Public Health Practice Research Center

PAUL M. DENSEN, Sc.D.

IN August 1962 the New York City Department of Health, with the support of a Public Health Service grant, established a program of research and demonstration activities under the Public Health Practice Research Center (PHPRC). Before reviewing the activities initiated and furthered under the grant, some comment should be made about its nature. It was one of the first general purpose grants made by the Service. The reasons for seeking funds were stated in the application:

1. There is a growing recognition that there is a lag between the rapid advances in scientific knowledge and the rate at which the knowledge is translated into medical and public health practice. Methods by which this lag can be decreased need to be developed.
2. There are many research opportunities, which are as yet untouched, presented by an urban community such as New York City which arise out of the diversity of its population and its resources.
3. From the financial standpoint, there is a need for risk capital—money which is not earmarked for a particular project, but which may be used to advance the research program as a whole, and to explore areas which, as they become better understood, will lead to the development of specific studies. One of the chief shortcomings in the present attack on problems of public health, not only in New York City but elsewhere in the country, is the amount of time which must now be devoted to seeking and securing grant funds to support work on each individual problem. The absence of an arrangement to provide stable and continuous financing of the ongoing activities involved in initiating and tackling these problems makes for discontinuity and lack of planning, and prevents the development of a corps of experienced personnel.

The flexible nature of this grant—not tied to specific projects and leaving room to develop a research program as an entity—has been invaluable in fostering research, program planning, and evaluation in the New York City Department of Health. Further, the effects of the work accomplished under the grant have extended widely into the community. The grant has made possible the creation of an intellectual environment for training not only new recruits to public health but also for broadening the training of experienced public health workers. The grant has also been enormously influential in bringing together academicians and workers in official health and voluntary agencies of the city.

To document these statements I will detail some of the specific activities undertaken. The ability to act quickly when good people became available or when good ideas were put forward has made the $281,616 grant worth far more than the actual sum involved.

In any environment, activities are conditioned by the setting itself—in this instance, an operating health department. In such a setting there is properly a continual awareness of the desirability of establishing a dynamic interchange between research and service activities so that the results of research can change services, and efforts to evaluate these changes can lead to new avenues of research. Some activities I will describe may be considered demonstrations rather than research. The distinction may be a matter

Dr. Densen was principal investigator of the Public Health Practice Research Center as well as deputy administrator of the office of program planning and evaluation, City of New York Health Services Administration. He is now director of the Harvard Center for Community Health and Medical Care, Boston, Mass.

of semantics. Experience with the grant has shown that both activities are equally valid and important.

Studies in Medical Care

Measurement of the quality of medical care is a complex task which may be approached from many points of view. The advent of Medicare and Medicaid have underscored the importance of finding objective ways of evaluating programs to make improved medical care available to the American people. Rational standards against which to judge quality are required to respond to the growing insistence on high-quality care. The unrestricted funds available through the grant made it possible to embark on new approaches to this problem.

Measuring Functional and Medical Status

An opportunity to examine the difficulties of setting standards arose in trying to evaluate a health department program for elderly residents of the Queensbridge housing project. A team of physicians, podiatrists, optometrists, nurses, and social workers, organized by the health department, gave them medical care. Evaluating the effectiveness of this care was first approached by listing the conditions found on initial examination of the residents. The new conditions found at each examination of this group are shown in table 1.

An effort was made to determine whether the program of care had improved their clinical status. Among people of this age, however, it is difficult to point to dramatic changes unless there is a specific cure for a particular condition. Mortality is clearly not a sensitive measure of the effectiveness of the program, because the care could not be expected to have a great impact on their expectation of life.

As the program progressed, however, it seemed that the most useful measurement was the patient's functional status. Often the work of the podiatrist and the ophthalmologist was more effective than that of the internist. Patients once unable to walk could now get around. Others, supplied with glasses, were able to read once again. The social worker and the nurses helped others with problems of daily living. It was in these functional areas that the project began to demonstrate its effectiveness.

In the literature there seemed to be as many classifications of functional measures as there were researchers. None of the classifications were designed for epidemiologic purposes. They were not suitable for classifying large groups of persons because many required detailed examination of the patient in a laboratory or hospital.

About the time it was concluded that some functional classification was required, the staff learned of the work of Dr. Bernard Burack, medical director of the Jewish Guild for the Blind in New York City. Burack's classification was an attempt to combine a description of a person's medical and functional status. The classification in its components was simple and

Table 1. New conditions of residents, by examination when first diagnosed, Queensbridge Health Maintenance Service, May 31, 1964

Condition	Number of new conditions	Percent found at each examination		
		Initial	1st annual	2nd annual
Diseases of the genitourinary system	118	34. 2	20. 1	45. 7
Neoplasms	22	45. 8	16. 5	37. 7
Mental, psychoneurotic, and personality disorders	20	38. 9	----------	61. 1
Disease of the circulatory system	223	56. 5	15. 1	28. 4
Disease of the nervous system and sense organs	122	30. 5	18. 6	50. 9
Allergic, endocrine system, metabolic, and nutritional diseases	89	61. 4	16. 8	21. 8
Disease of the bones and organs of movement	87	61. 2	15. 3	23. 5
Diseases of the skin and cellular tissues	26	36. 6	10. 0	53. 4
Diseases of the digestive system	61	48. 0	17. 3	34. 7
Infective and parasitic diseases	13	37. 5	37. 5	25. 0
Diseases of the respiratory system	10	80. 0	----------	20. 0
Other conditions	19	52. 4	9. 5	38. 1

Table 2. Changes in classification of functional capacity of 132 patients at the home for the aged blind, Jewish Guild for the Blind

Initial classification, spring and summer 1966	Subsequent classification, spring 1967						
	I	II	III	IV	Died	Discharged	Total
I All activities are performed in present setting	34	2	0	2	2	2	42
II Ordinary activities are performed, but not the extraordinary	9	14	1	2	1	3	30
III Performance limited to activities of basic daily living	0	3	6	4	5	0	18
IV Absence of independent activity	0	3	6	21	8	4	42
Total	43	22	13	29	16	9	132

NOTE: Of 107 patients present for subsequent classification, 75 or 70 percent were unchanged; 11 or 10 percent were functioning at a lower grade; and 21 or 20 percent were functioning at a higher grade.

seemingly could be adapted to large population groups. However, it had never been calibrated or tried in different settings.

A collaborative arrangement was made to calibrate the classification, first within the Jewish Guild for the Blind, then in such settings as the Queensbridge housing project, a home care program operated out of a municipal hospital, and others. A contract was entered into with the Division of Medical Care Administration, Public Health Service, to support this research with a grant of $36,089. The calibration of patients at the Jewish Guild for the Blind has been completed, and a report issued (*1*). The classification is also being calibrated in the home care program of Elmhurst Municipal Hospital.

The need for such a classification is particularly pressing because of the variety of relationships between nursing homes and hospitals in New York City and the increase in the number of nursing homes under Medicare. Some nursing homes are owned by hospitals, some are affiliated with hospitals, and others have no direct tie to a hospital or medical center. Standards are being promulgated for nursing homes by the State. It would be extremely useful to be able to classify patients by medical and functional status when they enter a nursing home and periodically thereafter to examine changes. The Burack classification, once it is fully calibrated, should permit this to be done. It is sufficiently simple so that with proper training manuals, staffs of the nursing homes could themselves classify patients. Some preliminary findings illustrating the way in which a population and the changes occurring in it may be described are presented in table 2.

In this project, the flexible nature of the grant made it possible to employ a staff member to consider the problems in evaluating the Queensbridge project and then to follow the promising leads presented by the Burack classification. As of June 1968 the initial activity had led to a collaborative effort among the Public Health Service and five groups of workers in different parts of the country concerned with trying to develop a classification which would be widely acceptable and permit comparisons among different programs. Such a classification would be used for comparisons in the same way that the International Statistical Classification of Diseases, Injuries, and Causes of Death is used to study mortality.

Followup on Perinatal Mortality

Another opportunity to engage in research on measurement of quality of care arose from an observation that was a byproduct of a previous study (*2*, *3*). In that study perinatal mortality among the highest socioeconomic group of nonwhite persons was higher than in the lowest socioeconomic group of white persons. The question was whether the higher rate among the nonwhites was caused by lack of good medical care, either because it was not available or it was not used, or was caused by other social factors not primarily matters of medical care.

The first step was to verify the basic observation. Verification required a larger study group than that in the original study, so it was decided

to make special tabulations for a 3-year period that related infant and fetal deaths to occupation of the father. These deaths were then related to the middle-year population of live births. A total of 9,522 infant and fetal deaths were examined; there were about 165,000 live births in the middle year. Funds from the PHPRC grant paid for these tabulations.

The detailed tabulations clarified the original observations considerably. While perinatal mortality among the highest socioeconomic group of nonwhites (judged by occupation of father) is not always greater than that of the lowest socioeconomic group of whites, the differential was not nearly as great as one might expect in view of differences in the white population. Furthermore, when the rates in the highest socioeconomic groups of whites and nonwhites are compared the difference is still marked, although one might suppose that the nonwhite persons in this socioeconomic group would be able to obtain comparable medical care.

These observations point up the dilemma of the public health administrator confronted with the continuing differential in the perinatal mortality rates of whites and nonwhites. They emphasize once again that tackling the differential must take place not only on the medical front but also on the social front. Even when the opportunity and the means to seek good care are present, there is nevertheless too large a rate differential between white and nonwhite persons. Clearly our maternal and child health programs must be revamped to include much greater attention to the social factors affecting the outcome of pregnancy. The time has come to synthesize available knowledge and specifically to consider its implications for the restructuring of MCH programs.

The availability of the grant funds has, in this instance, made it possible to sharpen the issue facing the public health administrator.

Standards for Costs and Use of Medical Care

In its continuing effort to improve the health of the city's population, including that of welfare families and the medically indigent, the New York City Department of Health has conducted several experiments and demonstrations in medical care services. To evaluate the relative merits and effectiveness of these programs, it is necessary to compare the range of services they provide, the extent that services are used, and costs. Attempts to make comparisons are frustrated, however, by lack of data, varying methods of recordkeeping, differences in the characteristics of patients, the types and variety of services they use, and the level of professional qualifications of staffs providing the services.

To explore ways of obtaining such comparable data for a number of projects developed jointly by the New York City and State health departments and a number of hospitals in the city and State, funds from the grant were used to study 11 medical care programs—six in the city and five in upstate New York—analyzing operational procedures and determining the methods followed to obtain use and cost data. The object was to develop a methodology by which data from various medical care projects could be made comparable.

A questionnaire was devised which is intended ultimately to yield a sensitive, accurate profile of any medical care program, including a catalog of its critical components such as staff composition and organization, range of services and types of facilities available, characteristics of patients, how care is used, and the costs of providing each element of care. This detailed inventory should enable specific elements of care in various programs to be compared. The preliminary findings appeared sufficiently promising that the Health Economics Branch, Public Health Service, entered into a contract to finance the development of standard medical care costs and utilization measurements. The unrestricted nature of the PHPRC grant made possible the initial exploration of a new approach to comparison of utilization and costs among diverse programs. Considerable progress has been made in gathering and analyzing data which will be used to revise and complete a functional draft of the profile questionnaire.

A byproduct of these studies has been the service rendered to the Social Security Administration because of its interest in establishing guidelines and basic standards for health services provided at Federal expense. At the request of the Administration, an intensive study was made of home care programs in Syracuse, Rochester, and Buffalo.

New Measures of Health Status

Population Health Survey

Mortality rates are no longer as sensitive indicators of changing public health needs as they have been in the past. With the increasing and growing complexity of medical care problems, the city's health department has felt the lack of adequate data essential in planning services to its 2,800,000 families. When the grant funds became available, it was decided to initiate a household survey of a representative sample of the city's population modeled on the National Health Survey. The survey has four purposes.

1. To obtain new measures of health status and other factors relating to the health of the population not available from routine vital statistics or program statistics.

2. To obtain demographic, sociologic, and health characteristics of target populations of health programs to aid in determining the extent to which these populations were reached by the programs.

3. To determine the extent of agreement of data from the National Health Survey and the New York City survey and, therefore, to what extent the national findings can be used to estimate the extent of certain health problems in New York City, after taking account of age, sex, race, and other demographic characteristics of the population.

4. To use the survey as a means of tagging particular groups in the general population to follow up in special studies.

The household survey has gone forward exceptionally well. Funds from the grant were used to employ a highly qualified statistician to develop sampling aspects. City funds as well as funds from the grant financed the pretest of an initial questionnaire in 1963. The first citywide survey was completed in the fall of 1964, and the survey was repeated in 1965 and 1966.

In 1967 the survey was concentrated in the Gouverneur area on the lower East Side, where a neighborhood health program was being developed under the direction of Dr. Cecil Sheps and the staff of Beth Israel Hospital. The Gouverneur area survey was designed to yield data on (*a*) the extent to which the neighborhood health program is reaching its target population, (*b*) the extent to which area residents go outside the area for health services and the nature of these services, and (*c*) the number of residents eligible for Medicaid, since data on income were sought.

The 1964 and 1965 surveys provided information on the use of medical facilities before Medicare and Medicaid began. At the request of the Health and Hospital Planning Council of Southern New York a number of special tabulations have been made on this use of health facilities to serve as a baseline for comparison with data collected in 1968.

The survey mechanism has been used by several agencies. The Tri-State Transportation Agency used the sampling frame developed for the household survey to draw a sample to study the transportation patterns in the city. The work of the tristate agency was thus simplified and cost less.

The city planning commission and other city agencies used the information obtained through the survey as a basis for planning. The survey has also made possible better estimates of the population in specific boroughs and subunits of boroughs than those based on the 1960 census.

The urban medical economics research group, a joint activity of Hunter College of the City of New York and the city health department, has used data collected by the survey in several ways.

1. Data on health insurance coverage were used by the director of the urban medical economics group in hearings on New York State Legislature proposals for mandatory health insurance coverage.

2. Data on the total of persons and on children in New York City by income and size of family were used to estimate the number of persons who would have entitlement at alternative levels of eligibility for title XIX enabling legislation for Medicare.

3. The urban medical economics group used survey information in its report to the Mayor's Task Force on Medical Economics and to estimate the "public sector" share of ambulatory care in New York City.

The survey is now operated by City University, the graduate division of the City Colleges of New York, under a contract with the City of New York. In addition to flexibility gained in personnel policies, the arrangement has given the university a focus for training graduates

students in research work and has furthered the interests of faculty members in matters related to topics examined in the survey. The health department has benefited by the addition of university resources to the survey. The university, for example, hired a person full time to head the survey operation. Finally, the survey has become a focal point for a continuing dialog between the health department and the university.

A policy committee guides the development of the household survey. Members are the chairman of the department of sociology of City College, chairman of statistics and head of the Computation Center at the Baruch School, director of the Hunter College School of Social Work, a member of the sociology department of Brooklyn College, the present chairman of the city planning commission, a professor of administrative medicine of the Columbia School of Public Health and Administrative Medicine, and from the health department, the director of the urban medical economics project and the director of the office of health intelligence as well as myself.

Within a year after it was started, a major portion of the survey's cost was transferred to the city budget. Later an additional sum was obtained from the Health Research Council of the City of New York, and still later additional funds were made available through the hospital department of the city. Funds from the Public Health Practice Research Center grant no longer support the household survey.

The Population Health Survey demonstrates how the availability of unrestricted funds makes possible the initiation of a new activity difficult to finance through the ordinary budget until its worth is clearly demonstrated. It also demonstrates how such activities can be used to draw the university environment and the operating agencies closer to the benefit of both.

Health Statistics Bulletin

The purpose of the *Health Statistics Bulletin* was to make the public aware of the health department's activities. Each issue presented a particular problem, such as infant mortality, indicated its magnitude and trends, and described the specific activities of the department bearing on the problem. This relationship between the problem and what was being done about it established the character of the bulletins and appeared to capture an audience.

The response to the first bulletin, issued in January 1964, was astonishing. The initial mailing was 750 copies, but requests were received for 2,000 copies.

The *Health Statistics Bulletin* has been both a success and a failure. It has been a success in that the basic idea received wide acceptance, and today, several years after the bulletins were discontinued, requests are still received for them.

The bulletin has been a failure in that it has been impossible to continue to issue it, not because funds were lacking but because the person who could do the kind of writing required for the bulletin could not be found. The writer must have some understanding of statistical data, must abstract the meat of the information presented by the person who develops the data, and then he must translate it for the layman. Such a writer also must become familiar with what is going on in the health department and be able to spot topics and ideas of interest to the public.

Nevertheless, I am convinced that the basic idea of the publication is sound and that there is a need for it. The search for this kind of writer continues. He may turn out to be a retired statistician with a flair for writing and some of a reporter's nose for news.

It is regrettable that this activity could not be continued. This experience suggests that the Public Health Service, particularly its units concerned with health education, may wish to give thought to this problem. The experience also suggests that the interest of university schools of journalism might be enlisted to help train the type of writer just described.

Other Uses of PHPRC Funds

Use of Indigenous Personnel

Health departments are continually faced with the problem of motivating people to use the medical and health facilities and services available to them. If the immunological techniques and services already in existence were completely translated into effective service programs, there would be a marked impact on the health status of the population. But effectuating this translation is complex and difficult.

The most promising approach to bringing the population to the resources available for maintaining and improving their health seemed to be that used by social scientists in underdeveloped societies. Programs designed to make modern medical practice available to people were most successful when they took account of cultural mores and behavorial patterns. Until recently, this approach had not been applied widely in highly integrated societies. The key person in such an approach has been the health visitor or health guide, usually, an indigenous member of the community, who acts as a cultural interpreter between the neighborhood and the official health agencies.

After considering and rejecting several approaches, the advice of persons from other professions was sought. Discussions were held with members of the bureau of public health nursing, the office of social work, the office of the executive director for medical care services, the division of health education, the senior nurse investigator at New York Hospital–Cornell Medical College School of Nursing, a member of the Columbia University School of Social Work, and a social worker with the Citizens Committee for Children.

The fruit of these discussions was a decision to avoid, in the health guide project, the traditional health department divisions, such as maternal and child health, school health, chronic disease, and so forth, because these administrative divisions are not necessarily those which people recognize.

Although in other programs health guides had been given specific training before they began work, our advisers were concerned about giving the visitors too highly structured preparation too early in the program. One of the main functions of the neighborhood health guide is to bridge the cultural gap between health department employees and the people in an area. The concept of the neighborhood guide suggests that perhaps the health department is not fully aware of the kinds of needs and problems which face the poor. Until this is known, it might be wise to go slowly in training these workers.

We decided to let the health guides roam the neighborhood and tell us about the problems they met, or were already aware of, rather than to start them with schools or with housing projects. As the nature of the problems became apparent, the neighborhood workers would then be given the appropriate instruction. This process would identify changes needed in current service programs.

A health department health educator was assigned to the Bedford-Stuyvesant area, one of the poorest in the city, and in February of 1967 seven indigenous neighborhood health guides were employed under the grant to begin working there. Staff of the district health office in Bedford-Stuyvesant were oriented to the project so that it fitted in with normal operations in the district.

A report on the project prompted the State health department to make funds available to expand it. About 77 neighborhood health guides are being hired in several other poverty areas of the city. Experience gained in the pilot project has made it possible to formulate a training program for these workers.

The Human Resources Administration of New York City, which has a major interest in training residents of poverty areas, became aware of the neighborhood workers project and its future potential. Development of a training program for not only the workers at Bedford-Stuyvesant but also the additional workers required under the State grant has been explored with members of this agency. Positions are being created in the health department's budget for these workers after they are trained.

In this project, the existence of the PHPRC grant has had the following consequences.

1. The grant gave time to think through the project thoroughly—to examine and reject various proposals until a workable one was found.

2. The grant made it possible to begin the project as a small-scale demonstration.

3. The State became interested, through the demonstration, and made additional funds available for a service program.

4. This in turn opened up the possibility of using the original demonstration center to continue to explore new ways to use the indigenous health guides.

5. Two major city agencies, the Health Services Administration and the Human Resources Administration, joined forces in this project. It

also brought together a number of other persons in the community concerned with the problem and related them to the health department's activities.

6. The project served as a training ground for several health workers—two students from North Carolina and several graduate students working in the urban medical economics program.

Narcotic Addict Register

A major handicap in narcotics control is lack of knowledge of such basic dimensions as the incidence and prevalence of addiction, the mortality attributable to it, and types of drugs used. The only official agency reporting the number of narcotic addicts in the United States is the Federal Narcotics Bureau, but the Bureau's statistics deal only with addicts involved in Federal offenses or those that physicians report to State health departments.

To develop a register of narcotic addicts in New York City, a physician with statistical training was employed with PHPRC funds. Setting up a register is complex and requires careful and systematic planning if it is to be a sound instrument. After exploring such sources of information as the police department and the hospitals, a grant application to develop the register was submitted to the National Institute of Mental Health (NIMH). The application was approved and the project director's salary is now covered by the NIMH grant.

The register is the first systematic attempt in the United States to describe the size and nature of the narcotics addiction problem. The growth of the register is shown in table 3. At present approximately 47,000 unduplicated names are on the rolls of the register, and about 12,000 new names are added each year. While completeness of reporting and linkage of the reports with the file to obtain an unduplicated count are still problems, the register gives by far the most accurate count yet available.

The addict register also provided a basis for further research into certain aspects of addiction. With the register it is possible to follow a cohort of addicts to determine the probability of dying within stated periods after they were first reported to the register. The initial steps in designing such a study have already been taken.

Table 3. Growth of the New York City Narcotic Addict Register, 1964–67

Year	Old cases	Newly reported cases	Total	Cumulative total
1964	3, 118	6, 798	9, 916	9, 916
1965	2, 347	8, 727	11, 074	20, 990
1966	1, 653	11, 262	12, 915	33, 905
1967	645	12, 455	13, 100	47, 005

The register is an important instrument in determining the value to the community of proposals for the treatment of narcotic addicts. For example, to evaluate the methadone maintenance program for treating addicts, a detailed, careful, description of the criteria used in determining whether to admit an addict to the program was needed. These criteria can then be checked against the addict register to determine to what extent those taken into the methadone program represent addicts in general. A particular treatment program may be very effective for its participants, but the number of persons in the community similar to the participants may be small.

The register illustrates the importance of the unstructured, flexible type of grant in the initiation and development of new activities in the health department. Two new persons were brought into health department activities who now work in wider spheres than had been contemplated when they were hired. After 3 years, the procedures for maintaining the register were automated and systematized so that the project director who set it up needed to devote less time to it. Someone with her background was needed in the Medicare program. She was loaned to that program to assist in developing its statistical aspects and will probably continue to work on the Medicare program for the city. Her assistant is now in charge of the register. With the termination of the NIMH grant, the register will be financed within the normal operating budget of the health department.

Selective Service and School Records

The New York City health department in 1962 began using the Selective Service examina-

tion as a casefinding mechanism. Young men rejected for military service because of physical and mental defects were referred to private physicians or community agencies to receive care. From the inception of the referral program, it was planned to investigate the relation between the information in school health and academic records and subsequent acceptance or rejection by the Selective Service System.

The necessary first step was to determine the availability and quality of information in the school records. In a pilot study, 94 percent of the school records sought were found, and 80 percent of these were complete, containing information on both health and scholastic achievment. A grant from the Community Health Facilities Program, Public Health Service, supported the full-scale study which is in its final stages.

The findings of this study, which have been reported elsewhere (*4*), have implications for school health programs. They define fairly clearly a high risk population. They suggest strongly that if school health activities are concentrated on this segment of students, not only will resources be used more effectively, but the health of school children will be improved, and fewer men will be rejected for selective service because of health reasons. The translation of these research findings into modifications of the school health program has been discussed in the health department. Once again the PHPRC funds were used to initiate an activity with far-reaching implications for service programs. Without the ability to determine the reliability of the information in the school records, it is unlikely that this research would have been pursued.

Progress in Methodology

Activities under the PHPRC grant, as well as other research and demonstration programs of the health department and the Medical and Health Research Association (a private, nonprofit corporation that assists health agencies of the city to further their research activities) required a variety of data processing techniques. The director of each project was inclined to use computer equipment of one kind or another. However, in research programs in which the volume of work to be processed is small, the decision as to what to tabulate depends upon quick information about the magnitude of certain variables. When the tabulations are not repetitive, use of the computer may impose an unnecessary time lag, particularly in programing. A person was needed who could assess the nature of each problem and advise on the general approach to data processing.

Funds from the PHPRC grant made it possible to hire such a person early in 1967. He had been responsible for development of the data processing program for the National Center for Health Statistics, Public Health Service, and for the development of data processing activities in connection with the Medicare program of the Social Security Administration. He has systematized the data processing activities, and formulated generalized computer programs that are effective and flexible. He helped to computerize the matching of records for the narcotic addict register and to develop the entire data processing program for the Population Health Survey. He also advised on the development of a more effective computer installation for the Health Services Administration. After a relatively short period, responsibility for his salary was taken by the Medical and Health Research Administration and by City University.

The Grant and Training of Personnel

The activities described have created an intellectual environment within the health department for training public health personnel at all levels of experience, academic preparation, and ability.

Among those receiving specific, direct training were two Public Health Service employees. One was being prepared for an administrative post in the Service. During the year he spent in the program he was moved around among several projects to gain experience with a variety of subjects and problems. The second person, a Public Health Service nurse, was being trained for research activities in public health nursing. She completed 2 years with the research center and has returned to the Public Health Service.

In addition several graduate students from schools of public health received summer training. Students from the University of North Carolina School of Public Health worked on the Population Health Survey. A number of

undergraduates were introduced to the field of public health while working on research and demonstration activities conducted under the PHPRC grant. Some have gone on to schools of public health (Harvard, Pittsburgh, California, Michigan, and Yale). A number of medical students also worked in PHPRC activities during the summer.

While this student training was not financed by the PHPRC grant (the Health Research Council of New York City funded it), the existence of various activities under PHPRC made it possible to organize such training and recruitment.

The indirect training potential of the PHPRC grant has been even greater than its direct aspects. As the health department staff and the staffs of other health agencies of the city became aware of PHPRC activities, more and more persons began to seek advice and consultation in developing their ideas and in designing studies and demonstrations. In essence, these consultations were informal teaching sessions which made extensive use of a handy blackboard. Little by little the general method of approach to such problems became more widely understood by operating personnel. A major benefit of this kind of activity within a health department is its intellectual stimulation of service personnel which, in turn, often proves a powerful force in recruiting new personnel.

Return on Risk Capital

In the long run the value of such grants must be judged by the research which has been stimulated and the degree to which the research findings have changed service programs which, in turn, improve the health of the people. However, as the application stated, it would be "a definite part of the policy of the program that when specific projects are delineated within subject matter areas, funds to support these projects will be sought, either through project grants or through the regular budget of the health department, depending upon the nature of the project."

I use the term "risk capital" to describe the need for money not earmarked for a particular project but which could be used flexibly to develop a total program. What has been the return on the risk capital? Table 4 answers this question.

The $1.6 million total in table 4 is nearly six times the $281,616 received through the PHPRC grant. The $1.6 million does not include the funds the City University contributed in connection with the Population Health Survey contract or the dollar equivalent of the services the health department provided. The table indicates, however, the financial potential of this type of grant.

Conclusion

Health departments at both State and local levels are being challenged to develop more effective ways of improving the health status of the population. These challenges come from many sources. Among them are the changing nature, from acute illnesses to chronic conditions, of the health problems themselves and

Table 4. Funds received because of activities fostered by the Public Health Practice Research Center grant

Source of funds	Purpose	Amount
New York State Department of Health	Expansion of health guides program (1 year)	$250, 000
City health and hospitals department	Population Health Survey (per year)	177, 000
Public Health Service	Development of Burack classification	36, 089
Tri-State Transportation Agency	To develop sampling frame from Population Health Survey.	101, 401
Public Health Service	Development of standard medical care cost and utilization measurements (1 year).	52, 109
Children's Bureau	Programmatic grant	104, 649
National Institute of Mental Health	Narcotic addict register	696, 069
Public Health Service	School health program (2.5 years)	172, 812
Eugene and Agnes E. Meyer Foundation	Furtherance of community health activities	10, 000
Total [1]		1, 600, 129

[1] Exclusive of funds of City University and the New York City Department of Health.

concomitant changes in the age distribution of the population; the increasing education of the population and rising expectations of the citizens; new legislation such as Public Law 89–749, designed to further comprehensive approaches to health problems and more effective use of resources; manpower and money shortages with their accompanying concern with cost-benefit and cost-effectiveness analyses; and, finally, a growing realization that health is only one thread in the social fabric. Its relationship to other threads must be taken into account if effective attacks on health problems are to be mounted.

These forces put a premium on imaginative use of available resources and on experimentation to find new ways of doing things. An attempt has been made in this paper to show that the availability of unrestricted, flexible funds stimulates the development of just such activity, leads to new programmatic activities and reappraisal of old ones, pulls together a variety of community resources, and enables the health department to incorporate new items in its operating budget which are difficult to add without previous demonstrations of their values.

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