A Study in the Management of Social R&D: The Functions of Demonstrations (1981)

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INTRODUCTION

It is generally agreed that a demonstration project is a small-scale program undertaken in a field setting for a finite period of time to test the desirability of a proposed course of action. However, beyond this very general definition, there is little agreement among social science researchers, developers, and program managers about what the role of demonstrations is or should be. Historically the term has applied to projects ranging from those serving to provide needed services to those performing as strategic policy research tools. The frequent absence of research designs, the lack of interest in evaluation findings on the part of program managers, and the nonterminating nature of many demonstrations raise doubts concerning the inclusion of these projects in programs of social research and development (R&D). Indeed, the lack of clarity of definition, function, and purpose on the part of program initiators, funders, and operators, which has become characteristic of many demonstrations in the social policy area, has resulted in confused perceptions of the purpose and usefulness of these social projects in the eye of the public.

The conflict is perhaps most clearly expressed in the Follow Through program of the Office of Education. The program originated with the idea that more or less proven programs developed for preschool children should be extended into the public school system. This view was held by many of the program administrators and large segments of Congress. From the point of view of most school systems, the program was a source of support for expensive compensatory programs for the disadvantaged. The communities involved in Follow Through viewed it as another federal program, but one that involved parents in a very real way and frequently offered employment to members of the community. Staff-level offices in the Office of Education, the Department of Health,

Education, and Welfare, and the Office of Management and Budget considered the program an experiment[1] to determine preferred forms of program design for adoption by local school districts. The sponsors (the designers of the programs used by the schools) saw the program as a source of support for the development and trial of new curriculum and classroom organization materials as well as a means of gaining understanding of how to install these packages. Researchers involved in evaluating the performance of the program saw Follow Through as an ill-designed experiment, based on a possibly naive set of assumptions, yet having the promise of yielding some of the most interesting insights yet produced on education for the disadvantaged.

In a sense, it is the genius of Follow Through that it combined all these functions and used their political attractiveness to various constituencies to maintain its existence. At the same time, however, it raises questions of whether this program and others like it are good public policy. Indeed, Follow Through suggests many of the practical strengths and potential weaknesses of demonstrations as self-conscious federal efforts to promote innovation in local settings. The inherent confusion of purpose must be faced. In large part this confusion is the result of the process by which projects are conceived and funded. A melding of conflicting interests is often required to get such a project under way. Ultimately, the disillusionment associated with Follow Through's failure to produce quality research (Office of Education officials admit that its content has been 95 percent service), its gradual phaseout from local communities when federal funding was terminated, or its addition to the list of permanent partial programs reaching only a token number of eligible needy youngsters will again cause one or another group to question the federal government's role in conducting social R&D.

Any attempt to clarify the role of demonstration projects in the formulation and implementation of public policy must recognize the historical context in which it has developed. The decade of the 1960s witnessed the federal government's rapid assumption of new and greater responsibility for the nation's social problems. This commitment to broad social reform attracted to Washington a number of zealous people with a variety of perceptions of what our

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[1]The Office of Education regarded Follow Through as an experiment for budgetary purposes.

TABLE 1 Federal Funding of Social Demonstration Activity, Fiscal 1975 ($ thousands)

DEPARTMENT OF AGRICULTURE		
Agricultural Stabilization and Conservation Service		$ 1,500
Extension Service		905
Food and Nutrition Service		480
Forest Service		250
Soil Conservation Service		15
Total		3,150
DEPARTMENT OF COMMERCE		
Office of Minority Business Enterprise		1,973
Total		1,973
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE		
Administration on Aging		7,000
Assistant Secretary for Planning and Evaluation		16,561
Bureau of Health Manpower		560
Bureau of Health Planning and Resource Development		26
Maternal and Child Health Service[a]		--
National Center for Health Services Research		14,700 (est.)
National Institute for Alcohol and Alcohol Abuse		12,500
National Institute on Drug Abuse		14,340
National Institute of Education		44,114
National Institutes of Health		52,806
National Cancer Institute	$ 40,806	
National Heart, Lung, and Blood Institute	12,000	
National Institute of Mental Health		5,250 (est.)
National Institute of Occupational Safety and Health		100
Office of Child Development		7,325

TABLE 1 (Continued)

Office of Education		$200,133
Bureau of Education for the Handicapped	27,068	
Elementary and Secondary Education Programs	148,745	
Library Programs	1,000	
Indian Education Programs	4,721	
Post Secondary Education Programs	2,599	
Occupational, Vocational and Adult Education Programs	16,000	
Office of Native American Programs		none
Office of Youth Development		none
Social and Rehabilitation Service		4,000
Total		378,855
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT		
Neighborhood Preservation		3,000
Homesteading		8,000
Housing Management		
Housing Allowance Experiment		
Solar Energy		
Total		Incomplete
DEPARTMENT OF JUSTICE		
Drug Enforcement Administration		662
Law Enforcement Assistance Administration		2,000
Total		2,662
DEPARTMENT OF LABOR		
Manpower Administration		4,410
Total		4,410
DEPARTMENT OF TRANSPORTATION		
National Highway Traffic Safety Administration		8,635
Urban Mass Transit Administration		8,881
Total		17,516

TABLE 1 (Continued)

INDEPENDENT AGENCIES	
Community Services Administration	$ 5,239
Environmental Protection Agency	3,440
National Science Foundation[b]	none
TOTAL	$429,245[c]

[a]The MCHS had no record of funds expended for demonstration projects separate from state formula grant allocations.

[b]Ongoing demonstrations are not considered social but rather technological R&D by the National Science Foundation.

[c]Incomplete; reflects incomplete figures of the Department of Housing and Urban Development. Programs such as the Community Mental Health Centers in the National Institute of Mental Health, Head Start in the Office of Child Development, and the Health Maintenance Organizations in the Bureau of Community Health Services, which cost in the hundreds of millions of dollars annually, have been excluded from these figures because they were clearly not demonstrations but ongoing service programs.

Transportation, and in the Community Services Administration, the Environmental Protection Agency, and the National Science Foundation.

These figures are at best an estimate of federal involvement. The difficulty in determining total federal spending can be traced directly to the ambiguities involved in defining the term *demonstration*. Because Congress uses varied language to authorize demonstration activities, executive agencies often try to maintain the loosest definition possible for their own use. Statutory authority varies from broad research mandates to engage in research, investigations, experiments, training, demonstrations, surveys, and studies--which leave the responsibility for interpreting and defining priorities among these activities to agency administrators--to more specific instructions to conduct studies of economic feasibility, information on the management of services, pilot testing, and demonstration of superior practices and techniques.

Most policy makers, program administrators, and researchers would agree that a clearly defined purpose and mode of operation are worthwhile in undertaking federal programs. The conceptual framework presented in this paper, which proposes a typology of the purposes and functions of demonstrations from the federal perspective, is based on that premise. Observations supporting this typology were obtained from a series of interviews with planning and program development officials in several federal agencies as well as with the directors of a variety of federally supported demonstration projects.

A preliminary paper was distributed to subjects prior to our interviews to suggest a possible categorization of the roles of demonstrations. Respondents were asked to comment on the appropriateness of the proposed categories and whether the projects or programs of projects designated as demonstrations by their respective agencies fit into the categorization. Alternatively, they were asked to characterize the demonstrations carried on by their respective agencies apart from any set of categories.

A number of interview subjects endorsed the categorization intact. They felt that it accurately characterized the range of activities supported by their agencies. Other respondents could recognize one or another proposed category that accurately described their agencies' demonstration activities; still others suggested a category apart from those delineated in the preliminary paper. In a few instances, respondents could not relate their agencies' activities to the categorization and did not wish to suggest an alternative; judgments were made by the study project staff concerning the nature and functions of the projects described. In each case the respondent seemed to be characterizing a class of activity that was outlined in the paper. However, either because the presentation was too abstract or the supporting examples were drawn from an unfamiliar program area, the relationship was not clear. Based on the responses from these interviews, an amended typology was developed.

The Study Project on Social Research and Development distinguished three broad categories of social demonstration activity: projects that are a means of policy formulation, those that are a means of policy implementation, and those that have no direct function in either the formulation or implementation of new federal policies. A project undertaken in a real-world environment, so that federal agency decision makers can appraise its value as a basis for systematic program development, operates as an instrument to

assist in the formulation of public policy. As such it is intended to produce information that will reduce uncertainties about the impact and feasibility of a programmatic idea. A policy formulation demonstration, therefore, can provide a way of determining the feasibility of establishing a social priority and of estimating the effects of implementing a program relating to that priority.

Conversely, when a programmatic idea has been judged worthy (either explicitly or implicitly) and federal officials undertake a demonstration in order to persuade federal, state and/or local decision makers to adopt the intervention on a permanent basis, the project serves as a means of policy implementation. A distinction can be made between those policy implementation demonstrations that are intended to convince federal, state, or local legislators to appropriate funds or create institutions that will provide the demonstrated services on a broad scale to an eligible client population and those that are intended to convince potential adopters that the program is effective and applicable to their needs by providing how-to-do-it information.

The third category of demonstrations is less appropriately included in programs of social R&D. They may be projects for which a federal agency has allocated funds to create awareness of a social problem by demonstrating to service providers and the general public something needs to be done. They may be projects that are initiated as incentives to local jurisdictions to undertake socially innovative activity by providing funds for local development. Or they may be nonterminating, limited-service activities. In any case, they serve no direct policy formulation or implementation function and therefore probably should not be included in programs of social R&D. Because of their different character, this third category of demonstrations is considered separately.

Two significant points should be made regarding the first two categories of demonstrations. First, a given project can perform both of these functions at different points in time. A demonstration can initially serve as a way of testing the underlying programmatic idea, then as a way of determining the most viable means of service delivery, and finally as a vehicle for promoting utilization among legislative decision makers and potential adopters. Second, a demonstration may be perceived to serve a different purpose at the national level than at the state or local level. A federal agency may sponsor a project that it considers to embody proven ideas in order to attract the

support of legislators or potential users. The local institution or legislative body that would assume financial responsibility for the innovation may not have accepted the validity of the programmatic idea or the feasibility of the service delivery mechanism and therefore would regard the same project as a policy formulation activity. The reverse phenomenon can also occur. A federal agency may fund a demonstration to determine whether the underlying idea constitutes a basis for large-scale federal policy. The local institution, on the other hand, may already have accepted the value of the idea and its feasibility and may intend the project as a means of establishing the new program in a school, welfare, or health care delivery system.

This categorization of federally sponsored social demonstrations certainly does not purport to be an accurate picture of how these projects or programs of projects operate in all federal agencies. Nor is it intended to describe their systematic role in one particular agency or social problem area. Rather it suggests one normative view of how demonstrations might effectively perform within a clearly defined social-problem-solving system.

An attempt has been made to survey a significant portion of demonstrations conducted in order to determine the approximate amount of social R&D funding that is allocated for demonstration activities. From the numerous demonstrations that were examined, four have been selected as case studies, which are used to illustrate significant points:

- The National Nutrition Program for the Elderly, conducted by the Administration on Aging to provide nutritional services and social interaction among socially isolated elderly people.
- The Shirley Highway Express-Bus-on-Freeway Project, conducted by the Urban Mass Transit Administration to provide and attract patronage for an express bus service for suburban commuters by giving priority to buses on two lanes of a major arterial route.
- The Early and Periodic Screening, Diagnosis, and Treatment Program, conducted by the Social and Rehabilitation Service to provide physical, emotional, and developmental screening, diagnosis, and treatment services to needy children.
- The Cancer Control Program, conducted by the National Cancer Institute to identify, field test, evaluate, demonstrate, and promote new methods for reducing the incidence of morbidity and mortality from cancer.

The projects or programs of projects were not chosen because they represent particularly good scientific design or good social policy development. They were selected to provide a plausible balance among such factors as social problem area, level of funding, number of sites, purpose, and audience. At the time this investigation was undertaken in 1975-1976, some of these demonstrations had been completed, others were in midstream, and one was just getting under way. Furthermore, because of their varied histories, political environments, and outcomes or potential outcomes, they provide an interesting background against which to consider the demonstration mechanism as an element of programs of social research and development.

The remaining sections of this paper present basic information concerning the four case studies; a discussion of the three types of demonstrations (i.e., policy formulation demonstrations, policy implementation demonstrations, and other demonstrations that do not have direct formulation or implementation roles); observations concerning the support of demonstrations in federal social R&D programs; and a brief discussion of the implications of this framework regarding strategy for incorporating demonstrations in social R&D programs.

THE CASE STUDIES

The following are brief descriptions of the four demonstrations chosen as case studies. We have provided only as much detail as necessary to understand the context in which they are used as illustrative examples. Much statistical and evaluative information has been omitted. It is also important to note that the case studies are not the sole basis of the analysis. Rather, they constitute one source of evidence that, along with the interviews we conducted, some general reading in the evaluation literature, and specific studies on demonstrations, has influenced the ideas presented in this paper.

THE NATIONAL NUTRITION PROGRAM FOR THE ELDERLY

In 1970, 20 million Americans had passed their 65th birthday. Eight million of them lived in poverty or near poverty as defined by the Social Security Administration's poverty index (Pelcovits 1971). While some of these older people are residents of institutions, the vast majority live in local communities, either with relatives or alone. Many are "active and well and continue to take part in community life," but many others who are mobile and could participate live in virtual social isolation. "There are no incentives to action" (Martin 1971).

Research has shown that there is a link between isolation and poor nutrition; one contributes to the other (Sherwood 1973). Those who are lonely are not motivated to prepare proper meals for themselves, and when eating habits are not adequately nutritious, people become listless and withdrawn. Among older persons particularly, a sense of isolation and desolation are intensified. In the late 1960s, a growing concern developed on the part of public officials as well

as professionals for the well-being of this largely unorganized and unvocal group in our society.

The decision to single out nutrition for the elderly as a priority area of national policy was influenced by several events. Significant interest was aroused by the 1965 National Food Study on Food Consumption and Dietary Level, conducted by the Agricultural Research Service in the Department of Agriculture. The study's findings suggested that 95 million Americans did not consume an adequate diet. The President's Task Force on Aging was established in 1970, and among its many proposals were several regarding the establishment of programs to distribute food to elderly persons living on marginal incomes or in poverty (U.S. President's Task Force on Aging 1970).

Direct impetus for the National Nutrition Program for the Elderly came, however, when the efforts of a senior citizens' center in Dade County, Florida, to serve nutritious meals to elderly citizens was brought to the attention of Representative Claude Pepper. Strong interest in a national effort was mustered in Congress, and in January 1968, $2 million was appropriated for the establishment of a three-year national demonstration program to be conducted by the Administration on Aging under Title IV (research and development) provisions of the Older Americans Act. Several factors influenced the decision to mount a demonstration rather than to move immediately for specific legislation. The lack of systematic data about the nutritional needs of the elderly and a lack of practical knowledge about what was actually entailed in the planning and delivery of food and nutrition--costs, effectiveness, and how other needed services might be coordinated--dictated that an experimental effort was needed. Moreover, the political attractiveness of initiating a visible service program that was popular and relatively inexpensive was desirable to members of Congress in an election year.

As conceived by the Administration on Aging, "The primary purpose of the nutrition program is to design appropriate ways for the delivery of food services which enable older persons to enjoy adequate palatable meals that supply essential nutrients needed to maintain good health . . . in settings conducive to eating and social interaction with peers" (U.S. Department of Health, Education, and Welfare 1968). The program design was sharpened to specify that all projects include at least five basic elements:

1. The provision of meals in group settings or on a home-delivered basis;

2. Nutrition education and information about food;
3. Provision of supportive services, including related health, social, recreational, and transportation services;
4. Outreach activities and services, efforts to locate and involve older persons in the community who might benefit most from a socially oriented nutrition program; and
5. Systematic evaluation of overall impact, effectiveness, and costs of the demonstration.

Because the program had to be mounted quickly when funds were made available by Congress, planning for the demonstration was hurried. It was conducted solely by the staff of the Research and Demonstration Division of the Administration on Aging (AOA). Projects were solicited by a staff-developed grant announcement and were selected on the basis of peer review recommendations.

There were 23 individual demonstration projects included in the Title IV nutritional services program: 19 were located primarily in urban communities of various size, including several inner-city neighborhoods; 4 were in small towns or in rural areas. Some of the projects operated at only one location. The majority, however, including all those in rural areas, utilized several sites. The largest, the Chicago project, was administered from the mayor's Office for Senior Citizens and provided services at 35 locations in the city. In selecting projects from prospective applicants, attention was given to providing a broad mix of approaches and methods to the delivery of food and meal services, nutrition education, and other related activities and services. Projects were also selected to involve a broad cross-section of older participants from various income levels and ethnic, religious, and cultural backgrounds as well as geographical distribution, although this latter criterion was not specifically designated in the grant announcement. Decisions regarding the number of projects that would be included in the program seem to have been based more on the availability of funds than on any carefully planned scheme.

The provision of group meals in a community setting was the central component of each project. A variety of food delivery systems was tested in a variety of settings. These included meals prepared on site by the project, meals prepared at one central site and delivered to satellite sites, catered meals, home-delivered meals, and take-home meals. Projects also varied in the frequency with which they served group meals. Some operated on a daily basis, while others were weekly or semiweekly. Moreover, several

of the projects included home-delivered and/or take-home meals as a part of their service, on the belief that the two approaches should complement one another.

The 23 projects operated in a variety of existing community facilities and locations. These included senior centers, community centers serving all age groups, public and nonprofit housing projects, churches and schools, private homes for the aged, and, in one project, the homes of older people. Generally sites were structured so that participants met in groups of 15 to 55 in order to achieve an informality and social atmosphere conducive to interaction.

The meals in all projects were planned to be nutritionally balanced and to improve the nutritional status of participants. Each project staff included a nutritionist, at least on a part-time basis, and agency guidelines suggested that meals contain one-third the amount of calories, vitamins, minerals, and protein set out in National Research Council standards for daily nutritional requirements. In some cases, projects attempted to serve specific foods catering to the special ethnic and cultural backgrounds of the participants. There were some successes in these endeavors; however, a notable failure was a New York City project that found the costs of serving kosher food prohibitive.

A nutrition-education component was required to accompany each meals program. The general objective was to upgrade the nutritional quality of the diets and dietary habits of older persons. Nutrition education varied widely among projects, both in terms of emphasis and in delivery. Since little existed in the way of educational materials dealing with nutrition for the elderly, project staff were encouraged to be innovative in their approach.

Because the nutrition program was designed to increase both the nutrition level and social participation of older persons, the demonstration sites provided a convenient channel for other supportive services required by those living on limited incomes, who often inhabit inadequate housing and who frequently have serious economic, social, and personal needs. The scope of services actually available varied from project to project. Among them were leisure-time activities, educational activities (other than nutrition education), information, referral, counseling, special assistance with housing, health, or health screening, and transportation or escort service--which emerged as the most essential accessory service in virtually all projects. In urban areas where public transportation was readily available or where the project site was

within close walking distance of most of the participants, transportation needs were not so acute. However, in small towns, suburban areas, and rural areas, where distances were greater and public transportation not available, provision of transportation became a crucial component of the project (Bechill 1973).

Outreach activities also became an essential part of most project agendas, although they were not initially emphasized in the planning. As they evolved, outreach services were designed to locate older persons most in need of participation, to provide them with information about the program, and to persuade them to become active participants. The experience of the Title IV nutrition program suggests that older persons in need of services do not usually seek them out independently.

In some projects, linkages were established with public welfare, community action, model cities, and other public agencies serving older people in order to locate those in need. Contact was then made by an outreach worker responsible for canvassing. The most effective outreach efforts reported were those undertaken by older people in the various projects, who were either staff members, volunteers, or participants in a group-meals program (Bechill 1973).

Although evaluation was outlined in the grant announcement as a requirement of each of the demonstration projects, little attention appears to have been given to systematic development of this aspect of the program. The program was mounted quickly; once it was under way, the evaluation seems to have been an add-on to lend some R&D legitimacy to the demonstrations. The extent of the evaluation effort was a $50,000 contract to ENKI Institute for data collection and analysis. Data was gathered from questionnaires routinely completed by project directors. No single designated staff member on each project had sole responsibility for satisfying the evaluation requirements. Hence, the attention given to this function and, consequently, to the quality of the data varied from project to project. A lack of adequate federal attention to planning and financing of an evaluation component was cited repeatedly in interim and final reports filed by the projects.

Although the data gathered by ENKI covered a broad range of operational and cost issues, the design of the evaluation does not seem to have been particularly complex or experimental in nature. For example, some before-and-after comparative measures were made, such as the 24-hour diet recall surveys of participants. These were done at the beginning and then periodically during several of the projects

to determine whether learning about nutrition was causing changes in eating habits. Data from these surveys was not collected uniformly from all projects or from a random sample of projects. Despite this type of design limitation, the ENKI evaluation effort did yield some accurate and useful information on the costs of meals and certain accessory services, such as transportation. It also produced detailed information on the social, economic, and demographic characteristics of participants and on their food and eating habits.

The major findings of the Title IV nutrition projects involved the costs of food and other nutrition service operations; the characteristics of the older persons who would participate; and changes in the nutrition levels and diets and attitudes of participants.

The findings and conclusions (Bechill 1973, pp. 16-28) included:

- The overall average cost per participant per day for preparing and serving group meals (including food, staff, transportation, and other operating expenses) was $3.40.[2] Projects that operated five days per week had lower overall costs per participant than projects that operated less frequently; the average was $2.30. Cost of meal preparation alone was approximately the same for catered and site-prepared meals in an urban environment, and slightly less in a rural setting. School-prepared meals were slightly more.
- Representative transportation costs ranged from $.54 to $.82 per meal. On the whole, this service, which was found to be essential in rural areas, added 20 to 30 percent to the cost of the meal. Other services, including education, recreation, information, referral, health, legal, mental health, and welfare, social, and housing assistance were shown to add from 2 to 35 percent to meal costs.
- The typical participant was a woman, 71.2 years of age, whose family income was less than $200 per month and was derived primarily from social security. A majority of participants lived alone in rented dwellings, and only a very few were employed. Ninety percent indicated they had

[2]Costs ranged from $2.24 in Chicago to $15.92 in Detroit, where labor costs were unusually high. The average figure suggested in the evaluation excludes Detroit.

acquaintances or friendships, but only 30 percent indicated a close relationship to other family members. About half were attracted to the project by other participants.

- More than 25 percent of participants did not eat three meals a day when they entered the program. Eighty-eight percent had poor diets according to National Research Council standards. Participation in group meals increased the level of nutrient intake by 10 to 20 percent.
- Nutrition education programs, though frequently very popular, did not effect positive changes in the dietary habits of participants.
- The social aspects of the demonstration were as important to participants as the nutritional aspects. Although unquantified, the social benefits of the group-meal services were reflected in improved appearance and dress, greater interest in other people, involvement in group activities, and renewed vitality.
- Group meals in community settings can be used as a catalyst for involving the elderly in social activities and in community responsibilities, as participants and as employees and volunteers. Most projects employed the elderly in part-time jobs, and the majority recruited volunteers from among participants. The benefits were mutual and there was a greater sense of enthusiasm and social interaction among project staffs and participants as a result of their direct involvement in planning, administering, and operating the program.

In addition to these statistical findings, the Title IV projects also produced some interesting information about the successful establishment and operation of nutrition programs for the elderly. One of the major areas in which insight was gained was providing the proper setting. A variety of facilities were employed, and there were advantages and disadvantages to each. At the end of the program, agency officials concluded that no one facility was ideal and that many could be adapted to use for group meals for older citizens, as long as a warm, informal atmosphere conducive to socializing could be created. Project sites that required long treks up and down stairs or that had inconveniently located rest room facilities were less desirable. Having four to six participants at a table rather than seating many at long tables also produced more positive results. Elementary school cafeterias proved to have serious drawbacks because they were too noisy to permit socializing, and the chairs were too small to be comfortable for older people. Junior high school facilities were used with more

success, although only when the space could be used after school lunch periods. Other negative factors in the school setting were lack of continuity caused by school holidays, interruptions caused by school bells, the public address system, fire drills, and poor interaction with young people.

As a direct result of the experience of the 23 projects in the Title IV National Nutrition Program for the Elderly, the Title VII National Nutrition Program was enacted in March 1972 to provide nutrition services to the elderly on a permanent basis. The legislation authorized $100 million in fiscal 1973 and $150 million in fiscal 1974 for grants to the states to finance up to 90 percent of the costs of nutrition projects (Bechill 1973).

Both from a political perspective and from an R&D perspective, the Title IV nutrition demonstration was generally successful in meeting its objectives. As expected, the program became very popular in the provider community among the participants served. Participants benefited both from the services and from the opportunity provided to draw attention to their needs. Members of the project staffs derived a strong sense of satisfaction from developing visible and needed service programs in their communities.

Passage of the Title VII legislation was largely the result of strong efforts on the part of a very zealous group of project directors to convince federal legislators of the significance of the nutrition program. Two years into the demonstration program it became clear that community funding sources would be unable to assume responsibility for continuation and expansion of the program. Faced with the prospect of termination, the project directors gathered in Washington and carried on an intensive lobbying effort to attract federal support for their cause. Legislation mandating a categorical nutrition program for the elderly was passed nine months later, despite the fact that it did not receive official endorsement from the Administration on Aging.[3] The demonstration attracted the support of members of Congress who recognized nutrition for the elderly as a politically attractive issue. Indeed, by 1974 the "gray

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[3]AOA officials involved with Title IV demonstration suggested that the program had the unofficial support of the agency. Commissioner John Martin's testimony advising against the establishment of a categorical nutrition program was less a product of conscience than of a White House intention that the administration should not endorse these kinds of service programs.

power" movement was visible and active. More than ever before, the needs and conditions of the nation's older citizens became a part of the public consciousness. The National Nutrition Program for the Elderly was an intervention whose time had come.

Despite deficiencies in program evaluation, the demonstration was successful from an R&D perspective. The projects produced reliable feasibility and impact information. Although it would have been impossible within the three-year time frame to anticipate all of the issues that would emerge in the establishment of a national nutrition program, the demonstration experience was sufficiently valid to give some indication. Among the more salient of these issues were service delivery, staffing, the need for training, and the involvement of the elderly. Several features of the Title IV programs were incorporated into the new legislation, most significantly a requirement that each project provide the five major program components emphasized in the demonstration. Also, based on the Title IV experience, employment and participation of the elderly, the provision of transportation, and the importance of accessible, convenient sites were given attention in the service program.

Once Title VII legislation was enacted, the 23 demonstration projects became models of service delivery to encourage the establishment of other group-meals programs for the elderly. Conferences and workshops were organized by AOA officials, and numerous journal articles and papers were written about the experience of the demonstrations. According to the Administration on Aging, by October 1974 there were 665 nutrition projects across the country funded under Title VII, providing an average of 220,830 hot meals per day to older Americans.

THE SHIRLEY HIGHWAY EXPRESS-BUS-ON-FREEWAY PROJECT

In 1970, approximately 550,000 people lived within the 150 square miles that comprise the Shirley Highway corridor area of the Northern Virginia suburbs. At the northeast end of the corridor are three major employment centers: the Pentagon, the rapidly expanding Crystal City complex, and downtown Washington, D.C. Shirley Highway (Route I-95) is one of two limited-access commuter facilities connecting the Virginia suburbs with the city of Washington. During peak rush hour periods, this highway operates under conditions of severe traffic congestion.

The Shirley Highway Express-Bus-on-Freeway Project, jointly sponsored by the Urban Mass Transit Authority (UMTA) and the Federal Highway Administration (FHWA), was the first large-scale demonstration of the idea of giving buses priority on commuter routes. The steering committee that guided the development of the project included the Northern Virginia Transportation Commission, the Metropolitan Washington Area Council of Governments, the Washington Metropolitan Area Transit Authority, and the highway departments of the District of Columbia and of Virginia as well as UMTA and FHWA. Over a six-year period, from the original feasibility study in 1969 until federal funding of the operational elements of the project was terminated in December 1974, the demonstration evolved into a coordinated mass transportation system.

The single-site Shirley Highway project was comprised of three major elements: (1) the partially completed 11-mile roadway, of which two lanes are reversible--used initially only for buses but later the reversible lanes were opened to car pools transporting four or more persons; (2) the bus transit operation, involving new buses with special features, operating on new routes with new schedules; and (3) fringe parking facilities for bus riders, located in shopping centers and newly constructed lots.

Initial discussions about devoting one or two lanes of Shirley Highway exclusively to bus traffic began in 1964 when that major arterial route was under reconstruction. At that time, plans designated two median lanes for reversible express travel to and from the furthest exits of the highway during rush hours. In 1967, the idea of giving the median lanes over to buses and adding exits at two intermediate points began to be given serious consideration, despite objections by officials of the Virginia Highway Department. They argued that the demand for bus service by commuting residents of the corridor suburbs did not warrant the additional costs of adding two more exit ramps or of devoting two lanes of this heavily traveled route exclusively to bus passengers. In 1969, as a compromise effort between the Virginia Highway Department and the other federal and local agencies on the steering committee, funds were allocated for a feasibility study. The conclusions of the study overwhelmingly favored implementation of the experimental idea and predicted that if adequate bus service were provided, 5,000 commuters would convert from automobile travel to bus travel during the four-year time span of the proposed demonstration.

In fiscal 1971, the first demonstration grant was given to the Northern Virginia Transportation Commission (NVTC), which in turn contracted with the small, local AB&W Transit Company for operation of the bus service. Ninety-five percent of the project funding was provided by UMTA, with five percent local matching.

The reversible lanes for buses were opened in stages as the reconstruction of Shirley Highway progressed from the furthest exit northward to Washington. By April 1971 a single, temporary, reversible bus lane through the area under construction was completed, and a system of bus lanes on downtown Washington streets was implemented during rush hours. The single temporary bus lane was replaced in stages by a two-lane reversible roadway; all but the final two miles was completed in May 1973. After the opening of the entire temporary two-lane busway into Washington, 30 new buses and eight new rush hour routes were introduced. Sixty more buses were added in increments between February 1972 and February 1973. The 90 new buses provided approximately 80 hours of revenue service during each rush hour period, and the average fare was approximately $.70.

The 90 new buses had special features designed to increase passenger comfort. Among these were air conditioning, wider seats, smooth line interiors (no advertising racks) with colorful wall coverings, carpeting, and improved lighting.

As demand dictated, fringe parking facilities were established to serve park-and-ride patrons. A permanent 400-space park-and-ride facility was provided on the site of a future Metro subway station, which NVTC leased during the project, and permission was obtained from two shopping centers to designate portions of their lots for all-day free parking for bus users. To complement these facilities, bike racks and passenger shelters were also provided.

To attract ridership, a comprehensive marketing and promotion campaign was mounted. The major elements of this publicity effort were special displays located at shopping centers, fliers containing promotional information that were mailed to Northern Virginia residents, and newspapers and radio advertisements. The project also received a considerable amount of favorable news coverage.

UMTA officials indicated that it was difficult to determine the precise costs of the demonstration project because information on construction costs was only available for the entire reconstruction effort. They estimated, however, that a maximum expenditure of $43 million was made for the reversible lanes and the two additional exit ramps. These

costs were absorbed by allocations from the Federal Highway Administration. Expenditures for transit service in the project were approximately $3.8 million for 90 buses, $16,000 for six bus shelters, and $6.7 million for bus operating costs. The cost of manually opening and closing the reversible lanes during each peak traffic period averaged about $10,000 per year. Over the four-year time span of the demonstration UMTA invested $5.1 million in the project; local sources invested approximately $271,000. The remainder of the costs were absorbed by revenues from the operation of the bus service.[4]

From the outset, the development, operation, and evaluation of the Shirley Highway project were based on an explicit set of goals. As a demonstration with national significance for the future construction and operation of highways and bus systems in many urban areas, its objectives were specified by UMTA and FHWA. Additional input into the formulation of project goals was provided by corridor jurisdictions and an evaluation team.

The primary goal of the project was to demonstrate to state and local transportation authorities that express-bus-on-freeway operations can improve the quality of bus service and lead to an increase in the capability of rush hour transportation facilities for an entire urban corridor. Included in this goal were the objectives of improving the reliability of service; reducing travel time for transit users; and increasing the coverage of transit service, transit vehicle productivity, bus patronage, and passenger convenience and comfort.

A secondary project goal was to demonstrate that this technology could have a favorable impact on the transportation-related environmental and social conditions within a transportation corridor and on the economic condition of the transit operator. Included in this goal were the objectives of reducing peak-period auto pollution levels and gasoline consumption; increasing the mobility of the elderly, the handicapped, and those unable to afford to own and maintain an automobile; and increasing the productivity of the bus operator.

The evaluation, which was conducted by the Technical Analysis Division of the National Bureau of Standards, had a dual purpose: to collect data to determine whether the goals of the project were achieved and whether priority for

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[4]Figures quoted by an official of the Service and Methods Demonstration Division, Urban Mass Transit Authority.

buses was cost-effective; and, through the use of innovative sampling techniques, to determine the transferability of the idea.

The Shirley Highway project produced significant results. UMTA reported that estimates of savings in travel time averaged 17 minutes (ranging between 12 and 19 minutes) for project buses. And since buses were essentially removed from external traffic influences, transit service reliability was significantly increased. Punctuality of buses (the percentage of buses arriving not more than six minutes late at the first stop in Washington, D.C.) increased from 33 percent prior to the project to 92 percent.

As express bus service operating on the exclusive lanes was expanded, ridership increased at a comparable rate. According to the 1975 annual report of UMTA, "The fact that the express buses always operated at, or above, seated capacity even though the bus service was continually expanded indicated that the number of buses in service at a particular time acted as a constraint on patronage." Morning (6:30-9:00 a.m.) patronage reached 16,000 bus riders during November 1974, more than triple the 5,000 new riders predicted by the feasibility study. The total number of persons traveling on Shirley Highway during the course of a day was 36,600 by the end of the demonstration project, some 19,600 more than used the route in April 1970. A survey of bus riders indicated that those who formerly had been auto users changed their regular mode of travel primarily because of the comfort of the bus trip and the reliability of transit service in avoiding traffic congestion.

Demographic data collected by the evaluation team indicated that a majority of the new riders were men between the ages of 21 and 39, with family incomes of over $15,000 and at least one car in the family. A significant proportion of the new riders reported having more than one car in the family and having previously driven alone.

Of the 551 persons interviewed in the survey, only one indicated that he was first informed of the express bus by a shopping center advertisement; 7 percent reported that the NVTC flier had informed them; 10 percent credited newspaper and radio promotions; and 15 percent reported seeing the buses as the source. However, an overwhelming 41 percent of those surveyed indicated that they had learned about the bus service and were encouraged to try it by hearing from others.

As a consequence of the shift to express bus commuting, an estimated 1,250 automobiles were removed from Shirley Highway during a single peak period in November 1974.

However, the evaluators found it difficult to measure the reductions in traffic congestion and automobile travel time specifically due to the introduction of the bus service, in part because the traffic capacity of the highway was significantly increased by the reconstruction that occurred during the time span of the project. Nevertheless, had this significant number of commuters not been diverted from automobile transit on the three-lane directional roadways, congestion would have been appreciably greater and travel time longer.

Another consequence of the removal of a significant number of automobiles from the corridor route was a substantial reduction in air pollution levels and gasoline consumption. The evaluation team found that an estimated 19 tons of pollutants, including carbon monoxide, nitrogen oxide, and hydrocarbons were removed from the air--about 21 percent of the auto pollutants that would have been emitted each day in the absence of the project. UMTA reported that approximately 17,000 gallons of gasoline per day were conserved.

Beyond these benefits to the commuter and the environment, the evaluation team found a positive impact on the transit operator. The exclusive lanes substantially increased patronage for those routes having the greatest time savings. An estimated 20 additional buses and drivers would have been required to transport the same number of passengers during peak periods without the priority lanes for buses. This translated into a $31,000 monthly savings to the transit operator. Furthermore, from July 1971 through December 1974 project service during the peak period operated in the black. Although service during other periods continued to lose money, peak period revenues more than offset those losses. This occurred despite increased operating costs (i.e., labor, fuel, and maintenance) and no fare increases after November 1970.

The Shirley Highway Express-Bus-on-Freeway Project began as an experimental endeavor. Its impact was immediate and substantial, and the concept proved feasible in terms of demand, institutional compatibility, and cost-effectiveness. Several significant conclusions emerge concerning the capacity of this federal intervention to change human behavior. First, according to UMTA officials, it can be assumed that the demand for express bus service would have continued to increase had more buses been added. Indeed, those buses operating at any given time during the project were always filled beyond seating capacity. Moreover, since the termination of federal funding, the Washington Metropolitan Area Transit Authority, which now operates the express bus service,

has increased rush hour fares. Neither the fare increases nor the fact that construction on Shirley Highway has been completed, thus alleviating that source of traffic congestion, discouraged bus patrons.

Second, the convenience and reliability of express bus service attracted riders who would otherwise have driven their own automobiles. For the most part those who converted to bus patronage were middle- to upper-middle-income persons, not the poor. Transit by bus did not seem to connote indigence or the unaffordability of automobile travel. Thus, it can be concluded that with the provision of comfortable, reliable, high-speed bus service, people's commuting patterns can be significantly altered.

Although the Shirley Highway project was initially an experimental effort to determine the outcomes of implementing the idea of priority for buses, UMTA officials came to view it as an exemplary project, intended to encourage other localities with similar commuter transportation problems to adopt it. The demonstration has had visible success in this regard. Officials of the Service and Methods Demonstration Division listed seven other cities that have already implemented priority for buses during peak periods, and four others have contemplated the possibility. Among those roadways for which the innovation has been adopted are the Lincoln Tunnel in New York City, the Southeast Expressway in Boston, Route 101 north of San Francisco, the Santa Monica Expressway, and the San Bernadino Expressway. In the case of the Lincoln Tunnel, the idea of priority for buses first came under consideration in 1970; however, it was not until the innovation was successfully demonstrated by the Shirley Highway project that local officials were persuaded to implement it.[5]

The decision by UMTA officials to conduct a single-site project rather than a multi-site program was based primarily on cost considerations. The demonstration was structured to be as transferrable as possible, and concerted efforts have been made to see that information gained from the

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[5]At most of the other sites at which the idea has been adopted, the construction of reversible express lanes, which are separated from the directional roadway, was deemed infeasible because of high labor and material costs for construction. Instead, in most of these situations exclusive lanes were taken from the existing right of way and devoted to bus and car pool traffic.

Shirley Highway site is disseminated broadly to officials in other urban areas that might benefit from these techniques. Thus, an integrated dissemination plan has been employed to channel information to a variety of target groups, including transit planners, operators, and city officials. Efforts include site visits, conferences, and the publication of project results. The project has received coverage in the *Urban Concepts Newsletter* and various transit industry publications. Two workshops were sponsored jointly by UMTA and FHWA and conducted through the Technology Sharing Program of the Department of Transportation. These workshops covered the range of current experience with the concept of priority for buses, and the papers they produced were incorporated into a state-of-the-art document that has received wide distribution.

Furthermore, data collected by the evaluation team have been used to develop a "Shirley Highway Mode Choice Model" to predict the impact of this or similar innovations in other urban areas. The model should allow decision makers to accurately estimate the sensitivity of bus and automobile usage to changes in policy and transportation.

Although the Shirley Highway Express-Bus-on-Freeway Project did not involve the development of new technology, it successfully focused on the innovative application of existing technology to an emerging social problem. Moreover, the audience for the project was a relatively small, closed group. As members of the transportation engineering community, they had some familiarity with the technological elements of the innovation, and hence, the demonstration proved to be an extremely valuable way of communicating feasibility information gained from successful implementation. From this analysis, the Shirley Highway Express-Bus-on-Freeway Project represents a very orderly and effective research and development effort.

THE EARLY AND PERIODIC SCREENING, DIAGNOSIS, AND TREATMENT OF CHILDREN DEMONSTRATION PROGRAM

In 1966 the report of the Advisory Council on Public Welfare highlighted the limited medical care available to needy children, the inconsistent provision of these health services from state to state, and the relatively low utilization of such care in treating health problems that could lead to chronic illness and disability. Simultaneously, the Office of the Assistant Secretary for Planning and Evaluation of the Department of Health, Education, and Welfare suggested

that the screening, diagnosis, and medical treatment of poor children was an area in which maximum cost-benefit ratios could be achieved. The desire of Congress that preventive health services and early detection and treatment of disease be provided to children eligible for medical assistance was further emphasized by the 1967 amendments to Title XIX of the Social Security Act. The intention of Congress in passing these amendments, effective July 1, 1969, was to require the states to take aggressive steps to replace episodic or crisis medical care with an orderly system of preventive care within the Medicaid program.

Fearing the heavy fiscal burdens that would result from scarce health resources, the states were slow to implement the amendment. In 1971, under growing public pressure stirred by spiraling medical costs, the increasing number of families in the Aid to Families with Dependent Children (AFDC) program, and the uneven distribution of health manpower and facilities, the National Welfare Rights Organization sued the Department of Health, Education, and Welfare for noncompliance with the congressional directive to implement regulations for state Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) programs. A planning guide from the Social and Rehabilitation Service stated:

> Effective February 7, 1972, all states were required to provide early and periodic screening and diagnosis to ascertain physical and mental defects and treatment of conditions discovered, within the limits of the State Plan on the amount, duration and scope of care and services available to Medicaid-eligible individuals under 21 years of age. In addition, the states were required to provide for eyeglasses, hearing aids and other kinds of treatment for visual and hearing problems and for some dental care.

At the urging of the Senate Financing Committee, Congress incorporated a penalty provision (H.R. 1), by which the federal share of AFDC matching funds (i.e., assistance payments, Title IVA social services, and related administrative expenses) would be decreased by 1 percent if a state failed to comply by July 1, 1974. EPSDT regulations required states to: (1) inform all families in the state eligible for AFDC assistance of the availability of child health screening services; (2) provide or arrange for screening services if they were requested; and (3) arrange or refer for corrective treatment those children found to be in need. As of 1975,

nine states had been assessed the 1 percent penalty, although monies had not yet been actually withheld.

According to the National Center for Social Statistics in the Social and Rehabilitation Service (SRS), in 1974 an estimated 13 million children were eligible for Medicaid services. However, even after the regulations became mandatory, only about 2 million (or 15 percent of the eligible population) had been screened, and about 45 percent of those had been referred for diagnosis and treatment. Nationwide about one-third of the targeted annual screening load had been accomplished. The difficulty of the states in implementing intensive and effective EPSDT programs resulted from several contributing factors: lack of adequate staffing and organizational structures at the state and local levels; the unavailability of several needed health-care services; the lack of adequate and effective outreach services; the lack of comprehensive reporting and tracking systems and the expertise to monitor those being served and those in need of services; and the low degree of coordination among Medicaid, public health, welfare, and social service agencies. In order to assist the states in their program development and execution, the Medical Services Administration and the Office of Planning, Research and Evaluation of SRS instituted a program of demonstrations. The purpose was "...to develop and provide information concerning variations in techniques, methods, procedures, personnel mixes, health care systems in the delivery of EPSDT and their effectiveness and costs in specified environments" (Regional Health Services Research Institute 1975, hereafter referred to as HSRI 1975, p. 1).

Because EPSDT programs already have legislation mandating their establishment and continuous provision of services to children who are eligible to receive services provided under Medicaid, the validity of preventive screening is not being questioned. Instead, the emphasis of the demonstration effort is on the development and dissemination of more efficient and effective approaches to service delivery. Five programmatic subsystems have been identified: case finding, screening, diagnosis, treatment, and case management or monitoring. The purpose of the demonstration projects is to develop and test viable, cost-effective techniques and methods, to develop substantive programmatic areas needing exploration, and to develop evaluation models.

Four projects were funded initially: one received its first grant in fiscal 1972; the other three started in fiscal 1973. The project sites were selected not by rigorous competition but rather through the recruiting efforts of

the program officer. It also appears that little serious consideration was given to the question of an appropriate number of sites. Instead this decision seems to have resulted from political considerations, including the interest and willingness of local agencies to participate and the availability of funds. Nonetheless, the four demonstrations did represent a plausible mix of eligible target populations, institutional settings, and various approaches to implementing services.

The Barrio Clinic, located in San Antonio, Texas, operated from a barrio (neighborhood) pediatric clinic and served a predominantly Mexican-American population. The demonstration located in Contra Costa, California, was operated by the municipal health department. Its primary mission was to explore more effective means of simultaneously delivering EPSDT services to an urban black population and to a rural population of Spanish-surname farm workers. A third project, located in Cuba, New Mexico, served a rural, tricultural population comprised of American Indians, Spanish-Americans, and Anglo-Americans. The Cuba Checkerboard project explored the delivery of EPSDT services to rural children through the schools and preschools in which they are enrolled. Although it provided medical and dental screening, diagnosis, and treatment, its primary objective was to develop more efficient and effective means to provide developmental screening and treatment. Likewise, the District of Columbia project, although it dealt with the total health needs of the children it served, focused on developmental assessment and treatment. The D.C. project was administered by the National Child Day Care Association and, under contract from the D.C. Department of Human Resources, served principally younger black inner-city children enrolled in day care programs.

Three other projects, directed toward improving EPSDT service delivery in inner-city environments, became operational in fiscal 1976 and fiscal 1977: in Dallas, Texas, in the South Bronx section of New York City, and in Dade County, Florida.

Evaluation of the EPSDT demonstrations was until fiscal 1975 conducted by the regional Health Services Research Institute (HSRI) at the University of Texas. In addition to providing HSRI with a grant to support the evaluation effort, SRS until fiscal 1976 provided $100,000 annually for the support of the institute.

One of the primary objectives of the evaluation was the development of a uniform data collection system to permit pilot approaches that seem successful in one project to be

generally compared with similar approaches in others, and ultimately to be translated into broadly based policy recommendations for the operating EPSDT program. The institute employed one on-site staff evaluator for each demonstration project, who was responsible for collecting data at the time of patient contact as part of a continuous record-keeping system (HSRI 1975). Since the evaluation was not conducted after the fact but as an integral part of the demonstration, the projects received constant managerial feedback, enabling them to alter operating practices and procedures that were shown to be ineffective or inefficient.

As an adjunct to the development of a common data base for the four ongoing demonstration projects, HSRI prepared an EPSDT *Evaluation Handbook*. The handbook presents detailed information on the evaluation plan, subsystem definitions, performance measurement for each of the five subsystems (case finding, screening, diagnosis, treatment, and case management or monitoring), data collection procedures, testable hypotheses, variables and special problems (e.g., immunization status), sample forms, and other useful materials.

It is significant that the performance of the individual projects was not evaluated against a strict goal achievement model. Although the general purpose of each was to conduct the best possible program with available resources, the primary objective was to experiment with alternative delivery modes in order to refine workable approaches. Therefore, the evaluation was not intended to prove that a project was or was not working, but rather to determine which aspects were more effective and could have a wider application. Moreover, our investigation found that the evaluation results were intended to provide federal, state, and local decision makers with valuable feedback concerning the operational and cost implications of the demonstration experience.

Preliminary findings from the four original EPSDT projects were identified by the Health Services Research Institute (HSRI 1975, pp. iii-viii):

- Less than 1 percent of the children screened had had previous examinations comparable to what is called for by EPSDT guidelines.
- Nearly half (47 percent) of the children screened were found to have medical problems; more than half (52 percent) medical and dental problems; 20 percent had two or more problems; and 7 percent had three or more problems.
- Sixty to 80 percent of the problems were previously unknown and untreated; 80 percent of these problems were chronic, and 20 percent acute.

- The most frequent problem found in screening was dental caries; iron deficiency was second, vision problems third, and hearing loss fourth. In the San Antonio project, genito-urinary and pinworm problems were more common than vision and hearing problems.
- Immunization levels were low--45 percent to 80 percent of the children screened in three of the projects had no immunizations for DPT and polio. Missing records, absent parents, and parents who did not know what immunizations their children had received contributed to difficulties in accurate reporting.
- The high incidence of developmental lags was comparable to that found in the general population. In the D.C. project, 22 percent of 208 children screened were found to have a developmental lag in at least one of the following areas: language, cognition, visual, motor, or memory. In the Cuba project, 85 percent of 806 children screened had one or more problems in intellectual, visual, motor, emotional, or language skills.
- Many children with recognized problems were lost track of following referral to a provider. Case monitoring was a major deficiency; referral was the weakest link.
- Paraprofessionals with training, working under skilled supervision, were used successfully in case finding, case monitoring, health education, follow-up, and in assisting in physical and developmental history taking and some aspects of screening.
- Home visiting by trained indigenous paraprofessionals was the most effective approach to case finding as measured by appointments scheduled and kept. The provision of transportation when needed increased the effectiveness of this effort. Case finding through letters and telephone calls was least effective.
- Providing EPSDT services in day care and school settings had problems associated with synchronizing screening schedules with school activities, in obtaining needed information from parents, and in student absenteeism.
- Costs per child screened averaged $30, medical diagnosis and treatment $35, and dental treatment $20 (under near optimal conditions).

The interim evaluation report included preliminary operational and policy recommendations:

- Definitions for positive screening findings and for reporting should be standardized; they are essential to effective program management.

- The use of trained community aides, working under skilled supervision, should be encouraged. Greater use of paraprofessionals and allied professionals can lower costs significantly and extend services.
- Transportation services are essential and provisions for renting or purchasing vehicles and driver services are needed.
- The immunization status of each child screened should be reported; those with incomplete immunizations should be brought up to date at the screening site.
- Complete screening of each child screened should be accomplished on at least two visits; fragmented screening inflates screening costs.
- Due to the high incidence of dental caries, interagency effort should be directed to promoting programs of preventive dental health.
- Because of the high incidence of developmental lags, increased program emphasis is needed in determining the validity of testing instruments, training and supervision of testers, using the findings (in collaboration with parents and teachers), arranging for diagnosis and follow-up treatment, and developing needed treatment resources.
- There is also need for interagency collaboration with special education departments of schools, community health facilities, and other related community facilities to develop the resources needed for diagnosis and follow-through treatment for developmental lags.
- In providing or contracting for EPSDT services, provision in the budget should be made for case finding and case monitoring functions (under near optimal and comprehensive health care provisions within the projects, this averaged $22 for case finding and $20 for case monitoring per child screened).
- Increased federal funding is needed to assist states in carrying out case finding and case monitoring functions and to reimburse states for diagnosis and treatment services since higher fees are needed to encourage greater provider participation.
- An adequate (usual) fee for dental care should be provided for the first visit, and a scale developed for determining a reasonable allowance for a treatment plan without prior authorization, which, however, should be monitored periodically.

As a direct result of the demonstration experience and the reliable cost information it produced, federal matching funds available to local staffs to provide health-related

supportive services (such as health education), case management, and related outreach activities was increased from 50 to 75 percent. The higher matching rate was also available for local administrative costs needed to arrange for health care resources, and to collaborate with professional organization and voluntary agencies.

Federal investment in the EPSDT demonstration program from fiscal 1972 through fiscal 1976 totaled $7.1 million, excluding institutional support for the Regional Health Services Research Institute. Initially, each project was to be funded for a three-year period, although the Contra Costa project was given additional funding to complete the evaluation and the D.C. project was extended for another year of operation.

Interviews with officials of the Medical Services Administration of SRS and with officials of the Office of Planning, Research and Evaluation as well as with a project director of one of the demonstrations have clearly pointed out the difficulties involved in an effort to implement a national program of the size and complexity of the Early and Periodic Screening, Diagnosis, and Treatment program. Moreover, they raise questions about the value of the demonstration effort in facilitating this implementation process. HSRI has very favorably evaluated aspects of each of the four original projects, and both SRS R&D officials and program officials have praised these projects for their successes in management streamlining. But in the development of more effective outreach and screening efforts, increased case follow-up, the formulation of the developmental assessment testing instrument, and producing reliable EPSDT cost-per-child information, the results of these R&D efforts at this point seem negligible.

A lack of coordination between program officials and R&D officials has created a barrier that seriously diminishes the utility of the demonstration effort. EPSDT program officials see the demonstration projects as potential laboratories that can provide an opportunity for learning by doing, at the same time including a strong research base that can produce data for evaluating the effectiveness of what is being done. The four original demonstrations and the HSRI evaluation performed this pilot project role in the earlier phases. However, from the perspective of the operating division, its needs are no longer what they were in 1972. The EPSDT program progressed in the implementation process, and the demonstration effort did not progress accordingly. It was no longer directly responsive to those needs. One program official suggested that the useful

outcomes of the four original projects should have been disseminated to the state and local agencies charged with implementation, and new efforts should have been initiated to address emerging program concerns.

Statements issued by the program division express what those officials believe to be the current program development issues:

- The inclusion of the older child in EPSDT--e.g., provisions for dealing with special problems of adolescence, different ways of reaching the older child, developing the substantive content of treatment plans, and enlisting voluntary and professional organizations in program planning and operations.
- Implementation of the developmental assessment and treatment component--e.g., evaluating various testing modalities, developing an interdisciplinary approach in identification and diagnosis, mobilizing needed community resources, and interrelating with existing community programs and professional organizations.
- The role of the school in EPSDT implementation--e.g., coordinating with existing school health programs and special education programs and developing and training health aides and other support staffs.
- Interagency collaboration--e.g., coordinating EPSDT with other related interagency programs to effectively utilize available resources and initiate joint project activities in areas of mutual concern.

In planning the R&D agenda, officials of the Office of Planning, Research and Evaluation (OPRE) seemed to give little consideration to these program needs expressed by the EPSDT division. The three demonstrations begun in fiscal 1976 and fiscal 1977, while they may have had the potential for performing as laboratory settings, were not selected with the current concerns of the operating program in mind, nor were they directed to address those issues specifically. Similarly, the lack of cooperative planning was reflected in other EPSDT-related research endeavors that were and were not supported during fiscal 1975. The D.C. project was continued for another year at a cost of $750,000; the Regional Health Services Research Institute evaluation effort was cut back to a futile $25,000; and a proposal endorsed by the operating division to conduct an EPSDT demonstration through the Johns Hopkins Teenage Center was rejected. Since OPRE controlled the R&S purse strings, they developed projects from the issues they selected according to their

priorities. Evidence indicates, however, that EPSDT substantially declined as an R&D health services priority in place of long-term care. As a result of these factors, the demonstrations conducted subsequent to the original four were of limited value to the EPSDT operating program.

Another problem that detracted from the usefulness of the demonstrations to the operating program was dissemination. Several officials admitted that although the states were "crying for assistance because they don't know how to manage" these services, the federal agency did almost nothing to see that the knowledge gained from the demonstrations was put into the hands of potential users. An R&D official cited the Contra Costa project as being a very useful model for rural service delivery. However, information about Contra Costa's accomplishments was not synthesized and disseminated. Even the potentially very useful HSRI evaluation reports had no circulation. According to that same R&D official, OPRE did not consider dissemination to be one of its major functions. Instead, it was suggested that dissemination of positive aspects of the EPSDT demonstrations was the responsibility of the operating program division. Yet because program officials considered the demonstrations to be unresponsive to program needs, there was little effort made to see that project outcomes were made known to practitioners.

Findings from the evaluation emphasized that effective EPSDT service delivery requires integration and coordination of available resources, institutions, and staff at the local level. Yet SRS did little or nothing to see that pertinent, how-do-do-it information reached the local community. One apparent reason is that the potential audiences of the demonstration effort were not clearly identified. Who in the local communities should be reached? Or should a designated person in each of the state agencies be responsible for identifying people and institutions in its communities? These questions were never seriously or systematically addressed. In the short term, the audience seemed to be those involved in the demonstrations themselves.

Furthermore, while the EPSDT operating division had a limited number of technical assistance contracts, officials with whom we discussed the matter could not cite any direct transfer of knowledge gained from the demonstration experience to the state and local agencies by this channel.

At the national policy level, the EPSDT demonstration experience points up certain problems and issues that should be addressed. The program faltered because the R&D objectives and the needs of the operating program were not

synchronized, because planning efforts and operational policies were poorly coordinated, and because the target audience was not clearly identified. Although the EPSDT demonstrations had the potential for being very interesting and useful laboratories in which programmatic components could be developed, tested, and disseminated, their value was never realized.

THE CANCER CONTROL PROGRAM

> Approximately 365,000 Americans die from cancer every year. Many thousands of these deaths could be prevented if the public made full use of present knowledge about the detection of cancer, the proper diagnosis of the disease, and advancing skills in the pretreatment evaluation of cancer. Although it is not possible to detect and diagnose all cancers at a point sufficiently early to permit effective treatment, it is clear that much valuable knowledge about early cancer is not being utilized (U.S. Department of Health, Education, and Welfare 1974, p. iv-7; hereafter referred to as NCI 1974).

In the past 20 years, researchers have advanced the fundamental knowledge of the cancer process and provided an array of opportunities for translating that knowledge into community practice for the prevention and cure of the disease. The National Cancer Act of 1971 called for the development of a comprehensive national plan for cancer research and control that would rely on "wide participation of the scientific community to provide guidance for the intensification and expansion of the national cancer effort to unprecedented levels of operation" (p. I-1).

Originally organized within the Office of the Director of the National Cancer Institute (NCI), the Cancer Control Program was elevated to a divisional status in mid-1974 with the updating of the *National Cancer Program Annual Plan*. Of the three major components of the National Cancer Program (research, control, and support activities), cancer control is ranked second in importance to the mission of the agency. Unlike other parts of the National Institutes of Health, and as a result of pressure from both the congressional and the executive branches of government, the National Cancer Institute has shifted away from a strict focus on fundamental biomedical research and

has become involved in the application of research findings to the health service needs of people.

The purpose of the control program, as stated in the *National Cancer Program Annual Plan*, is "to identify, field test, evaluate, demonstrate, and promote the widespread application of the available and new methods for reducing the incidence, morbidity and mortality from cancer." The strategy of the Cancer Control Program is defined in terms of eight objectives that are encompassed in three major intervention areas. This strategy provides the overall long-term direction of the cancer control effort (NCI 1974, p. I-3):

- Prevention

  To ensure that practical and effective methods and techniques of cancer prevention are available to and utilized by the public and by health professionals.

- Detection, Diagnosis, and Pretreatment Evaluation

  To ensure, with the aid of health professionals and other groups, the continuous assessment of current practices and the development of principles for the optimal diagnosis of cancer patients;

  To ensure that practical and effective cancer screening and detection methods and techniques are available to and utilized by populations at risk; and

  To ensure that optimal methods and techniques for diagnosis and pretreatment evaluation are available and utilized by persons with precancerous and cancerous lesions.

- Treatment, Rehabilitation, and Continuing Care

  To ensure, with the aid of health professionals and other groups, the continuous assessment of current practices and the development of principles for the optimal treatment of cancer patients;

  To ensure that optimal treatment and follow-up care methods and techniques are available to and utilized by cancer patients;

  To ensure that optimal rehabilitation methods and techniques are available to and utilized by cancer patients; and

  To ensure that optimal palliative and supportive care methods and techniques are available to and utilized by patients with recurrent or disseminated cancer.

Within each of these intervention areas and related objectives are individual operational programs of projects. Thus, the Cancer Control Program of the National Cancer Institute provides an interesting case of programs within programs, which combine to establish a hierarchy of approaches and

goals, all contributing to the agency's overall mission. Since the control component was in its early stages of organization and formulation in 1972-1974, the scope and number of these individual projects was not fully established.

The efforts within each of the operational programs are characterized by the following types of activities (NCI 1974, p. iv-1-2):

- Identification of new methods, knowledge, and techniques that may be applicable to control activities. These activities may involve close monitoring of the progress of research efforts and potential results; surveys to identify proven, practical knowledge and techniques; and data collection efforts to compile available information directly applicable to control activities.
- Field testing of potential control knowledge and techniques in limited community field trials to determine their potential for widespread use.
- Evaluation of potentially useful control knowledge and techniques to determine their effectiveness, practicality, acceptability, impact on disease, and economic effects prior to embarking on costly large-scale community demonstration and promotion efforts.
- Demonstration of effective, practical, control knowledge and techniques in large-scale community environments that are widespread geographically and demographically, to provide the public and health officials with firsthand knowledge of the utility and effectiveness of the demonstrated concept and practices; and to provide the basis for continued community support of these efforts.
- Promotion of demonstrated effective, practical knowledge and techniques to ensure their rapid, widespread utilization throughout the nation.

With the exception of identification, all of the functions outlined in the framework of the Cancer Control Program relate to the framework for demonstrations suggested by the study project. Field testing and evaluation represent attempts to understand and test how a programmatic concept works in a real-world setting. Demonstration and promotion represent attempts to cause the dissemination and diffusion of a programmatic concept. It is significant that within the Cancer Control Program there is serious concern for minimizing the fragmentation of these various functions from the overall effort.

In 1975 the Cancer Control Program was in its fourth year of operation. However, it was not until fiscal 1974

that the appropriation level was sufficient to permit major operational program activities to be initiated. The fiscal 1975 budget for the program was $50 million, of which approximately $40 million was devoted to intervention projects in community settings. Table 2 presents the scope of the effort.

TABLE 2 Fiscal 1975 Funding of Operational Demonstration Projects and Programs of Projects in the Cancer Control Program

PREVENTION		$ 3,562,384
Health Education Cytological Demonstration for Southwestern American Indians (1 project)	$ 82,744	
Centers for Radiological Physics (6 projects)	829,033	
Demonstration Cancer Control Detection and Prevention of Industrial Workers (1 project)	875,117	
Regional Radiation Therapy Network Demonstration (1 project)	140,394	
Intra-Agency Agreement Study of Carcinogenic Effects of Smoking (1 project)	753,900	
Tyler Asbestos Workers Study (1 project)	300,000	
American Health Foundation Cancer Control and Prevention Program (1 project)	484,800	
Exploratory Study, Clinical Investigation in Cancer Centers (1 project)	96,376	
DETECTION, DIAGNOSIS, AND PRETREATMENT EVALUATION		$17,911,240
Evaluation of Thermography in Mass Screening for Breast Cancer (2 projects)	$1,877,352	
Cytological Demonstration Projects for Southwestern American Indians (1 project)	82,744	
Lung Cancer Control and Early Detection (2 projects)	958,545	

TABLE 2 (Continued)

State Cervical Cancer Screening Program (26 projects)[a]	4,987,008	
Planning for State Cervical Cancer Screening Programs (9 projects)	328,430	
Mammography Training for Early Detection of Breast Cancer (8 projects)	1,352,084	
Thermography Technologist Training Program (1 project)	46,000	
Study of Incidence of Cancer in Offspring Exposed In Utero to Synthetic Estrogens (4 projects)	692,143	
Breast Cancer Detection Demonstration Projects (27 projects)	5,746,031	
Prototype Comprehensive Network Demonstrations for Head and Neck Cancer (8 projects)	1,840,903	
TREATMENT, REHABILITATION, AND CONTINUING CARE		$15,329,288
Prototype Network Demonstration Projects in Breast Cancer (12 projects)	$3,273,393	
Clinical Oncology Program (1 project)	32,592	
Prototype Clinical Chemotherapy in Cancer Control (6 projects)	665,747	
Development and Utilization of Rehabilitation and/or Continuing Care Resources and Services (2 projects)	606,268	
Oncology Nursing Programs in Medical Centers, Cancer Centers, and Community Hospitals (13 projects)	1,999,035	
Enterostomal Therapy Education Program (3 projects)	206,469	
Demonstration of Benefits of Early Identification of Psychosocial Problems and Early Intervention Toward the Rehabilitation of Cancer Patients (5 projects)	941,925	
Evaluation of Effectiveness of Cancer Rehabilitation Systems		

TABLE 2 (Continued)

Leading to the Improvement of Educational Requirements (2 projects)	535,072	
Modification of Employer's Attitude Toward the Employment of Work-Able Cancer Patients (5 projects)	852,930	
Demonstration of Cancer Rehabilitation Facilities and/or Departments (10 projects)	3,280,730	
Training Professional Teams in Cancer Rehabilitation (1 project)	48,406	
Integrated Cancer Rehabilitation Services (3 projects)	503,926	
Training Programs for Maxillofacial Prosthodontists and Maxillofacial Dental Technicians (4 projects)	504,227	
Cancer Training Programs for Physical or Occupational Therapists (6 projects)	693,737	
The Development and Implementation of At-Home Rehabilitation Programs (1 project)	353,315	
Psychosocial Aspects of Cancer Rehabilitation (2 projects)	595,609	
Cancer Care and Rehabilitation in a Rural Setting (1 project)	235,907	
COMMUNICATIONS		
Comprehensive Cancer Centers Communications Network (15 projects)	$4,003,387	
TOTAL		$40,806,299

[a]Several of these projects operated during fiscal 1975 on fiscal 1974 allocations.

SOURCE: National Cancer Institute Annual Report, July 1, 1974 Through June 30, 1975, Part IV, Division of Cancer Control and Rehabilitation.

Emphasis in the early years of the program focused on the identification and evaluation of effective control techniques in order to be certain that those practices selected for widespread demonstration and application would represent the most efficient and effective use of resources. Demonstration and application as well as identification, field testing, and evaluation activities were also conducted throughout this period, but with emphasis on proven control techniques. As the program matured, more attention was placed on promoting the utilization of proven practices. Table 3 represents an allocation of Cancer Control Program Funding for fiscal 1975 by program activity.

Because vaccines to prevent the development of various types of cancer are not available, a significant portion of the program's effort has been devoted to detection, diagnosis, and pretreatment evaluation. According to one official, current programs in this area represent a four-phase continuum. The first phase involves the identification of those individuals or groups of individuals who are at high risk of developing cancer. The second and third steps concentrate on the application of specific detection and diagnostic procedures in order to discover abnormalities. The final phase focuses on comprehensive pretreatment evaluation and "accurate staging of the disease" in order to determine and plan the most effective treatment course.

TABLE 3 Cancer Control Program Funding by Program Activity, Fiscal 1975

Class of Activity	Funding	Percentage of Overall Budget
Identification	$ 4,863,943	9.9
Field Testing	17,152,773	35.0
Evaluation	6,504,776	13.2
Demonstration	14,025,241	28.6
Promotion	5,400,737	11.0
Support	1,000,000	2.0

Source: The allocation of these figures represents the study project's assessment and was checked with the director of the program; figures quoted by a Cancer Control Program budget officer were slightly higher in the "identification," "evaluation," and "promotion" categories and lower in the "field testing" and "demonstration" categories.

Among the major program efforts have been the Breast Cancer Detection Center demonstrations, jointly funded by the National Cancer Institute and the American Cancer Society. The primary objective of these projects has been to determine and compare the relative efficacies of physical examination, mammography (both film and xeroradiography), and thermography in the early detection of occult breast cancer, with strong emphasis on pretreatment evaluation of persons diagnosed as having breast cancer. The projects are also intended to identify at-risk target populations and to determine at what intervals various groups should be screened to detect and effectively treat incidents of breast cancer.

The program design was formulated by a planning group comprised of agency officials, health care experts in the field, and lay people. It called for a set of projects, each of which would examine 10,000 women without known symptoms of breast cancer over a two-year period and rescreen this population annually for five years. An additional five-year follow-up is intended to provide an assessment of the impact of the program on breast cancer morbidity and mortality.

The decision regarding the number of Breast Cancer Detection Centers that would be established reflects a conscious effort on the part of the planning group and staff to compare the management of screening services located in university medical centers, cancer centers, and community hospitals as well as the availability of funds. Twenty-seven projects were established. As with all projects of the Cancer Control Program, the Breast Cancer Detection Centers Demonstration sites were selected by peer review as well as site visits.

An evaluation plan was also developed by the planning group, calling for a large-scale data collection effort by each project, which will eventually permit assessment of the overall impact of mass screening in reducing the number of deaths and necessary radical mastectomies that currently result from incidents of breast cancer. The data, which are being gathered and analyzed as a part of the institute's overall system, should also provide a comparative analysis of the relative efficacies of the three methods of screening. Moreover, they are expected to yield significant information on the costs of equipping, staffing, and managing a mass screening program.

According to NCI officials, in 1975, before medical research findings were released concerning the risks of x-ray screening, the efficacy of breast screening was not in

question. Among members of the medical profession it was an accepted fact that early detection can be effective in preventing death and reducing the number of radical mastectomies that are due to breast cancer. Consequently, the Breast Cancer Detection Center program was intended to evaluate the relative merits of different detection methods and to provide overall cost-effectiveness and management information on mass screening. The program was not initially intended to promote the large-scale establishment of mass screening programs for detection of breast cancer. Nonetheless, the program was designed with that possibility in mind. Should the evaluation of the program prove positive, the projects would be available to serve as models for the establishment of other programs. In addition, the demonstration and the data collection effort were designed to provide the volume and quality of evidence that would be convincing to insurers, frequently referred to as third-party carriers, should they decide to provide coverage for this kind of screening.

The Breast Cancer Detection Centers have been among the most visible projects of the Cancer Control Program and have had the greatest impact in the communities. Although all of the evaluation data are not yet available, the director of a center in Milwaukee, Wisconsin, indicated that in its first 18 months of operation the project produced a 90-95 percent cure rate among patients diagnosed during screening as having breast cancer. (An average of five cancers were detected per 1,000 screenings.) This rate compares to a 50 percent cure rate prior to the establishment of the screening center.

The project director also indicated that the demonstration effort produced valuable management information. Screening is expensive. In addition to the costs of equipment and technical personnel needed to perform the screening, the costs of administrative personnel to cope with the extensive paperwork and record-keeping requirements add considerably to the expense of the program. Findings from the Milwaukee project and others in the program have pointed out the need for training and using paraprofessional technicians to reduce the number of physicians needed to perform screening services, thus cutting personnel costs. The development of training programs for radiologists, radiology technicians, and thermography technicians has been an important offshoot of the demonstrations. Eight projects to train paraprofessionals to use physical examination, mammography, and thermography screening techniques for the 27 Breast Cancer Detection Centers have been incorporated as adjuncts

into the Center Control Program. These projects as well as the screening centers are addressed to both the professional health community and to the potential cancer patients, as it is the intention of NCI officials that the education and motivation of both groups are crucial for cancer control services to be provided and utilized on a large scale.

In developing cost-effective management systems for the mass screening programs, the demonstrations found that the American Cancer Society plays an important role in providing volunteers to handle basic administrative and record-keeping tasks. The participation of volunteers and private interest groups appears significantly to reduce the costs of operating a mass screening program. Indeed, such participation may prove to be essential to delivering such services on a cost-effective basis.

Although the breast cancer screening projects seem to be producing very positive results, they also emphasize some of the serious problems that arise in demonstrations of preventive care. Projects such as the one in Milwaukee were fully subscribed by participants from the outset, and outreach efforts were not extensive. However, participants who volunteered to take part in the screening are for the most part informed middle-class women already in the health care delivery system. They are informed about the dangers of breast cancer and would in all likelihood seek screening from their physicians if the project were not operative. The poor and indigent are not well represented in the Milwaukee project, nor in any of the other 26. They would probably not (as middle-class women probably would) pay for these services. Indeed, one of the significant outcomes of this and other screening programs may be their influence in attracting a congressional mandate to provide third-party coverage through Medicare, Medicaid, or the National Health Insurance Program.

Both federal program officials and the project directors we consulted indicated that little attention had been given to the matter of dissemination. However, they also suggested that, especially with the Breast Cancer Detection Centers, dissemination was not a problem. The demonstration efforts have aroused broad public awareness simply by their existence, and they have received a great deal of attention among medical professional groups. Public acceptance of breast cancer screening is widespread, according to the director of the Milwaukee project, because women have become more open about the possibilities of breast cancer. A greater problem than the lack of dissemination of

significant positive results, he felt, is the danger of too much attention being given to these projects before the results are known, thus creating a broad demand for services that may be unadvised or unnecessary for certain groups in the population.

Because the operational projects of the Cancer Control Program are relatively new, the question of termination has not yet been confronted. Projects are presently funded from three to five years. Project directors who were interviewed emphasized that for some of the program goals, this is too short a period of time to produce reliable results. They suggested that NCI should be encouraged to provide more long-term funding commitments in the core areas of cancer control in order to ensure continuity in the research and development of techniques and services. However, these same project directors also emphasized that the federal government should not be involved in either mandating or providing these services on a permanent basis. The payment for services, they suggested, should more properly be left to third-party carriers, if the actuarial data gained from field testing show that these kinds of services of the Cancer Control Program can significantly improve health and the quality of life and reduce treatment and long-term care costs. Federal involvement should be limited to research and development, education and training of personnel, and perhaps some funding to cover the costs of establishing cancer-care service facilities. An NCI official echoed this sentiment and suggested that this was one of the major issues with which the agency was grappling. Indeed, governmental involvement in demonstration projects and programs has a long history of open-ended funding that has evolved into an obligation to provide services. However worthwhile these endeavors may be, they raise serious questions of public policy toward social research and development.

The unique role of the National Cancer Institute among the National Institutes of Health has drawn severe criticism from many who regard the proper function of the institutes as carrying out fundamental biomedical research and not providing services. Former Assistant Secretary for Health Charles Edwards has been one of the sharpest critics of the Cancer Control Program (quoted in *Science and Government Report*, December 14, 1975, p. 8): "...it becomes necessary to pour funds into what are essentially service activities, some of which are intended to explore research results that on sober reflection and in the absence of the surfeit of funds, might properly be given a rather low priority."

Certainly, these comments deserve consideration. The Cancer Control Program has developed very quickly in response to political stimuli. It is currently one of the largest social demonstration programs in the federal bureaucracy, and it is projected to continue to grow over the next few years. Can the state-of-the-art in the identification, diagnosis, treatment, and continuing care of cancer patients advance sufficiently to make effective use of this sum of money? Edwards believes not. Indeed, the National Cancer Institute's organizational structure integrates fundamental research and service demonstration activities on an impressive scale. It remains to be seen whether the operational projects and programs that make up the Cancer Control Program can provide the kind of results that will have a significant impact in reducing the morbidity and mortality of cancer and can justify these expenditures.

THE CONCEPTUAL FRAMEWORK

In this paper three types of demonstrations have been categorized: policy formulation demonstrations; policy implementation demonstrations; and demonstrations that do not serve direct formulation or implementation roles. In the following discussion of each of these types of demonstrations, attention is given to the special purposes they serve in achieving R&D objectives and in meeting political needs.

POLICY FORMULATION DEMONSTRATIONS

When a federally initiated demonstration project or program of projects performs as an instrument of policy formulation, its overall purpose is the projection of new knowledge about the outcomes of a proposed treatment concept in a "real-world" environment for use by federal agency planners, managers, and evaluators.[6] There are

[6]That is not to say that a demonstration is not a suitable intervention of policy formulation at the state and local level. Indeed it is. However, from a federal perspective, that activity, when federally supported, is more properly considered to be an investment in local development. While the project outcomes may produce some new and interesting information, generally treatment designs are so particular to local conditions that they are not broadly applicable and thus can have little influence on large-scale federal policy making.

five classes of information[7] produced by this type of project that broadly relate to two outcome dimensions:

Impact

1. Treatment effectiveness--measure of the positive effects of a proposed programmatic concept in coping with a designated social problem.
2. External effects--identification and measure of the side effects (social, medical, demographic, economic) of a proposed concept.

Feasibility

1. Costs--measure of the monetary costs of providing a proposed service on a broad scale, including staff training, purchasing necessary equipment, etc.
2. Demand--measure of the public acceptability of a proposed service and the willingness of a target population to substitute this service for others.
3. Institutional effects--measure of an existing institution's capacity to adapt the proposed programmatic concept to suit felt needs; and measure of the impact on external relations of the institution providing a proposed service and other organizational bodies and interests.

Impact refers to the capacity of a proposed programmatic concept to produce a desired effect on a "client" population. Feasibility refers to the capacity of the demonstrated services to be provided and managed on a cost-effective basis by established education, health care, social service, criminal justice, or economic institutions. A distinction can be made between demonstrations that focus on one or the other of these dimensions and those that focus on both.

All of the demonstrations we have discussed as case studies involved both the generation of impact and feasibility information. The National Nutrition Program for the Elderly, for example, was initiated to test what direct and indirect effects the provision of group meals would have on socially isolated senior citizens. This included data on the improvement of participants' nutritional status as well as changes in their attitudes, behavior, sense of well-being, and appearance. It was intended to measure factors

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[7]Merrow et al. (1975, p. 27) suggest a broadly comparable set of categories for knowledge to be produced by technological demonstrations. They are "technological uncertainty," "cost uncertainty," "demand uncertainty," "institutional uncertainty," and "externality uncertainties."

of political and administrative feasibility, such as the relative costs of providing group meals by various delivery methods and the demands for services among elderly members of various geographic and demographic communities. It was also intended to determine which institutional settings are most appropriate for operating nutrition programs for the elderly.

Likewise, various programs within the Cancer Control Program are intended to produce information on the effectiveness and cost-effectiveness of the delivery of cancer education, screening, diagnosis, treatment, and rehabilitation services. The Breast Cancer Detection Center demonstrations are providing National Cancer Institute officials with a broad data base from which to evaluate the relative merits of several different techniques in screening for breast cancer. Moreover, the projects are producing actuarial data concerning population groups at highest risk, optimal time intervals for conducting screenings in order to detect incidents of breast cancer early enough for effective treatment, and, ultimately, the overall effects of mass screening on reducing the morbidity and mortality of breast cancer patients. Also, the screening program is providing significant cost and management information that will aid policy makers in determining whether the benefits of providing mass screening warrant the tremendous expense incurred.

Once federal agency program officials have determined the classes of information that a policy formulation demonstration is intended to produce, judgments must be made concerning the appropriate standards of evidence. Generally this translates into decisions regarding the kind of evaluation and the number of sites required to provide valid and persuasive information. Experience suggests that when the impact of a programmatic concept is clearly recognized and that determining feasibility is the primary focus of the demonstration, an agency may be content to make a fairly casual observation or evaluation of the results. If, on the other hand, the effectiveness of the program idea is not clearly understood, an agency would be more likely to require a carefully designed outcome evaluation. Moreover, an agency may want not only to evaluate the underlying idea but also to compare it with others sharing the same general goals. Under these circumstances, the demonstration approaches the large-scale social experiment.[8]

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[8]Experiments are generally characterized by carefully designed variations of treatment modalities. They usually

Judgment concerning the number of sites necessary to provide valid and persuasive evidence of a program's impact and feasibility is also important. Often, when an idea is demonstrated only by the developer, it fails to produce information that accurately predicts the range of conditions and outcomes that might characterize the intervention in other settings. Therefore, an agency may decide to subject the program idea to a multi-site trial. Presumably, sites should be selected to provide a plausible balance among such factors as target populations, types of sponsors, geographic distribution, etc.

Again, the Cancer Control Program provides an interesting case of judgments made by program officials concerning the evaluation requirements and the number of sites necessary to provide usable and reliable policy formualtion information in the various core areas of activity. The Breast Cancer Detection Center program has been undertaken at 27 sites located in community hospitals, university medical centers, and specialized cancer facilities. These are distributed across the country in large, medium, and small metropolitan centers as well as in facilities serving rural populations. The evaluation of these projects entails a comprehensive data collection effort for all five classes of policy-related information: treatment effectiveness, external effects, costs, demand, and institutional effects.

In contrast, only nine projects to develop and demonstrate the comprehensive integration of cancer rehabilitation services have been contracted; and for these, the evaluation plan is far less structured and definitive, although it also involves data collection. NCI officials admit that the evaluation of rehabilitation projects is somewhat deficient at this point. Because of the highly experimental and developmental nature of many aspects of

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include randomly assigned untreated control groups and they have rigorous outcome evaluations. Therefore, these programs are generally much less flexible than smaller-scale demonstrations, and they usually require longer periods of time and a greater monetary expense to produce policy-relevant information. Nevertheless, the definitional line between demonstration and experimentation is very fuzzy indeed. For the purposes of this survey, many projects and programs of projects labeled as experiments by various agencies so closely fit our definition of a policy formulation demonstration that they were included in our tabulation.

rehabilitation, what is needed is a strong evaluation that will provide continual performance feedback to assist project staffs in refining and improving these programs. Indeed, an assessment of overall program impact is premature.

The rationale behind these differences undoubtedly involves the breadth of quantitative and contextual information considered necessary for agency officials to make well-informed decisions regarding the promotion of their programmatic concepts. In each case, the programs have not progressed to the stage at which these decisions can be made; however, if we are to hypothesize that the outcome information is positive, then the number and variety of sites will be very significant in terms of the evidence required to convince third-party carriers to provide patient payment coverage. Particularly in the case of breast cancer screening, potential adopters will require convincing statistical data to show that the potential benefits, in terms of reduced treatment costs, far outweigh the extensive costs that the service entails. In the case of the rehabilitation projects, the potential adopters are not just third-party carriers, since payment for many of the activities involved in rehabilitation, such as pain management, prosthetic devices, etc., are already covered. Potential adopters are also other medical centers and community hospitals interested in instituting comprehensive and coordinated rehabilitation services. While cost data will be important to them, they will be more concerned with understanding the impact these services can have, the advantages of one treatment over another, and the intricacies of program management.

Ultimately, all policy formulation demonstrations seek to determine the operational viability of a federal program in a local setting. To be successful, a project or program of projects should generate sufficient knowledge about the impact and feasibility of the treatment so that federal agency officials can determine whether it warrants promotion. The degree of uncertainty about treatment effectiveness, external effects, costs, demand, and institutional effects should be substantially reduced so that a promotion decision can be made without further demonstration. That is not to say that uncertainty can be entirely eliminated. Indeed, with any innovation there are particular outcomes that cannot be anticipated because of the time limitations of testing. (Performance over a long period of time may be less accurately predicted.)

Unforeseen fluctuations in national or local economic conditions or sociological and demographic shifts, which cannot be predicted within the time frame of the project,

may have serious adverse effects on the outcomes. Furthermore, uncertainty concerning the feasibility of implementation cannot always be eliminated. Conditions vary from site to site, and a demonstration should be planned and organized to account for as many site-specific conditions as possible. However, short of launching a full-scale program, it is impossible to predetermine all the factors that may affect the incorporation of a programmatic concept into the mainstream of local service delivery systems. Therefore, the primary criterion of success for a policy formulation demonstration is that a well-informed implementation decision can be made.

In addition to generating the kind of information that permits a go or no-go decision, a policy formulation demonstration may also provide contextual information that can assist decision makers in designing regulations, setting appropriate funding levels, establishing reporting requirements, and discovering the best modes of implementation. Unlike information that leads to decisions regarding the promotion of a concept, which is often the product of quantitative evaluation, contextual information about performance is more often the product of experience and observation.

The National Nutrition Program for the Elderly provided strong evidence that group-meals programs could significantly improve the nutritional status and the sense of well-being of a substantial portion of socially isolated elderly people. It also produced convincing information about how and under what circumstances these services could most effectively and efficiently be provided. Beyond these hard quantitative outcomes, however, the 23 projects also produced valuable contextual information that was useful to federal policy makers in writing guidelines and regulations, in setting funding and federal matching levels, and in preparing to expand these services to all eligible elderly people. Factors such as optimal settings and seating arrangements, the need to provide transportation, the most effective kinds of outreach efforts, and the roles that participants themselves can and should play in the programs were all unquantified yet valuable results of the demonstration experience.

The Early and Periodic Screening, Diagnosis and Treatment program conducted by the Social and Rehabilitation Service is interesting for its potential of providing information that allows officials to make a no-go decision regarding components of the program design. Because EPSDT

services are mandated by law, and have become institutionalized in many states and local areas, it would be politically irrelevant for agency officials to suggest that the whole program be scrapped. However, it was increasingly clear as the demonstration progressed that many elements of the program, though worthwhile in terms of some greater social good, could not be provided at a cost or in a manner to justify the expense to the states. The developmental screening and the dental treatment components in particular proved to require support far greater than the majority of states and localities could reasonably afford or would be willing to invest. Consequently, the mandate to provide them has not been enforced.

If a policy formulation demonstration provides information leading to a decision either favoring or opposing dissemination of a programmatic concept, it may be considered successful. Indeed, knowledge that a treatment is not effective, that it has overwhelmingly undesirable side effects, or that it cannot be instituted in a cost-effective manner is presumably as important to federal policy makers as positive outcome information. If a decision is made not to promote a particular programmatic concept, the design may be reworked and then submitted for further field testing, or it may be abandoned entirely. Conversely, if a positive decision is made regarding promotion of a concept, then it may shift to a policy implementation phase.

POLICY IMPLEMENTATION DEMONSTRATIONS

The shift in focus from a policy formulation orientation to a policy implementation orientation implies a conscious decision on the part of federal policy makers to promote the utilization of a particular programmatic idea. This decision may have been reached through the kinds of activities suggested above. An intervention may have been tested either for its capacity to effect a desirable influence or change through the use of field trial demonstrations, for its political and administrative feasibility, or for both. Alternatively, this step may have been bypassed because policy makers consider the idea to have clear merit. Once proven or deemed worthy, the idea must be implemented.

Policy implementation demonstrations are show-and-tell activities. Their purpose is to demonstrate that institutional and procedural changes should be made. Because projects in this category exemplify practices or methods of delivering services, the intention on the part of program

managers is to draw attention to them. The conventional wisdom, which is supported by research literature on diffusion strategies (Havelock and Lingwood 1973, Rogers and Shoemaker 1971), suggests that the firsthand experience of observing an innovation in a similar environment is more effective in convincing potential users than information received in the form of lengthy printed reports.

A distinction can be made between policy implementation demonstrations that are instruments of policy advocacy or budgetary justification and those that are a means of transmitting how-to-do-it information to potential adopters. Policy advocacy projects are intended to convince federal, state, and/or local legislators to appropriate funds to adopt an intervention as a permanent program, either through new or existing institutions. How-to-do-it projects are intended to convince potential adopters, including social service agencies or institutions, agencies at the federal, state and local level having regulatory responsibilities, and service consumers that an idea is worthwhile and can be effectively and efficiently applied or adapted to local needs. While the policy advocacy function may require the provision of hard statistical evidence of cost-effectiveness and administrative feasibility, the how-to-do-it function involves visibly demonstrating how a programmatic concept can be managed. It may also involve the provision of curriculum materials, training manuals, etc.

Although these two functions may occur separately in different demonstrations or at different times in the same demonstration, they frequently occur simultaneously in a given project. From the federal perspective a project may be orchestrated to provide a variety of information to a variety of audiences. The same demonstration may be intended to convince legislators of the need to support an endeavor, to convince service providers to incorporate it in the mainstream of their operations, and to convince consumers to use the service.

The Shirley Highway project provides a case in point. After the idea was declared valid, the project was intended to attract the attention of state and local legislators and highway commission officials to provide funds for the construction of reversible bus lanes on major metropolitan commuter routes in order to reduce traffic congestion and the dangerous air pollution levels caused by too many automobiles. Simultaneously it was intended to attract other privately incorporated or metropolitan bus carriers that such service could be operated on a profit-making basis.

Furthermore, the Shirley Highway project was also intended to promote a change in consumer behavior.

Like the Shirley Highway project, the National Nutrition Program for the Elderly was intended to provide information to a variety of target audiences, including legislators who could appropriate funds to support the intervention, service providers who could operate group-meals programs, and socially isolated elderly people who could participate. Initially it was hoped that, by developing effective methods of increasing the nutritional intake and social interaction of low-income elderly people in group meals, private organizations and local agencies might be persuaded to provide fiscal support for these services. However, as it became increasingly evident that local funds would not be sufficient to continue ongoing projects, let alone to increase the number of projects, attention was shifted to a target audience of federal legislators. Adoption was redefined by program officials to mean the establishment of a federal categorical program.

By contrast, the Early and Periodic Screening, Diagnosis, and Treatment program was directed not so much at convincing legislators of the need to support services, since federal law already mandated that the states provide these services to eligible children, as it was directed at demonstrating to service providers how most effectively and efficiently to carry out the federal mandate. State and local legislators are the target audience only insofar as they must be encouraged to direct social service agencies to use the funds in the most efficient manner.

Rand Corporation analysts (Johnson et al. 1975) suggest that the success of a policy implementation demonstration can be measured in terms of both application and dissemination. Application success involves the extent to which an idea is adapted to meet local needs at a site and thus to provide a credible basis for continuation of the project beyond the planned termination of federal R&D funding at that site. Moreover, it reflects the extent to which an idea forms a credible basis for dissemination and diffusion to other potential adopters. Dissemination success involves the extent to which the media, professional organizations and conferences, site visits, workshops, personal contacts, and other dissemination mechanisms are employed to capitalize on the advertising value of a demonstrated idea and consequently result in its adoption.

Many potential adopters perceive their situations as unique, due to local demographic, geographic, or political characteristics. Therefore, they also perceive their

problems as unique, requiring specific solutions. Show-and-tell demonstrations, to be effective diffusion instruments, must convince local adopters of the utility and adaptability of a proposed idea. This has significant implications for the design of the demonstration. If the idea is complex, if the local perception of need is not strong, or if substantial institutional change is required in the organizations delivering the services, the demonstration sites must be located in relatively close geographic proximity and must deal with target populations similar to those served by the potential adopter. Similarity of site conditions and client populations should increase the relevance of the idea to potential adopters. Geographic proximity should permit continued interaction with the demonstration project during the adoption period. Conversely, if the idea is relatively simple, if the demand is high, and if little institutional change is required, fewer demonstration sites with media publicity may be sufficient. In short, decisions regarding the number and the character of the sites of a policy implementation demonstration should depend on the complexity of the program design and the nature of the target audience.

In the case of the Shirley Highway project, it was assumed that one site could effectively demonstrate the benefits of introducing reversible bus lanes for commuter travel. Potential adopters could clearly observe the advantages and cost-effectiveness derived from the innovation. Because the target audience generally included well-trained professionals accustomed to analyzing variations among arterial highways that channel traffic into major metropolitan centers, and because the Shirley Highway project was not so specifically designed as to lack potential generalizability, there was little need perceived among officials to implement a series of projects adapted to a variation of traffic flow patterns. Moreover, these circumstances, combined with the high costs of mounting the project, made it more efficient to conduct site visits, briefings, and conferences for potential adopters in Washington, D.C., rather than to establish regional projects across the country.

If a policy implementation demonstration provides information leading to state or local adoption of an idea or to the establishment of a national categorical service program, it may be considered successful by the initiators. Both applicability and dissemination are essential aspects of this diffusion success. It is not worthwhile to develop and test an idea if it is left to die. Nor is it worthwhile to promote ideas that have little relevance to the

needs of potential adopters. Therefore, federal responsibility extends beyond the policy formulation phase, because more often than not the diffusion of good ideas will require concerted effort.

OTHER DEMONSTRATIONS NOT DIRECTLY RELATED TO THE FORMULATION OR IMPLEMENTATION OF SYSTEMATICALLY DESIGNED SOCIAL POLICIES

Apart from the classes of demonstrations previously discussed, a number of projects are less appropriately labeled "demonstrations." Though they may in fact represent worthwhile and appropriate activities for federal government agencies to support, they do not perform clearly as mechanisms of policy formulation or policy implementation. Significantly, from the perspective of many federal agency officials as well as the Congress, field-testing funds appropriated for demonstration projects often represent "action money"--money that is readily obtained to subsidize activities to assist the poor or other disadvantaged groups. Demonstrations are thus able to meet a variety of political demands, because they represent an immediate and often highly visible effort to remedy social ills. There are three classes of projects that fall into this category. For the purposes of this paper, we refer to those programs that are not directly related to the formulation or implementation of systematically designed social policies as "other demonstrations."

The first group are consciousness-raising demonstrations. These projects are undertaken to create awareness of a particular social problem by showing the public as well as public service agencies that something needs to be done. There is no prior policy formulation through field trials nor a complex systematic program design. Demonstration monies are made available to deal with a problem, but the means of coping are left largely to the practitioner community. A consciousness-raising project is intended to serve as a catalyst, not as a model. It does not purport to be a systematically designed solution to a problem, nor is it necessarily expected to be continued after the proposed termination of federal funding or to be replicated at other sites. By creating awareness it is intended to stimulate further efforts to cope with a social problem or to provide needed services to a particular client population, beyond those that have been funded.

The National Institute of Alcohol and Alcohol Abuse

expends a large portion of its demonstration monies on projects that would be classified as consciousness-raising. Agency officials emphasize that there is a need to attract attention to the problems and needs of alcohol abusers, who have virtually been ignored; in part, the aim of these projects is to change public attitudes toward alcoholism. Because services to and treatment for alcohol abusers have traditionally been based on volunteerism, the institute's demonstration monies are administered primarily by project grants to small community organizations for a three-year funding period with the possibility of a three-year renewal. According to one program official, criteria for project success are individualized. However, overall judgments of effectiveness are based on "whether people are being helped," which implies that to some extent projects are judged by their visibility in the community and their capacity to stimulate the establishment of other service programs geared to the needs of alcohol abusers.

Two observations regarding consciousness-raising demonstrations are appropriate. First, these projects seem frequently to become permanent and thus may fall into a category that has been labeled limited-service and will be discussed below. Second, as a project continues it may, from a federal perspective, provide the basis for a larger program development effort. When this occurs, agency program officials may find it appropriate to shift into a policy formulation phase either through the use of comprehensive program evaluation or planned variation experiments in order to develop model projects.

A second class of non-policy-related demonstrations is those instituted as incentives to local jurisdictions to undertake socially innovative activity. By providing financial assistance to local agencies, federal program managers anticipate the development of improved programs and services that are particularly responsive to local needs. These projects are only federally initiated in the broadest sense, for they lack any complex and unifying design. Nevertheless, because support for a given project is finite--usually three years--and because the intent is to create some permanent change in a community, the individual projects are frequently called demonstrations.

Such an undertaking on the part of a federal agency is perhaps more properly regarded as providing subsidies for program development, for it is premised on the belief that local social service institutions chronically underinvest in this activity. For social problem areas regarded as national priorities, the federal government may find it

expedient to support this kind of investment, with the belief that locally developed solutions are more responsive to local needs and problems.

Title III of the Elementary and Secondary Education Act provides funds to support "innovative local education projects" designed to stimulate and assist in the local development and establishment of model programs and assist the states in establishing and maintaining guidance, counseling, and testing programs. The Office of Education, which administered the Title III funds until the creation of the Department of Education, defined an innovative project as "an approach or program new to a geographical area and designed to demonstrate a solution to a specific need." The underlying rationale for the program, entitled Supplementary Educational Centers and Services, is that in the past substantial educational change has failed to take place, not because of a scarcity of new ideas among the educational research community, but because local school systems lack the resources to become involved in the development and installation of these innovations. Thus, the general strategy pursued by the Title III program is to provide sufficient funds to overcome these initial financial barriers.

Finally, there is a group of projects that clearly does not serve any demonstration purpose, either nationally or locally. We refer to these as limited-service projects. They often represent a highly visible effort to cope with a particular social problem or the special needs of a particular target group. In many cases, program officials intend for these projects to be replicated and evolve into national categorical programs. Instead, they have typically represented a compromise between the zealous advocates of action and those who would do nothing. Hence, these projects, which perform no direct policy formulation or implementation functions, are carried on agency budgets and become token demonstrations of national concern. They provide federal and local administrators with a pretext that something is being done to meet a problem. Moreover, because a dependence develops on the part of the particular constituencies that these projects were instituted to assist, it is frequently difficult for the federal government to withdraw support. Consequently, they become permanent programs providing services to only a segment of the eligible population. Whatever their merits, their primary function is not the production or dissemination of knowledge.

The record of federal government intervention in social policy areas is filled with examples of programs initiated

as policy-related demonstrations that have evolved into nonterminating limited-services activities. The Early and Periodic Screening, Diagnosis and Treatment program at least has the potential for doing so. The D.C. project's fate may be echoed by the other projects unless the federal government is willing to keep the centers operating. As the D.C. project director noted, how can the D.C. Department of Human Resources justify the enormous expense of providing a single day care center with the highly paid professional staff (doctors, nurses, physical and speech therapists, social workers, psychologists, special education teachers, etc.) necessary to maintain EPSDT services, let alone expand the program to establish that kind of facility all over the city? Despite the very real benefits to the children it serves, the D.C. demonstration center did not continue to function at its 1975 level when federal support was withdrawn. In fact, it gradually phased out EPSDT services.

The fate of this demonstration project is not unique. It has been echoed time and again by a variety of social service programs. Several program officers who were consulted during the course of this investigation expressed serious concern that projects like the D.C. EPSDT center are allowed to fade away simply because local communities cannot or will not assume responsibility for their support. They questioned whether the federal government and the research community have a moral and social responsibility to the disadvantaged populations that are frequently studied but not served.

Federal policy makers who conduct demonstrations have often been confronted with the dilemma between establishing good R&D policy and providing assistance to the needy. There are those who suggest that perhaps a demonstration represents a just compromise between the social researcher's quest for knowledge and the subject's demand for services--that the federal government should feel an obligation to continue support for projects like the EPSDT demonstrations, which over a period of years have proved their efficacy and popularity among the constituencies they serve. There are also those who express concern that the federal research dollar not be eroded to service.

The debate, of course, does not end here. However, it does point up the serious conflict of interests that often arises among the various actors in federal demonstration programs.

OBSERVATIONS

From our investigation it seems evident that federal agencies undertake demonstrations for research and development purposes as well as for political purposes. When an idea is most effectively examined in a full-service operating environment, social R&D managers may find it more useful to conduct a demonstration than to commission written research studies. This may be the case either because the innovation is so interactive with the operating environment that to provide reliable results it must be tested and evaluated in an operational setting (policy formulation demonstration) or because firsthand observation of a program design will provide greater credibility for potential adopters (policy implementation demonstration). Furthermore, from the perspective of the federal social R&D manager, demonstrations provide a legitimate opportunity to experiment with designs that represent a high risk or are particularly controversial, since they do not entail a long-term commitment to provide services. Because they operate in real-world settings, demonstrations provide evidence of the generalizability of a program design, and the projects themselves frequently constitute a basis for the dissemination of information on how to start and manage similar services at other sites. They also create a cadre of informed and experienced individuals capable of helping other potential adopters to use the ideas to serve their particular needs. Moreover, demonstrations as components of a social R&D program often provide an opportunity for the systematic development of other programs.

The full impact of screening for breast cancer in preventing deaths or in reducing the number of radical mastectomies could not be adequately determined by laboratory study; nor could the interactive role of paraprofessional technicians and physicians in providing the screening

services on a cost-effective basis. The NCI multi-site Breast Cancer Detection Centers demonstration allows federal policy makers and health administrators reliably to evaluate how the screening concept operates and how easily it can be incorporated into the existing health care delivery system. Furthermore, it provides third-party carriers, who may eventually provide coverage for the service, reliable statistical information on the costs and effectiveness of screening.

Demonstrations have strong political appeal. They are frequently undertaken when it is useful or expedient to various federal actors to generate or disseminate knowledge in a publicly visible operating environment. They provide short-term elected officials in Congress and/or appointed officials in executive agencies an opportunity to gain support or prestige for themselves or their agency by being leaders in the development of an innovative idea. Often they constitute a foot in the door to launch the development of a new idea before a national consensus exists to justify full implementation. Demonstrations also provide politicians with the social program equivalent of the traditional pork barrel programs, which are attractive to constituents in the home district or state. At a relatively modest cost, they provide an indication of federal concern about a social problem. Moreover, they frequently represent a reasonable compromise between those who would eagerly provide services to all who are eligible and those who oppose federal financing of social services.

The National Nutrition Program for the Elderly was a politically inspired and executed demonstration. It was undertaken by the Administration on Aging in an election year, at the urging of Representative Claude Pepper. The demonstration was mounted quickly, and it provided a popular, publicly visible means of showing federal concern. Pepper had publicly committed himself to the cause of the elderly. Clearly, in 1968, the plight of the nation's elderly was a social problem capable of generating the interest and attention of service providers and the general public as well as politicians. Research and development in the field of gerontology was more pervasive than ever before. Among a small group of elected officials on Capitol Hill and for officials in the Administration on Aging, the National Nutrition Program for the Elderly provided an opportunity for the federal government to take the lead in developing popular programs to cope with the problems of the elderly. Both AOA, which sponsored the program, and the members of Congress who actively supported it gained

politically beneficial public attention. When the Title VII legislation was passed and the demonstration established as a permanent service program, the AOA budget was increased by $100 million. And those senators and members of Congress who had supported the program could point to their concern and accomplishments for an important voting constituency.

We do not draw this distinction between R&D-inspired demonstrations and politically inspired demonstrations to emphasize that only one or the other can produce scientifically valid outcomes or that only one or the other can produce usable outcomes. The record of federal involvement shows dismal failures and brilliant successes among programs that sprang from both sources. Moreover, the establishment of a demonstration program often represents an amalgam of interests, perspectives, and purposes.

Among the four case study demonstrations, the National Nutrition Program for the Elderly and the EPSDT program had primarily political beginnings; the Shirley Highway project and the Cancer Control Program were established for R&D reasons. Interestingly, the two R&D-inspired demonstrations involve the application of nonsocial technologies to social problem solving.[9] Unlike the nutrition program and the EPSDT program, which employ "soft" social science treatments, the Shirley Highway project and the Cancer Control Program seem to have a more distinct change-agent orientation. Because the technologies more or less drive the design of the programs, the course from experimentation and development through dissemination seems more direct and orderly.

Since both R&D and political perspectives are frequently associated with the same program or set of projects, the possibilities of confusion and misplaced expectations are enhanced. All too often the differing goals and incentives of the various actors come into conflict. Indeed, at each level in the hierarchy of program management there are distinctively different motivations and expectations that guide those individuals' involvement in a demonstration.

As an example, we can cite the Early and Periodic Screening, Diagnosis, and Treatment program of the Social and Rehabilitation Service. At the highest level of the federal

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[9]We are not prepared to make any generalizations at this point about the likelihood of demonstrations involving the application of "hard" technologies being initiated for R&D reasons and those involving "soft" social treatments being politically initiated. The fact that these characteristics correlate among the case studies is coincidental.

bureaucracy the EPSDT demonstrations represent a concrete response to a congressional mandate and are intended to deal uncritically with the physical, mental, and developmental health problems of poor children. Since federal law requires the states to provide services to eligible children, the demonstrations were initiated to test innovative service delivery modes and to provide models for state and local social service agencies.

At the next level of the bureaucracy, that of the research manager and the program manager, the EPSDT demonstrations represented a difficult program development effort, beset with internal and external political pitfalls and potential political rewards. In theory at least, the demonstrations, administered through the Office of Planning, Research and Evaluation, were to be responsive to the needs of the operating program, which was administered by the Medical Services Administration. In reality, bureaucratic rivalries and conflicting interests prevented a coordinated effort. From the perspective of the director of the operating program, the demonstrations offered an opportunity to gain significant knowledge concerning the provision of services in those areas in which not enough was known (e.g., the needs of the older child, developmental assessment, and the role of the school in EPSDT implementation). To the extent that information generated and disseminated by the demonstrations was useful to the state and local agencies and helped them improve their EPSDT programs, the program as a whole gained greater political popularity. Interest in the EPSDT demonstrations on the part of the managers was waning even in 1975, hence they gradually became less and less an R&D priority as other programmatic areas received greater attention.

At the program officer level, the EPSDT demonstration program had the potential for being a tremendously exciting management job. Association with some very creative, energetic, and dedicated people in the field coupled with a fair degree of decision-making power provided a great deal of satisfaction to the individuals in that position. Program officers frequently became very attached to a group of project directors and came to identify with them. The project directors, in turn, were dependent on the program officers for their administrative powers. While there was a great deal of gratification in seeing the positive tangible results of one's decisions, EPSDT program officers frequently found their positions rather frustrating. Caught in the tide of bureaucratic haggling over how the demonstrations were to be managed, what their focus was to be, and at what level they

would be funded, they developed a sense of loss about their own efforts and those of their project directors as EPSDT declined as a research priority.

For the project director or local operator, the demonstration represented an opportunity to try out ideas that he or she considered significant. In some cases it also provided an opportunity to gain professional recognition. The director of the District of Columbia EPSDT project focused much of the attention of her staff on the formulation of a developmental assessment testing instrument that is culturally fair for inner-city black children. As a child development specialist, she had a particular interest in this aspect of the project and consequently she devoted much of her own energy to producing and copyrighting the tests. Although each of the four original EPSDT demonstrations had on staff a member of the HSRI evaluation team, who was primarily responsible for data collection, project directors were still responsible for much of the administrative paper work and documentation. More often than not these requirements were viewed as a necessary, undesirable, and very time-consuming diversion rather than a major output of the project.

The local communities, which are served by the demonstrations, frequently are convinced to participate with the belief that the project has significant potential for alleviating some problem or for providing needed services. Little is said either about its limited duration or the experimental nature of the idea. The newness of the project often attracts staff that are either more competent or more enthusiastic than those who normally deal with the community. Thus participants frequently develop an attachment, if not a dependence, on the demonstration. Expectations are aroused, and when federal funding is withdrawn, clients are disappointed and bitter.

The EPSDT demonstrations provided needed services to local communities in the form of pilot projects. Treatment practices and techniques were being developed, tested, and demonstrated. As evidenced by the increasing number of children who were rescreened on a periodic basis, the local communities participating in the projects became accustomed to receiving physical, mental, and developmental screening, diagnosis, and treatment services for their children. However, when federal R&D funding was withdrawn from the demonstrations and the states or local agencies reduced the level of services or terminated the demonstration sites altogether, it seems likely that few of those who participated as clients

or who were on the staff were understanding or sympathetic to the relevant fiscal problems.

Finally, from the perspective of the research community, the purpose of demonstrations is scientific in the sense of providing a medium for experimentation. Programmatic changes, which are associated with the development process, are a necessary evil to be tolerated. The needs of the clients are of relatively little importance in any professional sense, although the solution of the larger social problem may be the dominant theme of their research work. Moreover, for those of the research community not directly involved in a program, the scientific flaws associated with action research are an open target for professional criticism. More often than not, however, the means they propose for correcting those flaws are so theoretical that they contravene the value and relevance of demonstrations to the development of social policy or to the application of scientifically derived knowledge.

Demonstrations, which originate and operate in a political milieu, cause various actors with differing interests and intentions to be brought together. Often their political goals come into conflict with basic R&D objectives. Since there are few incentives to openness or candor, the hidden agendas of the various actors create game-playing among them. Frequently a lack of necessary communication in planning and setting R&D objectives for a demonstration causes a program to experience chaotic misunderstandings detrimental to its success. A lack of agreement over the essential elements of the R&D program and the way they should be carried out, such as the introduction of random control groups or the complexity of the data base, may reduce the social or the scientific validity of the outcomes. This factor may hinder a program's chances of producing convincing evidence and hence of being widely adopted.

It is not surprising, then, that many of the demonstration projects and programs of projects, conducted in the name of social research and development, are characterized by confusion of purpose, method, and intended audience. This lack of clarity makes it very difficult to classify existing federally sponsored demonstrations according to the normative categories developed in this paper. Table 4 represents the major functions performed by the demonstrations that are components of the R&D efforts of the agencies surveyed during this investigation. Projects or programs of projects were characterized on the basis of the expressed intent of the federal policy makers, rather than according to the quality of the program efforts themselves. Therefore,

TABLE 4 Profile of Federally Funded Social Demonstration Activity by Function (fiscal 1975, $ thousands)

Agency	Policy Formulation Activity	Policy Implementation Activity	Non-Policy-Related Activity
Department of Agriculture		3,150	
Agricultural Stabilization and Conservation Service		1,500	
Extension Service		905	
Food and Nutrition Service		480	
Forest Service		250	
Soil Conservation Service		15	
Department of Commerce	1,458	515	114
Office of Minority Business Enterprise	1,458	515	114
Department of Health, Education, and Welfare	222,408	133,861	124,893
Administration on Aging	3,500	3,500	
Assistant Secretary for Planning and Evaluation	16,561		2,650
Bureau of Health Manpower	500	60	3,000
Bureau of Health Planning and Resource Development		26	
Maternal and Child Health Service[a]			
National Center for Health Services Research[b]	14,700		
National Institute of Alcohol and Alcohol Abuse			12,500
National Institute on Drug Abuse	14,340		
National Institute of Education	32,305	11,809	
National Institute of Mental Health[c]			
National Institutes of Health	16,970	31,090	
National Cancer Institute	16,970	19,090	

TABLE 4 (Continued)

Agency	Policy Formulation Activity	Policy Implementation Activity	Non-Policy-Related Activity
National Heart, Lung, and Blood Institute		12,000	
National Institute of Occupational Safety and Health		100	
Office of Child Development	1,532	4,594	4,451
Office of Education	56,500	41,341	102,292
Bureau of Education for the Handicapped		17,825	
Elementary and Secondary Education Programs	55,500	2,795	90,450
Vocational and Adult Programs		16,000	
Library Programs	1,000		
Indian Programs		4,721	
Post-Secondary Education Programs			2,599
Office of Native American Programs (none)			
Office of Youth Development (none)			
Social and Rehabilitation Service[c]			
Department of Housing and Urban Development			
Neighborhood Preservation	3,000		
Homesteading		8,000	
Solar Energy			
Housing Management			
Department of Justice		2,662	
Drug Enforcement Administration		662	
Law Enforcement Assistance Administration		2,000	
Department of Labor			
Manpower Administration[c]			

TABLE 4 (Continued)

Agency	Policy Formulation Activity	Policy Implementation Activity	Non-Policy-Related Activity
Department of Transportation	10,668	6,848	
Urban Mass Transit Administration	2,033	6,848	
National Highway Traffic Safety Administration	8,635		
Independent Agencies		3,440	5,239
Community Services Administration			5,239
Environmental Protection Agency		3,440	
National Science Foundation			
TOTAL	237,534	157,961	130,246

[a]There is no record of funds expended for demonstration projects separate from state formula grant allocations. However, it seems that those funds expended fell under "non-policy-related demonstrations."

[b]Categorization of demonstration funds is based on the director of R&D strategy's judgment of how they are spent.

[c]Not able to break down expenditures by functional category.

though any policy formulation demonstration should have a comprehensive evaluation plan, many of those tallied under the policy formulation heading do not. Furthermore, these categorizations represent our assessment of the current intent of these programs. As suggested earlier, the purpose of a demonstration may change over a period of time. Hence a program such as the Shirley Highway Express-Bus-on-Freeway Project, which began as an experimental effort and shifted its emphasis in the final stages to a show-and-tell effort, is classified as a policy implementation demonstration.

In general, the major conclusion that emerges from this

study, and is indirectly supported by others, is the need for much greater clarity of purpose in the conduct of federally sponsored demonstration programs. The confusion that currently reigns not only detracts from the capacity of these activities to meet legitimate national and local needs, but it also needlessly raises and frustrates the expectations of all the interested audiences. Perhaps the conceptual framework presented in this paper will provide a useful step in the direction of correcting these problems.

However, the political environment that surrounds demonstrations will make such corrections a difficult task. Government intervention in social problem solving is intended to improve the well-being of the American people, hence it is highly politicized. Needs and benefits are perceived differently by various interest groups and sectors of society. Therefore, federal action to improve the welfare of society as a whole may improve the condition of one group at the expense of another. Value judgments, which are necessarily beneficial to some and detrimental to others, must be made at each stage from initiation and planning through evaluation and promotion.

Nonetheless, this political context is legitimate, and it significantly affects the selection of substantive areas that constitute a basis for programs of social R&D. Therefore, we would not espouse a depoliticization of the demonstration process but rather propose emphatic support for the planning, analysis, and implementation activities necessary to realize the public intent embodied in these projects or programs of projects. This proposal translates into a need for those within the federal establishment to have a clearer and more concrete understanding of the essential features of demonstrations that perform either policy formulation or policy implementation roles. They should have a strong sense of what their policy or program development needs are, and they should use demonstrations specifically to meet those needs. A clearly defined purpose and mode of operation will result in more realistically attainable outcomes.

An important concomitant of this proposal is that federal policy makers should understand and assess the risks associated with undertaking social demonstrations. Demonstrations can serve as unique assets to federal officials. Because they are generally smaller than full-blown operational service programs and not permanently binding, they provide a flexible means of experimentation or exemplification and an inexpensive and palatable way to stimulate change. However, demonstrations also present certain

hazards. They provide a way to avert action or change as well as to stimulate it. Because relatively little money is spent and relatively few people are affected, the real problems are frequently barely touched; public criticism is dulled when politicians and administrators can point to these visible efforts. Furthermore, a good idea demonstrated once does not necessarily drive out a bad one. Because these programs are small and flexible (the very qualities that make them attractive), they frequently lack the influence necessary to effect change. The ultimate proof of a successful demonstration is its influence on the establishment of long-term social policy. It is not worthwhile to prove that an idea works if it is left to die, and too often this has been the case. Demonstrations fade when funding runs out or they trail on as limited-service activities. Policy makers should be aware of these pitfalls and they should carefully assess the potential difficulties that may be encountered in a particular social problem area before undertaking a demonstration.

Finally, federal policy makers should set reasonable time frames in planning and conducting demonstrations. More often than not agencies uniformly regulate the number of months or years that demonstration programs will be supported--12 months, 18 months, 3 years, or 5 years. However, the period of development required for different ideas and the time required for successful diffusion vary according to how complex and experimental the ideas are. In general, the notion that an idea can be developed and tested in a year or 18 months seems optimistic. We believe that the R&D community should be wary of making claims of quick results as a means to gaining political support. Experience suggests that more often than not, the outcome has been counterproductive. Thus, policy makers should gear the period of federal support for demonstration activities to the requirements of particular programs. It seems unwise for an agency to impose a strict deadline, then grudgingly give an extension when it is clear that the project's goals cannot be met in the allotted time.

For both federal program officials and project participants the time factor is one of the most frustrating aspects of conducting effective demonstrations. The longer a program is allowed to run, the more susceptible it is to external changes in personnel, budgetary levels, administration, etc., that can adversely affect its chances of success. It also makes the agency more vulnerable to charges that funds are being invested with little return. It seems clear that if reasonable time frames are established at the outset,

there will be fewer instances in which extensions are required, fewer instances of cost overruns, and fewer instances of disappointing results because an idea was not adequately tested or promoted.

In addition to these three general conclusions, more specific comments follow concerning the conduct of policy formulation and policy implementation demonstrations.

IMPLICATIONS FOR STRATEGY

From this investigation, the framework it has produced, and the supportive findings that were presented in the two Rand studies (Merrow et al. 1975, Johnson et al. 1975) several implications can be drawn regarding strategies for incorporating demonstrations in programs of social research and development. These ideas are somewhat impressionistic. Nonetheless, they represent an attempt to suggest a set of general guidelines for federal policy makers and program officials in their efforts to raise the level of effective use of these programs. The implications are grouped under the two general headings of policy formulation demonstrations and policy implementation demonstrations.

POLICY FORMULATION DEMONSTRATIONS

A federal agency should contemplate a policy formulation demonstration when it wants to learn how a particular experimental concept performs in an operational environment.

A policy formulation demonstration can be undertaken before need is expressed by the user population. It permits a federal agnecy to publicly take the lead in innovative problem solving. It also permits a federal agency to propose or formulate measures to stimulate realization and understanding of needed action by the user population. However, in planning a policy formulation demonstration federal officials should have a strong user orientation. It is necessary to identify the target audiences, their characteristics, the kinds of stimuli to which they will respond, and the problems they may face in adopting an innovation. Adequate planning will help federal officials avoid promoting treatments that they may find particularly interesting but that do not meet the needs of potential adopters.

A policy formulation demonstration should be carefully designed to produce credible knowledge concerning the impact of an idea in ameliorating a problem and the feasibility of applying it to local needs. This translates into decisions regarding site selection and size. Project sites should be selected to provide a plausible balance among factors such as rural versus urban environments, ethnic or racial populations, the variety of local agencies or institutions that may ultimately adopt the innovation, etc. Careful selection can help reduce uncertainty about possible outcomes and permit generalization from the demonstration, if it is decided that the idea should be promoted. Demonstrations should generally be as small as possible to minimize the federal administrative burden yet large enough to provide reliable information to potential adopters should it shift to a policy implementation phase.

The evaluation of a policy formulation demonstration should be planned and designed in tandem with the demonstration. To maximize the effectiveness and efficiency of the idea, project staff and federal program officials should receive feedback on their performance so that needed procedural changes can be made while the program is ongoing (formative evaluation). Furthermore, federal program development officials should anticipate the kind of impact and cost information that will be required by potential adopters, so that an adequate and convincing data base can be established from the outset (summative evaluation).

Because policy formulation demonstrations often deal with highly experimental ideas, it is important to build an element of flexibility into these programs. Treatments should not be rigidly stabilized at the outset. Rather, in the early stages program design should be iteratively refined. Evaluation should not involve strict scientific testing of a well-developed idea. Instead, it should contribute to the program development process.

Because policy formulation demonstrations are often undertaken on a high-risk basis, federal program officials, project staffs in the field, and client populations who participate in a program should be aware from the outset that a no-go decision regarding promotion of an idea may result. Planning for the time when federal funding will be withdrawn from project sites should accompany planning for the demonstration. Program participants, both project staffs whose jobs rely on federal funding and clients who come to rely on the services being provided, should be discouraged from regarding their participation as a foot in the door that will result in a commitment for long-term support.

Policy formulation demonstrations generally have a narrow scope of influence. Their primary audiences are federal program officials responsible for assessing the relative merits of various ideas in ameliorating a social problem and interested members of the research community. Policy formulation demonstrations should be intended as experimental program development endeavors and not sufficient to cause the diffusion of "good" programmatic concepts.

POLICY IMPLEMENTATION DEMONSTRATIONS

A federal agency should contemplate a policy implementation demonstration when it has satisfactorily determined that an idea should be exemplified.

To perform successfully as a diffusion mechanism, policy implementation demonstrations should be undertaken in response to an expressed user demand. Although instances may occur in which these types of projects would be initiated by officials at the federal level, generally the perception of a problem and the demand for change should originate at the user level. Thus, feasibility testing in the policy formulation phase should clearly identify potential users and evidence of demand for the innovation. Moreover, user input in planning policy implementation demonstrations should enhance the applicability of the idea.

The particular technique or practice on which the demonstration is based should be well in hand. Before a policy implementation demonstration is undertaken, uncertainty about treatment outcomes should be reduced as much as possible.

Policy implementation demonstrations should include cost and risk sharing with project participants. Cost sharing provides federal officials with a valuable indicator of how problems and uncertainties are perceived by potential adopters and by the client population being served. The importance of cost and risk sharing is not in establishing absolute levels of local contribution but in measuring participants' basic commitment to the demonstration project.

In order to diffuse an idea that has been developed and tested in a policy formulation phase, a federal agency must provide the needed funds and/or the orchestration for promoting implementation. Policy implementation demonstrations represent one possible strategy. The target audience, either individuals or institutions, whose decision making may be affected by the information presented and whose

decisions affect the diffusion of an innovation, should be clearly identified. Moreover, the demonstration should be strategically focused to provide these gatekeepers with the kinds of convincing information they require to make adoption decisions, whether that is cost-effectiveness data or how-to-do-it materials.

In addition, federal policy makers who undertake program development activity and its diffusion should realistically assess the costs of implementing the innovation for potential adopters. In situations in which start-up costs are very high, an innovation is unlikely to be adopted unless the federal government is willing to provide funds. Indeed, it seems futile for federal policy makers to promote ideas that entail high start-up costs unless they are also willing to invest in implementation, entirely or in part.

The scope of effectiveness for a policy implementation demonstration is relatively narrow. It seems most appropriate as an instrument of diffusion when a lack of information concerning the utility and the implementability of a program design is blocking adoption. However, when the levels of uncertainty surrounding an idea are too high or too low, the demonstration generally will not significantly affect the rate of diffusion.[10] On one hand, potential adopters may see the innovation as too risky and too alien to their own situation; on the other hand, they may feel they already know enough about how the innovation performs so that the demonstration has little effect, either positive or negative, on their attitudes toward adoption. Only when the level of uncertainty about project outcomes is at a middle level does a policy implementation demonstration seem to be effective in causing diffusion.

As a corollary, demonstrations do not seem to be particularly effective in overcoming institutional or organizational barriers. When an innovation can be easily adapted to existing service delivery systems, it has a greater chance of being adopted. If it causes conflicts with existing structures that require either significant alteration of existing institutions or the establishment of new ones, the demonstration is less likely to be successfully diffused.

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[10]This point is strongly supported in Johnson et al. (1975), p. v-16. The Rand group found that potential adopters were most receptive to an innovation if they had some familiarity with the technology, but they still had substantial questions regarding its use and marketing potential.

CONCLUSION

This paper is not intended to be evaluative, nor has it intended to propose a revolutionary set of regulations for the use of demonstrations in programs of social research and development. Rather, it is intended to suggest a framework within which federal program officials can more clearly and effectively employ demonstrations to serve their particular policy needs.

Demonstrations, like any other federal program initiative, cannot operate in a vacuum. The ideas presented in this paper are linear, whereas program development is inherently a nonlinear function. It is ideally uninfluenced by political pressures, whereas federally funded demonstrations are by definition activities subject to political supports and constraints. Program development is theoretically unaffected by the personalities of federal officials or project participants, when, in fact, the enthusiasm and the capabilities of various actors can be critically important to the success or failure of a program. Indeed, no single demonstration of the many that were surveyed during this investigation exactly resembles this normative view. We acknowledge this and are cognizant of the bureaucratic and political realities that characterize the environment in which all federal programs are planned and executed. Nevertheless, this paper provides federal policy makers with a way to look at the world and to formulate a set of guidelines by which they might improve the processes of planning, implementing, and evaluating future social demonstration activities.

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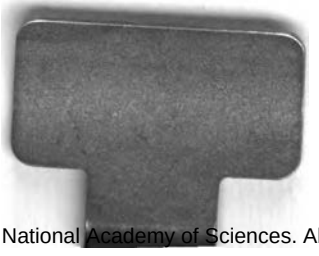

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