Design and Test of a System for Tracking Referrals

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A PRACTICAL REALITY of service delivery systems is that no one agency can provide all the services each client needs. Many health and welfare programs or units of these programs are therefore based upon an operating model in which services needed by clients are identified by one agency, which refers them to other agencies for the provision of services. Staffs of the agencies operating according to this model often do not know whether the recommended services are received by the client or consumer, yet it is assumed that receiving those services is essential to the achievement of the referring agency's goals.

Health screening in schools, identifying needs for family planning services, prescription writing, and recognition of services needed by the developmentally disabled can presumably contribute to the well-being of those evaluated in these activities only if the services recommended are received. Our experiences with the design and pilot testing of a tracking procedure to be used by a statewide program based largely on this agency model are described in this paper.

We designed the procedure for 11 regional developmental evaluation centers (DECs) in North Carolina that receive primary support from the State. North Carolinians of all income levels are served by the DECs. The professional membership of the evaluation teams varies among the DECs; each has one or more pediatricians, psychologists, social workers, and public health nurses and various combinations of special educational consultants, speech and hearing therapists, physical therapists, nutritionists, and psychiatric consultants. The ultimate goal is to enhance the well-being of children with developmental disabilities and their families. Evaluation, treatment, planning, and specific recommendations for services are directed toward that goal. DECs rely upon others to provide the child and family with most of the services their staffs recommend. Although some DEC professionals know about some services their clients receive, they have no formal mechanism for determining whether most of the recommended services are received by those whom they have evaluated. This gap in knowledge is critical if one assumes, as we do, that DEC evaluations can lead to the ultimate goal of enchanced well-being only if the needed services are received. These are the critical factors that justify the DEC Family Tracking System (DECFTS).

Objectives for the System

The first objective of the system was to identify children and families who did and did not receive the services recommended by the DECs—information useful for

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several purposes at various levels. If most services recommended are received by the children and their families, then the DEC evaluation might be contributing to the achievement of the DEC's goals. We emphasize "might be contributing" because the enhanced well-being of child and parent would occur only if the other services produced that effect. Since in most cases, the primary responsibility for quality of services lies with people and agencies outside the DEC (although the center may provide consultation), the DECs cannot assure that those services will produce the intended effects.

On the other hand, if many of the recommended services are not received, it can be assumed that in such cases the evaluation of child and family did not contribute to the DEC's goal. Such information would be useful at local, regional, and State levels in planning and assessing progress.

Systematic identification of those not receiving recommended services would be the first step toward determining if the client desires or requires more involvement by the DEC. Thus, a second objective of the tracking system was to contribute directly to the goal of the evaluation center by increasing the chances that the services recommended are received by those who desire, but do not initially receive them.

A third major objective of the system was to provide a means of soliciting suggestions from parents as to how the DEC might better meet the needs of its clients, information that has obvious relevance to DEC planning.

Finally, the DECFTS should provide a formal way for DEC professionals to recontact all children and families evaluated, to explore additional needs, and to identify new ways in which the DEC might assist them in meeting those needs. Thus it should serve as a mechanism for reinvolvement of the DEC, even if the originally recommended services were provided.

Ground Rules for Developing DECFTS

In addition to the objectives just mentioned that guided us, we began with four ground rules. First, the system must be practically and economically feasible. We did not want to create a system that, for example, required 90 percent of the DEC's staff time or more money than the State wished to spend among all the DECs. Second, although the evaluation centers exhibit a range of operating styles and philosophies pertinent to the tracking concept, the system must be adaptable to all State-supported DECs and capable of yielding basic information generalizable to all. Third, we would rely heavily on suggestions from the DEC staffs in designing the system because their advice could prove invaluable and their participation in planning would be critical to the successful installment of a statewide tracking system. Fourth, there should be a pilot test of the system, and necessary revisions should be made before introducing it to all the DECs.

Search for an Existing Tracking System

Initially, we assumed that an existing tracking system might be adaptable to the DECs. However, our literature searches and personal contacts with knowledgeable persons throughout the United States failed to locate a system applicable to the centers that satisfied the objectives and ground rules previously specified and possessed most of the basic features that we will subsequently outline. Rather than cite all the sources explored, we refer to a recent article that describes the development and testing of another system and identifies most of the literature (*1*).

Necessary DECFTS Features

We visited the 11 State-supported DECs to solicit the thoughts of virtually all professional staff. We presented general goals for tracking and, with few exceptions, requested staff members to present their ideas rather than imposing our own. Many DEC staff also provided valuable consultation throughout the subsequent development period, and our discussions yielded many suggestions. Most were directed toward the following five issues, which we have summarized.

1. Who should provide the tracking information? It soon became apparent that tracking data were not available in local DEC files, and therefore the parent or guardian of the child and the service provider became the two most popular choices for the tracking contact. The parent was chosen to provide information whenever possible for several reasons. Parents are typically the primary caretakers of children and, in most instances, bear the major responsibility for assuring that needed care is received. Only the parents could give their reasons for not receiving services and suggest how the DEC might contribute further to solving the family's needs.

Moreover, the service provider to whom referral was made would not be able to account for those consumers who received services but from a provider other than the one recommended by the DEC. In many cases, it would be impractical to obtain information from service providers because it would require contacting many different providers. Some would be unwilling to provide tracking information and would require parental consent to release information. The major objective of reinvolving the DEC and the family, if the family so wished, would not be met if the service provider were contacted. However, if the parent could not provide the tracking information, then with parental permission, as much data as possible should be obtained from the service provider.

2. Who should request and record the information? Most DEC staff felt that they, rather than outsiders or nonprofessionals hired specifically for making the tracking contacts, should obtain the data. They believed that persons other than the DEC staff would not have the rapport with families and the knowledge of their situations that would be needed to obtain accurate information. Reinvolvement of the DEC and family when it was needed would be more likely to be achieved, they believed, if professional staff, rather than others, made the contact. Also, they thought that use of outsiders as trackers might pose problems related to the confidentiality of DEC records.

Although there are positive aspects associated with the use of outsiders—such as less demand on the time of staff, the potential for more objective reports from parents, and higher quality data as a result of closer supervision of the interviews—it was concluded that the benefits to be accrued by involving staff members directly clearly outweighed what would be achieved by using outsiders or persons hired to collect the tracking data and to work at the local DEC. The variation in operating styles among the evaluation centers led to the decision that each DEC should determine which staff members would make the contacts.

3. Should contacts be made by home interviews, mail questionnaires, or telephone calls? Although face-to-face interviews with parents in their homes might yield data of the highest quality and reestablish involvement with the family, the expense of the interviews would be prohibitive. Mail questionnaires were ruled out because it was anticipated that the rate of return would be low, no clarification of questions and answers or probing to obtain necessary information would be possible, and the method would not facilitate reinvolvement of the DEC and the family.

We concluded that most contacts should be made by telephone, and parents who could not be reached by telephone should be interviewed face to face. As a last resort, the service provider would be contacted to supply as much information as possible.

4. How often should contacts be made and when? We received a variety of suggestions about frequency of contacts from the DEC staffs, ranging from quarterly calls, until the staff determined that support was no longer needed, to one contact a year or more after the initial evaluation. We compromised on contacts at 6 and 18 months after the initial evaluation. The 6-month contact should allow sufficient time for most services to have been received, and 18 months after the evaluation appeared to be an appropriate time for checking to determine whether the DEC should reactivate the case.

5. What should be the structure and content of the tracking form? In addition to providing all the information necessary to achieve DECFTS objectives, it was agreed that the form should be brief and simple. In its final version, the form is one side of an 8½- by 11-inch page in a format that is easy to complete and amenable to direct keypunching. The following information is recorded:

DEC's identity code
Identification number of the client
Date of evaluation
6- and 18-month contacts
Services needed by clients
Whether each service was received, and if so, who provided the service
When appropriate, the parent's reason for not obtaining the recommended service
Parents' suggestions as to how the DEC could better meet the family's needs
Whether the family needs additional help from the DEC and, if so, how the DEC might help
Method of the tracking contact
Date tracking was completed
Whether the DEC should continue involvement with the family
Reasons tracking was impossible or unnecessary
Identification of the tracker

A code sheet to accompany the form and tracking instructions were also prepared.

An important issue in deciding on the form's content was whether to record the initiation of the recommended service or to document the degrees to which it was received. We felt that recording the initiation of the service would help to maintain simplicity in tracking, and this choice recognizes that continuation of services provided by persons not associated with the DEC becomes the providers' primary responsibility after the client begins receiving services.

Another issue was whether to ask the parent to judge the extent to which the child or parent had exhibited positive or negative development as a consequence of the DEC action. We decided against asking for such information because research designs other than the one imposed by the DECFTS would be necessary to assess the direct impact of the centers upon the development of children and families, and self-reports on development subsequent to the center's involvement might be more misleading than useful.

Preparing for the Pilot Test

For several reasons we chose the developmental evaluation center in Greensboro, which serves a five-county region, for the pilot demonstration. The center was representative of the 11 North Carolina DECs from the standpoint of determining the viability of the tracking system; it was relatively close to our offices in Chapel Hill and Raleigh, which would facilitate indepth observations of the pilot effort and, we assumed, contribute to resultant improvements of the system. Further, we knew no reason why implementing the system at Greensboro would be easier than at any other DEC, and a pilot project there would be a rigorous test of the tracking system.

The 67 children and their parents admitted to the Greensboro DEC during the periods September–November 1973 and September–November 1974 were selected to be tracked in March through May 1975. The 41 admitted in 1974 represented families tracked 6 months after evaluation, and the 26 admitted in 1973 represented those tracked about 18 months after evaluation.

The Greensboro staff was asked to study the tracking form, code sheet, and instructions for tracking, and then they were trained as a group for approximately 2 hours. The authors visited Greensboro weekly throughout the pilot period to learn of problems that could be alleviated in subsequent versions of the tracking system.

Experiences During the Pilot Project

A high completion rate is essential for such a system to be successful. Of the 67 families selected, 63 were eligible for tracking; 2 families had moved from the region and 2 families were ineligible because the evaluations were incomplete. A tracking form was completed for 61 children, or 91 percent; information about 2 children could not be obtained after repeated attempts. These rates of completion are higher than the usual ones for attempts to recontact people after 6 to 18 months, and were substantially higher than we or the DEC staff members had predicted before starting the pilot effort.

In the 61 families for whom information was available, 85 percent of the parents or guardians were contacted by telephone, 3 percent in face-to-face interviews, and 3 percent via an exchange of letters between the DEC and the parents; for 8 percent, service providers furnished information. That 91 percent of the contacts were with the parent was most fortunate, as only parents can provide all the information sought. That telephone contact was possible in 85 percent of the cases was contrary to the expectations of the DEC staff. The persistence of the Greensboro staff paid off. They recognized that most people are accessible by telephone even if they do not have a telephone in their homes, and many parents could be reached by telephone during weekends or at work without provoking negative reactions from parents or employers.

Tracking was equally successful in the 6-month and 18-month groups, and therefore we present no comparisons of the two groups.

Tracking information should improve planning by the local center. We prepared a model summary for the DEC that can be computerized to provide prompt, quarterly feedback information in a readable format. The summary provides information relevant to the DECFTS objectives specified previously.

Selected Substantive Results

The pilot's purpose was to develop a system rather than answer questions that the DECFTS was designed to answer, but because these data represent the first systematically collected information directed toward many of these questions, we present a few substantive findings.

1. A total of 201 services were recommended to the 61 families with completed tracking forms. Seventy-four percent of these services were initiated, and for 42 percent of the families, all those recommended were initiated.

2. Fifty-two reasons were given for services not received. The most popular reason (46 percent) was that the parent considered the service unnecessary or did not want it. No one cited the service's expense or inconvenience as a reason for not beginning it.

3. Eleven parents offered a total of 13 suggestions about how the DEC could meet their needs better. Four responses were that the center could provide more help in obtaining services, three were for a briefer evaluation, and the remainder were varied.

4. Twenty-one respondents reported needs that were not already known to the DEC. Thirty-two percent of the needs were for center staff to consult with service providers; 28 percent, for evaluations by the DEC; 16 percent, for DEC consultation with parent or child; and 12 percent for help in obtaining services from someone other than the center.

These results clearly reflect the need for a tracking system; they demonstrate substantive findings of relevance to the centers.

Time Required for Tracking

A major concern during the development of the system was that DEC staff members might not have time to add tracking to their other responsibilities and, indeed, that tracking might be impossible if the current staff had to assume the major responsibility, given their current heavy workloads.

The Greensboro staff determined how cases were to be allocated. Eleven professional staff shared the ultimate responsibility for the 67 families, with 3 being the fewest cases managed by a staff member and 9 the most. Each staff member was responsible for an average of 6.1 families to be tracked over a 3-month period, or an average of 2 per month. Given the importance of tracking to the center's ultimate goal, this duty does not appear to be an excessive burden.

All staff documented the time they devoted to tracking. A total of 54 hours and 27 minutes was spent in preparing for tracking, attempting to contact the family, in obtaining and recording information, and in contact with the respondent for tracking but not obtaining and recording information. During the 3 months available for tracking, the 11 professional staff members worked a total of 4,685 hours for the DEC and thus spent 1.2 percent of those hours on the immediate tracking activity.

The system was expected to stimulate additional demands on staff beyond that required by the tracking process itself. Indeed, an objective was to reinvolve the DEC with the family if needed. The staff recorded the additional time expended after the form had been completed and contact with the respondent had ceased—a total of 7 hours and 5 minutes for the 11 staff members. We also had the trackers record the time that they anticipated spending as a result of the tracking activity. They expected to devote an additional 64 hours and 23 minutes to the following activities as a result of the tracking: (*a*) evaluation and consultation (40 hours), (*b*) contact with non-DEC professionals concerning programs for DEC clients (5 hours), (*c*) counseling (5.5 hours), (*d*) evaluation of other children in the family (12 hours), (*e*) consultation with the DEC staff (1.5 hours), and (*f*) other (23 minutes).

The time spent in immediate tracking activities and the time the staff spent or anticipated spending in activities generated by these contacts totaled 2.7 percent of their working hours during the 3-month pilot test.

When these data are analyzed on a per family basis, 49 minutes were spent on each family selected for tracking. Twenty minutes were devoted to preparations before attempting contact. Perhaps this time could be reduced if current records were maintained in a form more amenable to the task of tracking and if nonprofessional staff were available to assist. The remaining 29 minutes per family were spent as follows: 15 minutes in contact with the family and recording information, 10 minutes in attempting to make contact, and about 5 minutes in contact but not in obtaining or recording information.

Cost of Tracking

We translated personnel time devoted to tracking into dollars paid in salaries and added the small expenses for postage, long distance telephone calls, and travel associated with tracking. The tracking cost was $7.15 per family selected for immediate tracking activities only and was $14.49 if we included the additional personnel time spent and expected to be spent as a consequence of tracking activities. These costs appear small in comparison with the importance of tracking to the goal of the DEC. Moreover, tracking did not require additional funds since the DECFTS relied primarily on existing center personnel.

Costs will be increased when the system is implemented statewide. A full-time clerk will be necessary at the State office to edit the estimated 6,000 tracking forms per year and to perform other clerical tasks essential for the maintenance of the system. Funds will be required for computer processing of data. Professional time will need to be spent to successfully implement the system. We estimate that the cost per case tracked at 6 and 18 months will be increased by about $1 when all other anticipated expenses are added.

Generalizations from the Pilot Project

We have attempted to create a broadly applicable system. It is now being implemented in all DECs supported by the State of North Carolina in 1976. However, a successful DECFTS will require constant monitoring of the quality of the data and reminders of the system's priority among the DECs' responsibilities.

We do not know how practical the DECFTS would be for other health and welfare programs or in settings that differ substantially from North Carolina. For example, it might be inappropriate for some screening programs or in the ghettos of large U.S. cities. Given its proven feasibility for the Greensboro DEC, however, we recommend that the DECFTS be tried as a pilot project by other programs that rely in large part upon others for the provision of services to their clients.

Reference

1. Cauffman, J. G.; et al.: A study of health referral patterns. Am J Public Health 64: 331–356, April 1974.

SYNOPSIS

BAUMAN, KARL E. (University of North Carolina, School of Public Health), and COULTER, MARTIE: *Design and test of a system for tracking referrals. Public Health Reports, Vol. 91, November–December 1976, pp. 521–525.*

Many health and welfare programs are based on a model in which services needed by consumers are identified by one agency with referral to others for provision of services. The referring agency often does not know whether the services recommended are received, yet it is assumed that receipt of those services by their clients is essential to achievement of program goals.

A procedure was devised for tracking families evaluated by North Carolina's State-supported developmental evaluation centers (DECs), agencies that reflect this model. The multidisciplinary evaluation teams of these centers serve children and their families of all income levels. The developmental evaluation family tracking system is a method for determining if recommended services are received, the reasons why they are not, and whether the family desires additional help from the center or other sources.

The system was piloted in the Greensboro DEC with a selected group of 67 families. Parents were contacted, mostly by telephone, at 6 months and 18 months following evaluation. Tracking forms were completed for 61 families.

Professional staff spent only 2.7 percent of their working hours during a 3-month period on direct tracking activities and other tasks in behalf of the consumers contacted. The cost was $7.15 per case for immediate tracking and $14.49 if additional activities generated by the tracking contact were included. The system, which provides the information necessary for achieving program goals, was implemented for all 11 DECs in North Carolina in 1976.