regardless of their individual financial resources. This universality is considered of value in and of

Figure 1. Conceptual framework[1]



[1] Based on Talcott Parsons' general theory of action, reference *1*.

itself, since it furthers equality of opportunity. It may also be considered a means to an end, however, since the equal opportunity to receive health care could result in improvement in the health of the disadvantaged.

These two dimensions—the instrumental and the affective—define four types of problems which are encountered by all social systems.

The examples provided in figure 2 make clear the general properties of each problem area. Adaptation is concerned with problems of resources; goal attainment is concerned with the nature of the link between resources and achievement of goals; integration addresses problems of motivation; pattern maintenance in general deals with values (*1*).

Policymaking is an attempt by governing bodies to resolve these problems. The success of any policy will depend on how well each type of problem is resolved. A central feature of the conceptual scheme is that the problem areas are interdependent and must be considered simultaneously. These properties are implicit in the concept of "system." System implies interdependence of parts and a binding together in such a way that change and movement cannot occur in one area without adjustments in the other areas which tend toward reestablishment of the dynamic equilibrium of the whole.

The four problem areas raise different types of questions and pose different analytical difficulties for the policymaker. Examples in figure 2 illustrate policy questions for each area. In the remainder of the paper, we will discuss major issues in each area relevant to the topic of prevention.

Application of the Framework

Adaptation (for example, resources). Of the four problem areas, adaptation probably evokes the most discussion and debate about policy. The premiere concern in adaptation is usually budgetary. Health care policy is no exception. The cost of health care is currently a major concern, absorbing 8 to 10 percent of the GNP. Actual percentages of the GNP for Canada and the United States in recent years are as follows:

Year	*Canada*	*United States*
1978	7.4	8.8
1979	7.2	8.9
1980	7.4	9.5
1981	7.6	9.8
1982	8.4	10.5

Costs of health care are rising at twice the rate for other goods and services (*2,3*). Add to this problems with the general economy and budget deficits and it is not hard to understand preoccupation with budget matters.

The theoretical scheme draws attention to the fact that economic reasons are not the only reasons for the success or failure of a policy. Even if prevention can be demonstrated to be cost-effective, this fact does not guarantee that a policy emphasizing prevention will succeed. For instance, it may be possible to show that certain preventive techniques are more cost-effective than certain acute care interventions or care for the chronically ill. But if acute care interventions are dramatic and well-publicized—for example, artificial hearts and liver transplants—they capture the imagination and empathy of millions, and consequently generate political support for modern "miracle" medicine regardless of the cost implications. Obviously, support for a policy involves more than concerns about saving money.

This is not to say that budget matters are unimportant. But to make the case for prevention, the policymaker is often drawn into a welter of debates over cost issues and, consequently, other things are passed over. Unfortunately, it is not apparent that prevention will result in reductions in health care costs. One consequence of preventing death and disability, for instance, is the higher cost of maintaining more lives in the society. Reductions in infant mortality raise the problem of costs for supporting children among the poor where infant mortality is greatest. At the other end of life's spectrum, preventing early deaths among the aged increases the potential costs of social security benefits and treatment of chronic illnesses. Thus, what may appear at first to be cost savings are, in reality, shifts in costs, either to other sectors of society or to some point in the future.

If costs are being shifted, the question of "savings for whom?" is relevant. The current allocation

of health dollars is on the order of an ounce of prevention for a pound of cure—about 5 percent of health care dollars is spent on prevention (*4*). For instance, in 1981, the Department of Health and Human Services spent $3,571,087 on prevention and promotion activities and $62.4 billion on other health programs (*5*). This is a ratio of $1 of prevention-promotion for every $17.4 of other health expenditures. However, as Lee and Franks point out, a lot depends on how prevention-promotion activities are defined. They estimated expenditures as low as $900 million and as high as $7 billion annually in the United States, using different definitions (*6*).

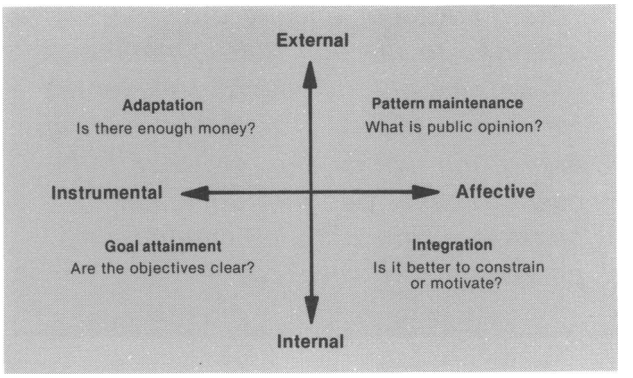
There is little guarantee that increases in investment in preventive programs will result in a corresponding reduction in the costs of acute care. Some analyses project considerable "savings" from prevention programs—at times on the order of billions of dollars annually for a single program (*7–11*). Will these sums be subtracted from the total costs of health care? Who will reap the benefits of the savings? Will there be lower taxes, for instance, or will there be shifts in allocations within the health care sector or between health and other sectors of society? The policymaker needs to answer the questions of what benefits will be derived for the people as a result of all the money "saved" in order to make the economic argument convincing.

Research funded by the National Center for Health Services Research (NCHSR) will provide information to policymakers on the costs of preventive versus acute care, assuming different discount rates, costs, and benefits (*12*). NCHSR's mission is to undertake and support research, demonstrations, and evaluations which address the problems associated with financing, organization, and delivery of health services. As such, it is the primary source of Federal support for research on these topics. The general tentative conclusion of the NCHSR-funded researchers at this point is that policymakers are on shaky ground if they make their argument only in terms of potential cost savings.

While budget matters are obviously important, other matters within the area of adaptation are also important. Is the current expertise in the health care system appropriate to handle an increase in prevention activities? Is the current health care delivery system capable of effectively delivering preventive services? Is available research evidence on the effectiveness of preventive techniques conclusive enough to overcome potential opposition by powerful interest groups (for example, tobacco growers, food distributors)?

The effectiveness of prevention policy depends

Figure 2. Examples of policy questions in each area



on a variety of conditions beyond the resources. Other "instrumentalities" are in the goal attainment area, where the two central issues are the definition of objectives and putting together resources to achieve those objectives most effectively.

Goal attainment (for example, organization). It is essential that objectives be clear and specific, measurable, and enjoy widespread support.

Perhaps no better example of clarity in objectives is available than the current program in the United States to achieve prevention goals by 1990 (*13,14*). The goals target 5 lifecycle stages, 15 priority areas for improvement, and 223 specific and measurable objectives. The key words are "specific" and "measurable"; some may argue that the objectives are too ambitious, but none can argue that they are vague. For instance, in infant mortality—a frequently employed barometer of national health status—the target for 1990 is to lower the rate from its current level of 11.2 infant deaths per 1,000 live births to less than 9 deaths per 1,000. This is a specific and measurable objective, and there is a specific time frame. It is then theoretically possible to argue for sufficient resources to meet the objective, if the objective is considered valuable.

The consideration of "value" leads to the issue of how objectives are determined. In the United States, the objectives were formulated through a series of conferences, meetings, and work groups with public and private participants. This involvement of representatives from a broad spectrum of organizations and social groupings helps to ensure that objectives derived are considered by a large number to be worth striving for. This "legitimating" process helps in motivating people and agencies to cooperate—an issue which will be dealt with subsequently.

Research at NCHSR in organizational sociology has underscored the importance of involvement of

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diverse groups in setting objectives (*15*). It should be noted, however, that this very involvement may create new problems of coordination. Policymakers need to consider the following:

1. The need for coordination applies not only to external agencies but equally well to different parts of the government. It should not appear that one arm of the government does not know what the other is doing.
2. There are limits to the benefits of coordination, such that at some point it is not effective to attempt to achieve higher levels of coordination (*16*).
3. Attempts to coordinate should occur primarily in the implementation of programs rather than in developing them, since formal mechanisms which promote coordination may also reduce effectiveness in seeking solutions (*17*).
4. The success of attempts to coordinate depends to some degree on the willingness of constituent members voluntarily to promote coordination (*18*), and this willingness, in turn, is more likely to be found among members who feel they are meaningfully involved in attaining policy objectives.

Finally, the "measurable" quality of objectives renders them subject to evaluation. It is important at all stages to be able to measure progress. This means data must be available that are reliable, valid, relevant; they must be capable of being disaggregated, so that achievement of a goal for the nation is not confused with achievement of that goal for all its subpopulations. For instance, projections in the United States suggest that certain objectives will be achieved for the white middle class, but not for the disadvantaged and certain ethnic minorities (*19*). Policymakers need to be informed, by both process and outcome evaluations. Process evaluations provide information on the extent to which funds allocated for prevention are actually used for these purposes. Outcome evaluations deal with the impact of programs. There is a very real need to distinguish, for instance, between impact on people already committed to the goals of the program and impact on people who are initially unconvinced or opposed (*20*). The latter group is the most difficult to motivate and change, and long-term projections of cost savings and effectiveness that do not take this into account will be drastically misleading.

Integration (for example, motivation). The third area to be considered is integration. It includes aspects of the policy designed to establish control, inhibit deviant tendencies, and maintain coherence and solidarity. In short, a basic question is: How can people be motivated to go along with the behaviors required to attain the objectives? Policymakers have several options, among them persuasion, incentives, starting programs, and compulsion, or combinations thereof. The following discussion concentrates on some issues in developing motivation among individual persons, providers, and industry.

To be motivated, the individual must be convinced there is a payoff. Few would argue about payoff with regard to immunizations, but there is less agreement about the benefits of alteration in lifestyle, despite the claim that 50 percent of mortality is due to unhealthful behavior (*9*). Research funded by NCHSR has helped shore up the claims for benefits from healthy lifestyles by establishing a link between seven common health habits and health status (*21*).

Even if the evidence exists, there remains the question of how it is best presented to the public. Health education programs have sometimes been found to be of less importance in determining behavior than the characteristics of the people targeted: for example, their age, social class, and sex. Some recent evidence of modest success has been found for community health education (*22,23*), however, and the suggestion from these studies is that (*a*) a wide variety of education techniques is needed simultaneously and (*b*) the target should be to increase peoples' perception of their total responsibility for themselves, as opposed to targeting specific illness-producing behaviors (*24*). This multimedia approach, combined with an emphasis on locus of control and wellness, rather than illness, is under further study by the three grantees of the National Heart, Lung, and Blood Institute (*25–27*). From a social scientist's viewpoint, there appears to be a void in the theoretical and research literature on wellness; much of medical sociology in this area has focused on the sick role (*28,29*). Is there a

parallel theory of the social characteristics of the well role?

The success of a prevention policy in motivating people is limited by the nature of scientific evidence itself, which, because of its uncertainties and reliance on probabilities, does not present a clear call to action. The policymaker should also be aware that programs with government sponsorship are frequently mistrusted. Furthermore, the observer may be confused when the policies of two agencies appear contradictory. Some feel that emphasis on prevention is a "blame the victim" policy (*30*) and that efforts to improve health through emphasis only or predominantly on individual action could result in further widening of the gap in health status between those in poor and those in well-to-do families (*31,32*). However, as Etzioni points out (*33*), emphasis on individual action does not necessarily mean that no action is required of government. Individual action presupposes that resources are available to the individual, such as knowledge, facilities, and finances. Government can take upon itself the role of facilitator to ensure that resources are available to all who wish to participate in programs which the government endorses.

Almost all important causes of death hit hardest at persons in the lower socioeconomic strata (*34*), and because of financial *and* cultural barriers, these class differences are resistant to change. The gap between the poor and the affluent is well illustrated by Washington, DC's infant mortality rates. In 1982, the rate for blacks was 23.3 per 1,000 live births compared with 6.0 for whites (the source of the data is the Research and Statistics Division, Office of Policy and Planning, Department of Human Services, District of Columbia).

Turning next from the recipient of health care to the providers, there is considerable emphasis in the literature on the need to educate physicians in prevention-promotion and to motivate the practitioner to place greater emphasis on prevention. Taylor (*35*) has noted that it is more demanding for physicians to counsel in lifestyle than to provide a quick remedy such as valium; second, it is less profitable; third, it is "beneath them"—an activity for paramedical people; and fourth, the physician is not educated to provide this type of care. In addition to these, we would suggest a fifth disincentive, namely that the techniques of prevention are not well developed, except in specific instances like immunization.

Evidence suggests, however, that the inertia of the medical profession about prevention may be overstated. Surveys have shown that 75 percent of physicians believe greater emphasis on preventive medicine is needed and that such attitudes are related to behaviors in medical practice (*36*). Research has suggested that physicians will give patients prevention and health promotion information if they are presented with scientific evidence of its validity, if the materials are systematically organized, and if they are reimbursed (*37*).

Alteration in reimbursement practices may be necessary. For instance, in Canada it may be desirable to institute a form of cost-sharing if acute care is concerned, while providing full reimbursement for specific procedures included in prevention packages. Examples of this reimbursement may be found in some private insurance dental plans in the United States. The issue for policymakers, of course, is that cost-sharing for acute care may lead to inadequate care for those least able to share the costs.

A third target population for prevention policy is industry. Government may be caught in a dilemma, since the health of the people and the health of industry sometimes conflict (*38*). In such conflicts, how do policymakers motivate the private sector to assume greater costs of operation associated with health protection, while preserving an environment which is not considered "hostile" to business?

A recent Maryland case is illustrative. A major industry was convicted and fined on several counts of polluting the environment, and the firm subsequently announced its intentions to move its headquarters to neighboring Virginia (*39*). The company claims that the two events were unrelated, of course, but the announcement resulted in vigorous attempts by Maryland State officials, from the governor on down, to persuade the industry to remain in Maryland and to assure industry in general that the State is pro-business (*40,41*).

Pattern maintenance (for example, values). The issues discussed in the integration area lead naturally to a consideration of the fourth area: pattern maintenance. This area in the theoretical scheme concerns contact between the health care system and the symbolic and cultural universe of the larger society. It is concerned with symbols, ideas, modes of expression, and values necessary to create motivation.

Values are important because they tend to be deep-seated and less subject to change than attitudes and beliefs. They are powerful determinants of behavior. Emphasis on prevention potentially brings several values into conflict. Two of these are individual freedom and collective well-being. Free-

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dom tends to be a basic value in a free society, and we are very reluctant to infringe on it, even if health is concerned. Thus, in the United States, 27 States have rescinded motorcycle safety helmet laws, 50 percent of the cities and towns are without fluoride in their drinking water (*32*), and only six States—New York, New Jersey, Illinois, Missouri, Michigan, and New Mexico—have laws requiring seatbelts for adults. This reluctance to infringe on individual freedom can result in a considerable burden on society due to consequent costs of health care, rehabilitation, income maintenance for the disabled, and psychic stress. In this connection it is worth noting the rush of child safety restraint laws, perhaps suggesting the impact that scientific and educational data have had on values. Further data will be provided by research at NCHSR which is exploring the ethical issues posed by the dilemma between individual freedom and collective well-being in an effort to define guidelines for policy action (*42*).

Pellegrino (*43*) has already suggested certain guidelines in considering tradeoffs between individual freedom and social responsibility.

1. Certain lifestyles result in disease, disability, and death, with economic consequences damaging to the whole of society. Thus, there is a social mandate to encourage healthier lifestyles in all citizens.
2. In a civilized and democratic society freedom must be protected and is to be limited only when it violates the freedom of others. In an interdependent society, free acts are subject to justifiable restriction.
3. Coercive measures should be considered only when their effectiveness is "unequivocal for large numbers of people and when affecting control extends over a limited sector of life." This is the test of proportionality.
4. Even if a measure meets this test, it must accommodate as closely as possible the democratic principle of self-determination. Voluntary measures must be clearly inadequate at the outset or must have failed before coercive measures are contemplated.

These principles, while not without problems, form a useful baseline for policy formulation.

A second potential value conflict is between rugged individualism and scientific rationality. Both values are predominant in North America. One is reminded of the Marlboro man as an image of rugged individualism. Reliance on self and the very taking of risks underlie the spirit of those who pioneered both the United States and Canada. We secretly admire those who take chances with their very lives, the daredevils, those who strike out on their own, those who subscribe to the ethic that "nothing ventured, nothing gained." We are reminded that a basic difference between free enterprise and socialism is the marvelous diversity produced in a society which fosters individualism compared with the dull conformity of state-dominated societies. On the other side of the coin are the equally valued virtues in Western society of rationality, science, and prudence.

A third value conflict is between self-determination and resignation to fate. Those who argue against quitting smoking or otherwise adopting healthful lifestyles by saying "when your time has come, you will die," or that "we all have to die sometime" exhibit one side of this conflict. The fatalistic attitude toward life is an anathema to active avoidance of risk factors and is closely associated with the value of rugged individualism. In contrast to fatalism is the take-charge-of-your-life ethic which lies at the heart of much of the current cultural emphasis on self-care and healthful lifestyles.

A fourth value conflict is between stability and change. Change—which often is equated with progress—is characteristic of modern society. We desire a social system and an economy that is constantly improving and moving toward what we hope are better circumstances for all. Yet while change is valued, it flies in the face of the need for stability and tradition. We are accustomed to thinking of health care in terms of acute care, of physicians as curing rather than caring, and of the health care system as oriented toward the treatment of existing illnesses rather than prevention of those which might occur in the future. We are comfortable with certain roles which have been learned and uncomfortable with changes which require different actions and new initiatives of the individual and the providers of care.

A fifth value conflict is that between immediate and deferred gratification. Policies emphasizing prevention ask that people give up their immediate pleasures—smoking, drinking, carrying on—for a greater probability of enhanced health at some time in the distant future. A characteristic response is illustrated by those who say that, while joggers may live 2–4 years longer, they spend those extra years jogging. Deferred gratification has often been linked to position in the class structure and to upward mobility. For those whose futures are uncertain and whose present is filled with the struggle merely to survive, planning for the future has little appeal in contrast to current satisfactions. The beer ads are filled with admonitions to "grab all the gusto you can," since "you only go around once." It is "eat, drink and be merry, for tomorrow we die." Perhaps in an age when nuclear destruction is possible, this value conflict is real to all of us.

The value pairs are, by nature, contradictory. Each member defines a pole which is opposite the other. But in reality, one pole of any pair is never so predominant that the other pole is excluded. For instance, both intrapsychically and interpersonally, there is always some strain of rugged individualism where scientific rationality is dominant; some orientation toward change where stability is the rule. This mutual coexistence of opposites is the source of conflict and dispute, and it constitutes an engine for social change.

Conclusions

We have attempted to accomplish two objectives in this presentation. First, we have outlined a theoretical framework within which policy can be formulated, implemented, and evaluated. Second, we briefly suggested some policy-relevant issues which arise when that framework is applied to health policy and prevention.

The theoretical framework has been presented as a conceptual scheme for sorting out and organizing observations. It is recognized that, while no science can proceed without a system of categories (a conceptual scheme), this tool does not in itself offer explanatory power. Explanation, the goal of all science, is further down the road. Our purpose in this presentation is to suggest one way of reconstructing reality with the aid of conceptual symbols. Building this reconstruction on the basis of a general social theory creates the potential of establishing a universe of discourse on policy which transcends a particular issue or a particular social science discipline.

A basic argument underlying the paper has been that use of this or any other social science conceptual scheme requires interaction of scientists and policymakers. Our recently completed survey of the use of social science research in mental health policy (*44*) strongly indicates that policymakers do not have to be convinced of this need for interaction. But while policymakers pay apparent lip service to social science in formulating policy, they remain skeptical that social scientists can meet the need.

The difficulties faced when policy and science intersect are well illustrated in this presentation. A broad range of problem areas has been defined conceptually and illustrated with empirical examples. The range is so broad, and the practical implications of considering these areas simultaneously are so complex, that both the policymaker and the scientist may be puzzled as to how to apply the scheme. Important gains have been made, however, if this theoretical scheme has helped to define the puzzle although it has not solved the puzzle.

Such definition permits structured interaction between scientists and policymakers on such basic issues as, for instance, the definition of the boundaries of the "system" involved: What activities are internal to it, and what are the relevant external activities? Merely struggling with this question brings up issues of top priority, such as what activities are considered to be prevention and what people and agencies in society are (or should be) involved in performing them. A key role of the social scientists in such interaction is to preserve the view from the social sciences and argue for an explicit conceptual framework that will help organize and widen the scope of perceptions and facts and avoid the pitfall of simplistic solutions.

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