

A Collaborative Effort to Develop a Data Collection System

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Community-based organizations often have difficulty in developing, maintaining, and computerizing the type of record-keeping system essential for determining the organization's effectiveness. Such systems require sizeable investments in the time of staff, employed primarily to provide services to community residents; and often mean the agency must employ additional staff and purchase computers. Moreover, those who try to install such systems may incur resistance from clinical staff, who usually prefer to spend their time with clients rather than in completing forms. Nevertheless, when the time comes to renew

existing funding or to apply for new funds, these agencies are asked to show, at a minimum, how many they serve, the characteristics of their populations, and often the success of their programs in meeting previously established objectives. Then it is too late to create the system and requests for funds are sometimes denied as a result.

Some community-based organizations foresee the need for data and plan a system early in their development, while others are required by their funder to do so. With the assistance of faculty and staff from the School of Public Health at the University of Alabama at Birmingham, (UAB) one community-based agency, CHIP of Virginia, was able to develop such a system and use it to manage its program and to assist in fund raising. This

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case study underscores two important aspects of successful collaboration between the academy and a service organization. The first is that faculty should not allow the service organization to become dependent upon it for ongoing data collection needs. The second is that both organizations must benefit from the collaboration if the relationship is to be maintained.

Program Description

CHIP of Virginia is a non-profit organization whose goal is to improve the health of young children and the functioning of their families. CHIP was originally an acronym for the Comprehensive Health Investment Project, but the program became so well known by its short title that the name was officially changed to CHIP of Virginia, Inc. At eleven sites in Virginia, CHIP agencies provide comprehensive health and social services to Medicaid-eligible families with a child under the age of six. CHIP offers family support, as well as health care coordination, and case management, through teams of public health nurses and home visitors who visit homes and maintain contact with



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families by phone and other means. CHIP also arranges primary medical and dental care for the children, usually in a private practice setting.

The Role of the Academic Department

CHIP of Virginia was organized in Fall 1990. Its first task was to take the model that had been established by CHIP Roanoke and to implement it in three additional Virginia communities, using funds from a W.K. Kellogg Foundation grant. The Foundation required an evaluation, but its guidelines focused on qualitative items. The CHIP of Virginia director realized, however, that if she was to receive additional funds from other sources, she would need quantitative data as well. For this she sought assistance from a UAB pro-

computer. Periodically, the data were forwarded to the MCH department on a computer diskette. The department created a database, analyzed the data and wrote reports, which were returned to the CHIP of Virginia office. By the end of the first year, the MCH staff was able to summarize the data and provide CHIP of Virginia with its first full picture of its services.

Gradually, the relationship between CHIP of Virginia and the department changed from one of dependence to one of considerable independence. First data input became a CHIP function. Shortly thereafter, maintenance and design of the database was assumed by CHIP of Virginia. Data analytic methods and rules developed by the MCH department were transferred to CHIP. CHIP of Virginia staff, working with department faculty, adopted a system, devel-

and routine descriptive analyses, the role of the department gradually shifted to evaluation. The first such attempt involved comparing CHIP families at the time of their enrollment in the program to their status one, two, or three years later, using indicators such as having a primary care provider, up-to-date immunization, and maternal employment. Obviously in the absence of a matched comparison group of non-CHIP families, it could not be stated with any certainty that the changes, all positive, were due to CHIP. Nevertheless, the results were promising.

Realizing the emerging need for a more rigorous evaluation, the CHIP of Virginia and the department staffs convened a meeting with a group of evaluation and policy experts to determine whether a randomized control trial was feasible. Although all

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fessor, leading to a contract with the professors department (Maternal and Child Health).

The first step was to develop a user-friendly system of data collection so that CHIP of Virginia would know what services it was providing to whom and when. With the help of department faculty members and its data analyst, and working collaboratively with CHIP of Virginia's director and data analyst, several forms were developed and piloted: a Log of Encounters; an Intake Form; a Household Composition Sheet; and an Annual Update Form. Once these were approved by the CHIP staff in the central office and at the sites, the CHIP of Virginia director assumed responsibility for educating CHIP workers in their use. The forms were sent from the sites to the CHIP central office where they were entered into a

oped by CHIP Roanoke, for scoring the management level of the families that it served. The department helped CHIP of Virginia add this to its analytic system. Using the experience of several years of operation and of report preparation, CHIP of Virginia periodically revised its forms by dropping items that did not appear to be useful and substituting new ones if needed. These revisions often reduced the number of items that busy staff need to complete without losing a full picture of the programs operation. This shift of responsibility was encouraged by the department, which was trying to make it possible for CHIP to continue to collect, analyze, and report on its activities after the conclusion of the contract.

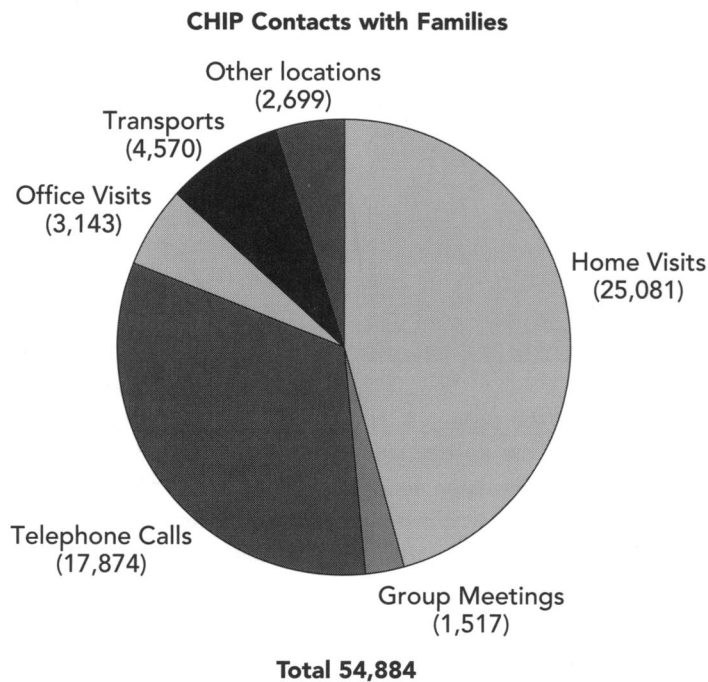
As CHIP of Virginia assumed most responsibility for form development

agreed that such an evaluation design would be the best test of CHIP, the consensus was that such a study would be prohibitively expensive, require a larger number of families than was available, suffer from differences in the sociodemographic characteristics and in program implementation at the several sites, meet with staff resistance to randomization, and suffer from a shortage of quantifiable outcome measures.

The CHIP of Virginia and department staffs decided on an alternative evaluation model based on a study of the state Medicaid files. The Virginia Medicaid agency provided the investigators with a three-year Medicaid Claims History file. The file included all the claims for over a thousand children enrolled in CHIP at eight sites. The file also included a sample of chil-

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1998 Summary of Services



dren who lived in the cities and counties covered by the eight CHIP sites but who were not in the CHIP of Virginia database. From this file a subsample of over six thousand children was selected who matched the distribution of the CHIP children by site, gender, race, and reason for Medicaid eligibility. These data were used to determine how the number of claims and the charges for CHIP children pre- and post-enrollment compared with those of similar Medicaid-

non-CHIP children. Such an analysis, involving thousands of records, was beyond what could be conducted by CHIP of Virginia staff and was entirely a department responsibility.

CHIP of Virginia's Use of the Data

CHIP of Virginia has made extensive use of the data generated by this collaborative effort. The descriptive reports satisfied the Kellogg Founda-

the data system, often generated by CHIP of Virginia rather than the department, were used in requests for funds from the Virginia maternal and child health agency and from the Virginia legislature that received favorable responses. CHIP of Virginia also used the data to produce attractive bar and pie charts to include in monthly, annual, and special reports distributed to opinion leaders in the state capitol and elsewhere in Virginia. (See example in Figure 1.)

When CHIP of Virginia needed advice about how to approach Virginia's growing managed care establishment with a CHIP-based proposal, the department referred the director to experts in financial affairs in the school's Department of Health Care Organization and Policy. Members of that faculty were able to use data that the MCH department had generated to develop performance and cost indicators. Data from the Medicaid-based evaluation has been used in a request for Medicaid support of CHIP services.

CHIP of Virginia also used the data system as a management tool. The federal Family Resources grant required that five core services be provided to families: education and support; early developmental services; outreach; follow-up; and community referral. CHIP forms were adapted to monitor the ability of sites to meet the federal requirements. The data system was able to identify sites that needed help in providing the core

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enrolled, non-CHIP children, using a pseudo-enrollment period. This analysis revealed both higher pre-enrollment claims and charges and a greater reduction in Medicaid claims and charges over time for CHIP children as compared to the matched

tion's request for an evaluation. The existence of the data system assisted CHIP of Virginia in its successful application for a grant from the Family Resource and Support Program of the federal Administration on Children, Youth, and Families. Reports based on

services and to determine which services the sites were having the most difficulty in providing, which was found to be developmental screening. The information was fed back to the sites and assisted them in program development.

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The Department's Use of the Data

The MCH department has also benefitted from this relationship not only financially, but also in traditional academic ways. Masters and doctoral students were involved in the initial data analyses and in the collection of data for a process study (not described in this paper). The collabora-

tion, independent of the agency it is studying. As a result the agency seldom understands what has been done, does not know how to explain it to others or use the information, and is unable to independently employ the data collection system that was developed using its funds.

Moreover, both the academic department and the community-based

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ration has resulted in new knowledge, especially in its Medicaid studies. Papers based on CHIP experiences have been presented at three meetings of the American Public Health Association. Manuscripts based on the descriptive studies of CHIP, as well as on the Medicaid-based evaluation, are being prepared for submission to scholarly journals.

Conclusions

This collaborative effort is a model for linkages between academia and practice, particularly in its ability to transfer responsibility from the academic institution to the community agency. All too often, the academic department conducts data analyses or an evalua-

agency have benefited from their interaction. In addition to being paid for its services, the department has been able to generate new knowledge about the impact of family support programs, which it has presented to academic and service communities. In addition, the department has been able to engage students in studies of an innovative, growing program. The agency has obtained a data system that it can use when it seeks funding, as well as in managing its 11 sites in 29 localities serving over 4,000 children.

This collaboration is an example of Boyer's Scholarship of Application, as cited in *Demonstrating Excellence in Academic Public Health Practice*¹, extending beyond what is simply the transmission, consultation, or techni-

cal transfer of knowledge, the scholarship of application implies the dynamic, sequential interaction of methods and expertise to facilitate practice, professional, and community sectors in enhancing the development of their capacity for performing essential public health functions. In the scholarly application of theory to practice, one informs and renews the other.

1. Association of Schools of Public Health, Council of Public Health Practice Coordinators, *Demonstrating Excellence in Academic Public Health Practice*, Washington DC, June 1999.

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