The Development and Capabilities of the Mon Valley Management Data System

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THE DEVELOPMENT and implementation of a coordinated, systematic approach to the delivery of health and health-related services is the primary objective of the Mon Valley Community Health Center in Monessen, Pa. Started in June 1971, the health center's operation is a step toward solving the nationwide problem of lack of cooperation among health care agencies and services. Through its dynamic system of data collection, analysis, and interpretation, gaps and duplication of efforts by providers are progressively being eliminated and continuity of care for the individual client is being achieved.

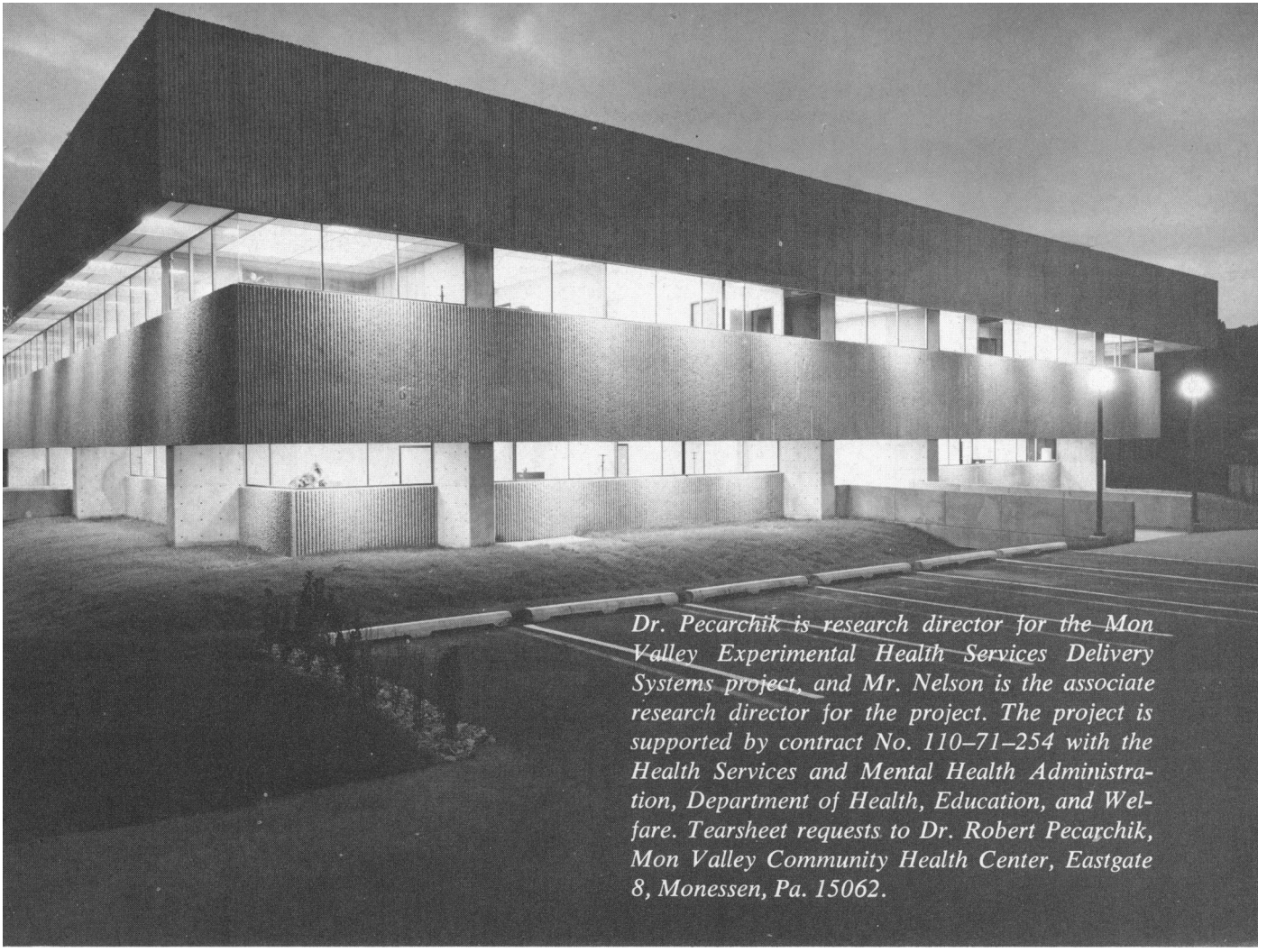
This continuing action is being conducted under the auspices of a community-organized and incorporated management board, known as the Mon Valley Health and Welfare Council, Inc. The council's objective is to bring better health and welfare services to Mon Valley residents at improved cost efficiency.

Another aspect of the Mon Valley system is that the services of both public and private agencies are included under the system's umbrella. The cooperation of these providers helps to coordinate the services within the catchment area of the health center.

The Setting

Parts of three counties are represented by 32 political subdivisions comprising the area serviced by the Mon Valley system. Located about 30 miles south of Pittsburgh, the health center is near the midpoint of the 100-square-mile area. It is on the Monongahela River near the convergence of the boundaries of the three counties.

As in most other nonurban areas, the Mon Valley has been plagued with inadequate transportation to services for a population that is becoming increasingly older and more dependent. Also, the health and health-related services themselves have not kept pace with the needs of the residents. For instance, there have been gaps in the provision of



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services because of a lack of coordination among existing and developing agencies. Further, costs of services have risen at least in part because of duplication among agencies with similar staffs and overhead costs. This situation has been further complicated because many residents are not aware of existing services and the eligibility requirements for these services.

The Mon Valley system has been attempting to solve the foregoing problems. Certain farsighted individuals and organizations have succeeded in bringing programs into the valley that are providing services to the residents and at the same time contributing to the area's stature. During the past decade, a number of agencies and organizations have come into existence whose catchment areas and names are identified with the valley (for example, Mon Valley United Fund, Mon Valley United Health Services, Monongahela Valley Hospital).

An important aspect of this identification with a natural service area is that the efforts toward improved services have been extrajurisdictional, crossing over traditional governmental lines—activities based on populations and areas of need rather than on arbitrary political boundaries. Thus, the Mon Valley providers have made more services available and accessible to residents within the confines of the area in which they live. Within this arena, the Mon Valley Management Data System was instituted.

Research and Coordination

The Mon Valley Community Health Center has a research staff and a coordination staff that work together to implement the management data system. Both staffs and their functions are supported through an Experimental Health Services Delivery Systems contract with the Department of Health, Education, and Welfare.

The two components complement each other in a number of ways. First, the barriers that typically

exist between researchers and providers are overcome at the health center through the activities of the coordination staff, which elicits cooperation from the agencies by keeping them informed about the functions and objectives of the research activities. Thus, a traditional problem for researchers has been effectively solved, essentially through the maintenance of lines of communication among the participants in the system.

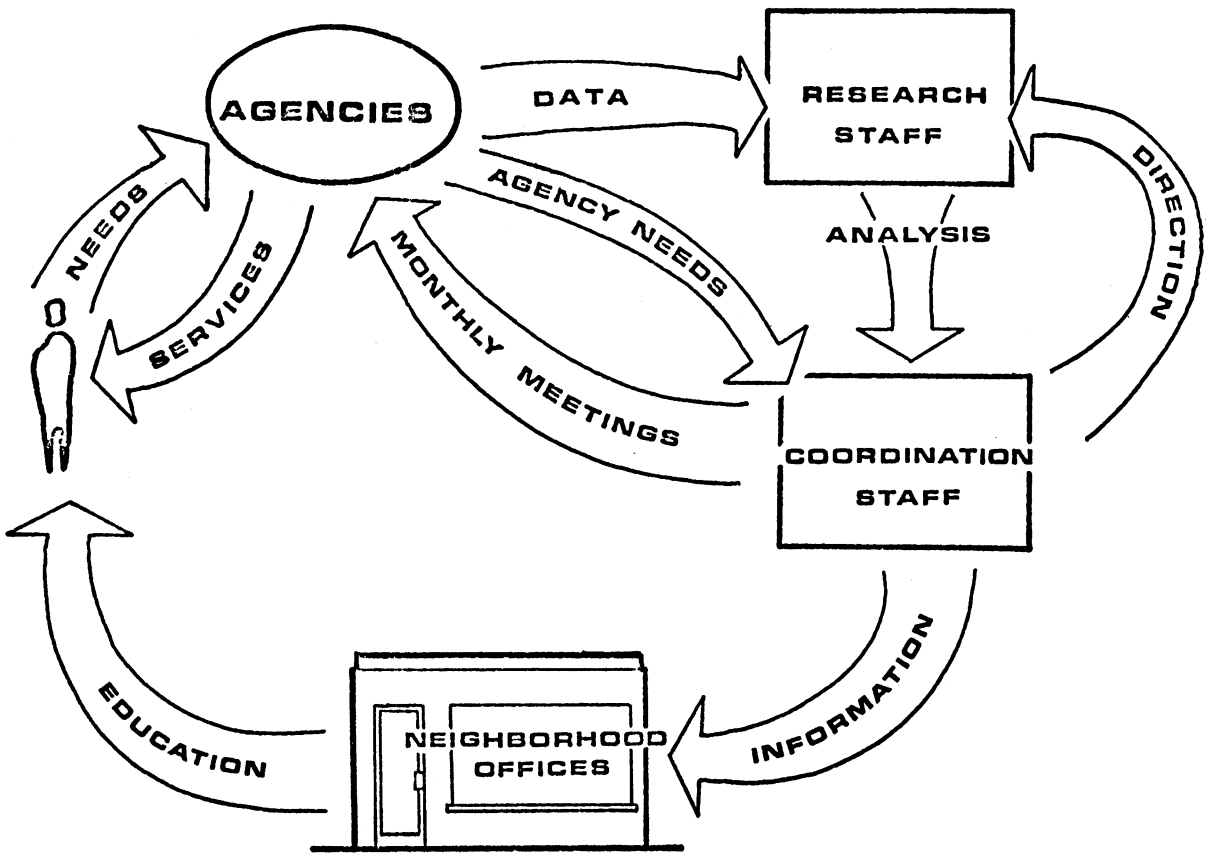
Second, in a great deal of social research those who provide the data never see the results of the data analysis and interpretation. In the Mon Valley operation, however, the findings of the research component are made available to the provider agencies by the coordination team through its monthly meetings with the agency directors. Information presented at these meetings includes the number of clients or patients who have entered the system during a specified time, their problems, and their sociodemographic characteristics.

The third function of the research-coordination staffs, which pertains to the primary reason for the existence of the management data system, is evaluation of the functions of both the system itself and the affiliated programs and services. The researchers suggest system or program adjustments to the coordinators and ultimately to the providers and perhaps to the health and welfare council. Thus, when changes are indicated as necessary for better services, information is available to support the suggested changes.

Provision for Change and Adjustment

Without the evaluative capability, the Mon Valley Management Data System would lack provision for adjustments in the system itself, as well as in the services of the member providers. Participation at any level of the system implies a willingness to be part of a continuing, critical analysis of what is happening in the valley regarding the delivery of health and health-related services. Repre-

Figure 1. The flow of information within the Mon Valley Management Data System



sentation of all sectors of the community on the health and welfare council assures stable, rational, and well-informed movements toward adjustments or changes.

The Mon Valley Health and Welfare Council, Inc.—initiated by the Experimental Health Services Delivery Systems project—is composed of representatives from four major sectors of the community: the public, providers, payors, and elected officials. Its role is essentially that of determining policy pertaining to new programs and suggesting adjustments in current ones. It also seeks ways to make the various programs in the valley self-supporting rather than government subsidized.

Often in the areas of health and welfare wide gaps exist between research operations and the implementation of programs. Either one of these activities without the other is usually wasteful of both effort and resources. The Mon Valley system has developed a functional cycle whereby data can be translated into action. Central to this cycle is the council which, through its various working committees and its bi-monthly sessions, uses the data analyses generated by the data system to raise questions, identify issues and problems, and work toward solutions.

The Management Data System

Basic service. The management data system was started in December 1971, with 12 agency service divisions participating. There are now 14 service divisions, all of which are part of the system's continuing "basic" service. This basic service consists of collecting and analyzing information on persons using the system. The research findings are used to compile monthly reports for the agencies and to analyze and project trends.

Historically, the usual provider-client relationship has been relatively simple in that a person with a problem went to an agency which either provided or did not provide services to satisfy the problem. As services became more diversified, however, and as the demand for services grew, the chances decreased that any one agency or provider could completely solve the client's problem. Further, the increasingly larger bureaucratic structures have required ever-increasing amounts of paperwork. As a result, many eligible persons either have been unable to receive appropriate services or have not even attempted to obtain them because of fear of or frustration with the required processes.

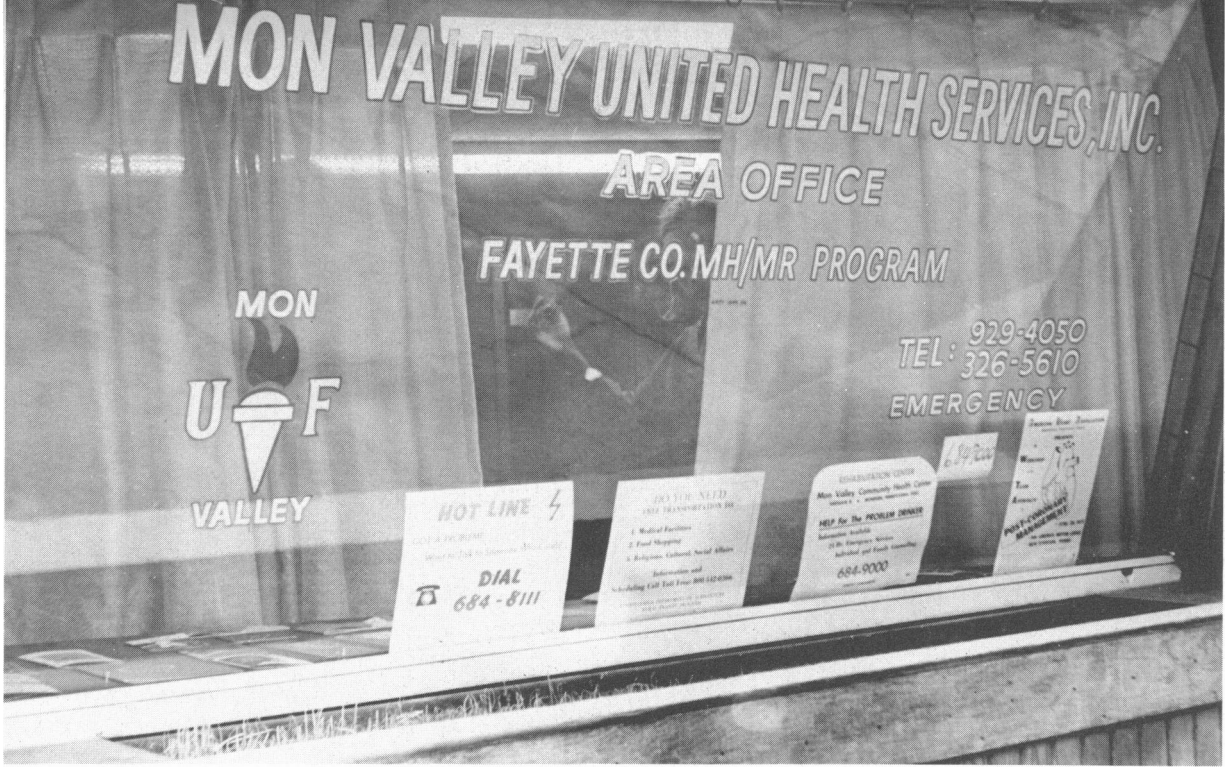
To help alleviate these problems the Mon Valley system provides each new client of the participating providers with a numbered identification card. This number, rather than the name of the client, is used in gathering information such as the client's place of residence, age, sex, and problem. This information is forwarded to the research staff which, in turn, processes it into the previously mentioned analyses and reports. Not only do the providers use the analyses and reports, but they are also used by neighborhood representatives of the coordination component to provide help and education to the public regarding available services and eligibility requirements (fig. 1).

Each client's identification number is used by all providers when they serve that same person and as information is garnered on that person at several points. For instance, the first time a client enters an intake process with any provider the sociodemographic information is collected and placed in a computerized "master file," which contains the following:

Client ID number
Client initials (no name)
Date of registration
Residence (municipality only; not mailing address)
Sex, race, and religion
Date of birth
Employment status
Total monthly household income (categorized into earned, pension, social security, welfare, unemployment compensation, and other)
Size of household
Where client heard about health center
Veteran status and year of separation from service
Other veterans in household

In addition to this initial registration information, a "guidance form" is completed for a client each time he enters an intake process with a provider, or when a referral is made for him while he is on active status with a provider, or when his case is closed with any participating provider. All guidance forms for a set time (month, quarter, year) are stored in a computerized "activity" file, which contains the following:

Client ID number
Agency ID number
Date of intake, referral, or status change
Presenting problem
If physician has been seen about problem
By whom referred
Travel mode
Disposition of case



A storefront office houses neighborhood representatives

To whom referred
(Sociodemographic characteristics available from the master file).

In addition to being stored in the master file or activity file, or both, information concerning any intake which results in placing a person on active status with a provider is also stored in a third file, the "active" one, which contains the following:

Client ID number
Agency where on active status
Date of intake on active status
(Sociodemographic characteristics available from the master file).

In summary then, the master file is a collection of demographic information on all persons within the system. The activity file is a collection of information on provider activity (intakes, referrals, cases closed) during some period, and the active file is a list of all clients who are on active status with each provider at any one particular time.

The basic service of the Mon Valley Management Data System is answering a number of questions, such as the following. Who are the new clients entering the system (how old are they, where are they coming from, and so on)? Who are each provider's new clients? Who are the active clients? Which providers are making client referrals and to whom? How do characteristics of the people within the Mon Valley system compare with known characteristics of the total population of the Mon Valley catchment area, of the State, of the nation? What programs or program adjustments are necessary to combat problems of accessibility, availability, and cost moderation of quality health and health-related services for the residents of the valley?

Extended service. The management data system also offers an "extended" service, which has been developed on a demonstration basis with only one provider. This service includes collection of specific data pertaining to diagnoses, treatments, and payment mechanisms. Whereas the basic service only picks up information on a client at the time of intake, referral, or case closeout, the extended service monitors every client contact—it even records cancellations and "no shows." All data analyses presented to anyone other than the provider identify the clients only by their registration numbers.

The extended service can be carefully tailored to each provider's particular mode of operation and can insure the use of research findings through the evaluation of care programs and their cost effectiveness. This capability is contrary to the rather common situation where research studies are conducted apart from the mainstream of

Arts and crafts activity at neighborhood office

provider operations, thus creating a gap between the results and their implementation in the service programs themselves.

The Mon Valley system has demonstrated that with provider cooperation in the collection of the data, along with a competent staff of researchers and coordinators, objectives such as planning, evaluation, and program adjustments can be achieved. Furthermore, these goals can be met without exhorbitant costs for either initiating the research operation or for the continuing functions. Once the extended service has been implemented and data are being collected on a systematic basis, the computerization assures accurate, low-cost data analysis and interpretation. In fact, a side benefit is the generation of the provider's required reports and client billings for a fraction of their usual cost.

An example of the method by which the health and welfare council can use the extended service research pertains to the mental health and mental retardation basic service clinic, which is the provider participating in the demonstration of the extended service. Data from the clinic are furnished to the research staff, which in turn provides analyses in the form of whatever reports are desired by the clinic, along with patient billings. The analyses are also forwarded to the health and welfare council, which can make recommendations in two directions. First, the council can direct suggestions to the clinic's board of directors. Second, the council can make recommendations to the Mon Valley United Fund, one of the financial supporters of the clinic (fig. 2). In essence, with the council and the research capability there is an informed perspective on health and health-related activities that can help to assure the implementation of needed programs, along with the best allocation of available resources.

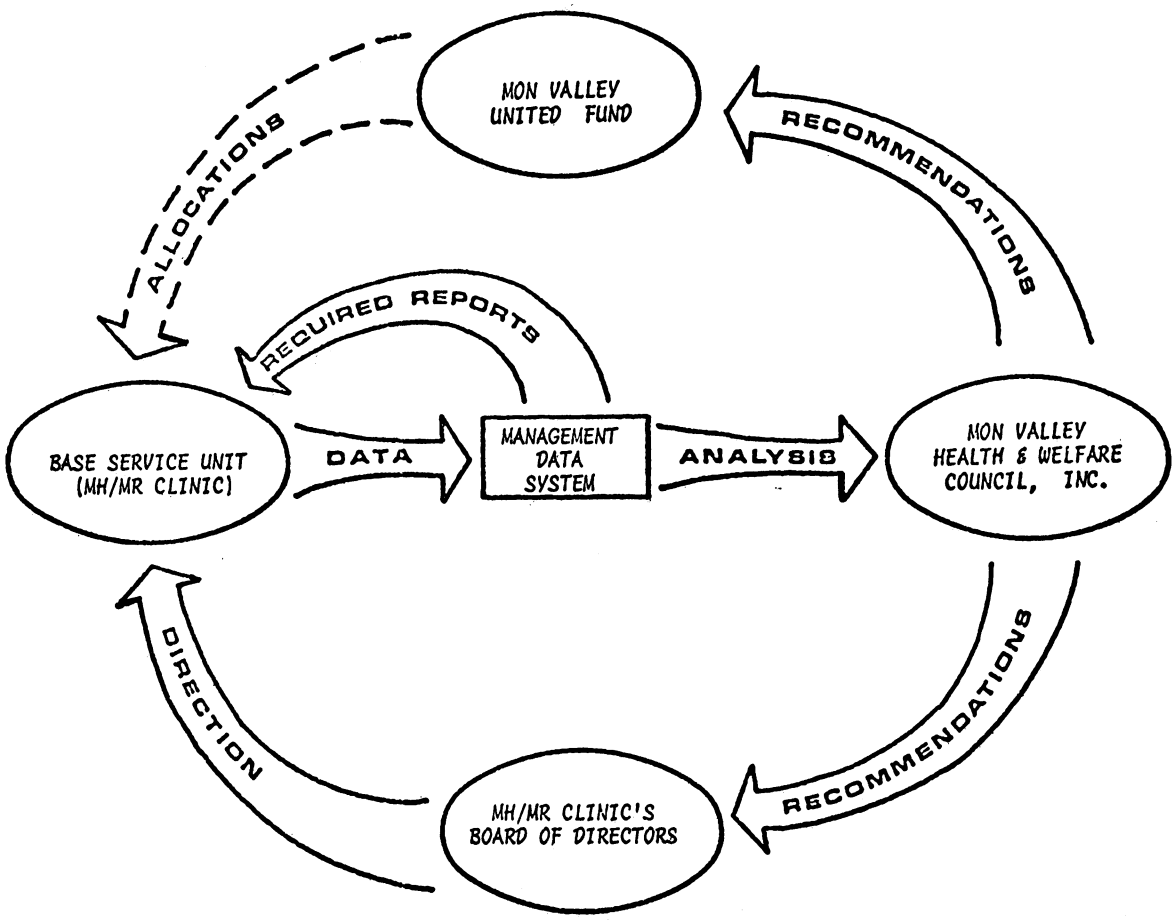
Vital Factors—Present and Future

The Mon Valley Management Data System is not static—its development has been a continuous evolution toward a more effective and efficient management tool. Although not yet complete, the system has been successful in meeting its objectives, and it has provided the staff with valuable insights into the developmental process.

During its development and implementation, the management data system has demonstrated the importance of a number of key factors that are vital to the success of such a system. Of six delineated factors, five have been incorporated into the Mon Valley operation, and the sixth is currently in a planning stage.

The first factor is the mix of public and private providers of health and health-related services.

Figure 2. The role of the Mon Valley Health and Welfare Council, as exemplified by one provider



The inclusion under the system's umbrella of such services as public health, family planning, public welfare, and child development has helped to overcome the common stigma attached to human services, that is, that they are intended only for the poor. In conjunction with this, an essential objective of the system has been the education of the community regarding a full spectrum of services for all sectors and levels of the population. The emphasis has been upon health in its broadest context—social and emotional well-being as well as medical. Further, the inclusion of vocational rehabilitation, mental health and mental retardation services, and drug and alcohol rehabilitation insures an emphasis on client rehabilitation and not merely maintenance of the status quo.

The second vital factor is the community orientation upon which the Mon Valley system has been based. Other service areas that do not consider the environment in which a population needs services and seeks them are at a disadvantage in the development of improved health care delivery. Arbitrarily established political boundaries tend to stifle development of effective health care systems, because typically bureaucratic political structures present formidable barriers to cooperation and coordination efforts. The more functional approach demonstrated in the Mon Valley has been to focus on an "area of need," or an "area of solutions," which brings the system's operation and its results closer to the people who need services within the operationally identifiable area. The Mon Valley area is composed of parts of three counties, its boundaries are nonpolitical, and it has been identified as a "community" in which the problems of the population are being solved in an efficient, coordinated manner.

Also playing an integral role in the Mon Valley system is the third factor, the relationship between the research and coordination components. With-

out the community organization functions of the coordination staff, the data collection and feedback to and from the providers would have placed an overwhelming if not impossible burden on the research staff. Likewise, the coordination staff would have been pressed to maintain provider cooperation and interest if it did not have access to the ongoing data analysis and interpretation which has proved its utility for the providers. Thus, this unique relationship between members of two antithetical disciplines, sociology and social work, has proved to be a key link in the process which has made the system a success.

The fourth factor pertains to the fact that if a community is to progress it must have a representative body with the power to implement new programs when they are indicated by the system as being necessary. This body must also have the power to be the prime mover in bringing about needed adjustments in current programs. And it must represent all segments of the population if it is to be the vehicle by which gaps and duplications in services are eliminated. The Mon Valley Health and Welfare Council has filled this role.

A perspective on progress, functions, and needs has been provided to the council through the studies performed by the research component. These studies include, in addition to analyses of information collected by the management data system, analyses of census data and vital statistics, the conduct and analysis of a household health survey, and health facilities and manpower surveys. Without these studies, the council's decisions and suggestions would be based on much less information and thus be less meaningful. By the same token, the research activities without the council would tend to be the same as much research in the past—designed, conducted, and presented, but seldom used or implemented into the continuing progression of the community and its health care activities. The critical analysis which is its modus operandi provides the council with a powerful tool for change, but at the same time opens it to a great deal of critical pressure from various interest groups in the community. To effectively combat this pressure then, the council must represent the public, payors, providers, and political sectors of the community.

The fifth factor, related to the fourth one, is that of program accountability, which means that each program within the health and welfare arena in the Mon Valley is now accountable to the council regarding its effectiveness, cost efficiency, and relevancy. The council is responsible for making community-based decisions and recommendations to all the health and health-related providers in the valley. Most of its power lies in its access to current data pertaining to health care delivery both locally and nationally. As long as it has access to a professional, locally based research component, the council's actions will be difficult to dispute.

Not only are the valley's providers accountable to the council in the foregoing manner, but the council itself is under the scrutiny of broader, standard-setting organizations such as the State and Federal governments. This latter accountability helps to assure that tax dollars are used effectively and efficiently to provide quality services.

The sixth and final factor is the central intake of persons entering the system of services. Unlike the other key factors currently contributing to the successful operation of the management data system, the centralized intake process is recognized as vital, but is not yet in existence. The complexities of such an undertaking have dictated that the other factors be implemented first, to acquire an understanding of the intricacies of the area and the system. Now that this has been accomplished, the Mon Valley operation has the capacity for developing a centralized intake process for all the providers under its umbrella.

A central premise in this development will be that the duplication of the intake and registration process in both public and private agencies, including health and health-related providers, is inefficient and wasteful of both manpower and financial resources. Also, the current duplication is frustrating and agonizing for the intake workers as they attempt to assess the client's needs and for the client himself as he tries to get help from the system.

The current Mon Valley system of information analysis and coordination has gone far toward alleviating alienation of the client from the system, but the duplication and irrelevancy in many of the intake processes must be eliminated before the management data system reaches its full potential for improving the delivery of health care. This potential includes a greater saving of resources for the providers, easier movement of the client through the system, and a more efficient data system on which to base evaluative adjustments and policy decisions.