

*Information Systems &
Outcomes Management*



Chapter 8

Chapter 8: Information Systems & Outcomes Management

The Children's Performance Outcome Measures: Results after Six Months

Introduction

In Florida, as in other states, there has been an increased emphasis on accountability and performance-based budgeting as guiding tenets of social policy. This has occurred, in part, as state governments have perceived negative public attitudes toward government spending. Based partly on this concern, the Florida legislature passed the 1994 Government Performance and Accountability Act (Ch. 216.0166, F.S., 1995) that requires state agencies to establish a performance-based budgeting process that will hold both the state agency and their contracted service providers accountable for individual consumer outcomes.

Pursuant to this mandate, beginning July 1, 1996, the Mental Health and Substance Abuse program offices of the Florida Department of Children and Families (DCF) were required to include performance measures in all provider contracts. The state agency, in turn, contracted with the Louis de la Parte Florida Mental Health Institute (FMHI) to assist in the data collecting, analysis, and reporting process. This report describes the implementation and first six months of data collection of the performance outcome measures for children receiving mental health services in Florida. Some of the strengths and weaknesses of the approach are described as well as important considerations in development of state based outcome development efforts.

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Service Context

One of the outstanding features of the performance outcomes project was the very tight deadline for the development and implementation of procedures for the collection of outcome information for all children receiving services from the state. Beginning with little background or history of outcomes assessment, the state identified several critical questions that were to be addressed. Among other questions, the most important included:

- What were the populations of interest in performance outcome monitoring?
- What information, such as population characteristics, needed to be identified?
- What questions needed to be answered to assess the performance of service providers for these populations?
- What measures would be the most appropriate to answer these questions?
- What sources of information might already exist which might fulfill data needs?
- What procedures would be put in place to collect data, and how might these procedures be made a routine part of contracting with the state? and
- How would the reliability and validity of the process be assured?

In order to address the questions identified by the state, focus groups were held with consumers, family members, providers, advocacy groups, and staff from the Department of Education, the Department of Juvenile Justice, Children's Medical Services, and Alcohol, Drug Abuse, and Mental Health. These focus groups developed quickly and had little opportunity for careful analysis, but were nevertheless able to identify and define two target populations for children and youth. These two populations include children with serious emotional disturbance (SED) and children at risk of serious emotional disturbance.

In accordance with the federal definition, children with SED were defined as age 0-17 with a diagnosed mental, emotional or behavioral disorder of sufficient duration to meet diagnostic criteria specified within DSM-IV, and that resulted in functional limitations that substantially interfere with or limit the child's role or functioning in a family, school, or in community activities. The

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disability must also be expected to continue for a year and not be a temporary response to a stressful situation. Children "at risk" were defined as between 0-17 years of age, with a need for mental health care for serious situational problems. The child must also be considered at high risk of developing serious limitations in functioning due to emotional distress if services are not provided.

Outcome measures identified as being of greatest interest included: 1) days spent in the community, 2) school attendance, 3) number of child arrests, 4) the functional level of the child, and 5) family satisfaction with services. Information about these outcomes was to be obtained from both published and public domain instruments. Demographic data and information pertaining to arrests, time spent in the community, and school attendance, were collected from the newly created Children's Mental Health Scoring Sheet (CMHOSS). The functional level of the child was measured by the Global Assessment Scale for Children (C-GAS: Shaffer, et al., 1983) and supported by information from the Child and Adolescent Functional Assessment Scale (CAFAS: Hodges, 1996). Family satisfaction with services was defined as family centered behaviors as assessed by the Family Centered Behavior Scale (FCBS: Allen, Petr & Brown, 1995).

Method

Beginning in August, 1995, the state initiated the collection of performance outcome data for all children receiving services funded by the Florida Department of Children and Families or by the federal government through Medicaid. Training for all service agencies was conducted through regional meetings and workshops held within the state. Data were to be collected for all children beginning with the child's admission to a service provider and again at six months, twelve months, and if still present, on the annual anniversary of the child's admission. The final set of data was scheduled for

collection at the time of the child's discharge. Data collection was integrated as a regular part of the responsibilities of clinical staff of the service provider. Provider staff were assigned the responsibility of completing the CAFAS, the CMHOSS— which included demographic information, services, current residential setting—and the C-GAS. The completed forms were submitted to FMHI for analysis. To ensure that all children receiving services in the state were included in what was to become the statewide database, an initial assessment was conducted for all children receiving services as of August 1, 1995 regardless of the length of treatment with the state.

The service agency also provided the parent or family member a copy of the Family Centered Behavior Scale. The family member was encouraged to complete the survey and return it to the agency for submission or mail it directly to FMHI for analysis.

Results

This summary includes data received during the first six months of data collection, August, 1996 to January, 1997. Data included were collected for both SED and at risk children at admission, at 6 months, on the annual anniversary, and at discharge. During this period, data were obtained for over 6,900 children. Approximately 61% of the children were male, and the age of children receiving services ranged from a few months of age to over 18 years, with approximately 74% between the ages of 5 and 15 years old. A majority of the children (73%) lived with their biological or adoptive families. Other living arrangements included inpatient settings, residential treatment, group homes, foster homes, and emergency shelters. Approximately 78% of the children were Medicaid eligible. Approximately 73% of the children were considered seriously emotionally disturbed, while 22% were considered at risk for SED.

Discussion

The data collected as part of the performance outcomes project will serve at least two major functions. First, the data are to be used for monitoring contract compliance, as the state is interested in determining if provider agencies are fulfilling their contract obligations to the state and to the consumers in their care. To provide monitoring information, a report format was developed that provided average scores for the service provider on each of the performance outcomes. As seen in Table 1, the report format provides average scores on each performance indicator for the agency along with a state mean. The data are provided for each assessment interval and a separate report is provided for each target population.

Additional information on this report includes a count of the number of consumers the agency has served. The intent is to provide direct and timely information to service providers, district staff, and state officials. Agencies may compare the number of consumers served to their negotiated contracts, and

may compare the functioning of the consumers they serve as measured by the performance indicators to the average of all agencies. District and state officials can use the same information to ensure that agencies are serving priority populations and consumer groups who are most in need of services.

The second use of data from the project is to inform the state for planning and long term decision making regarding services, consumers, and the system of care. For example, state planners were especially interested in access to performance outcome measures for children with SED and children at risk for SED. Available measures included days spent in the community, days spent in school, and functioning as measured by the C-GAS and the CAFAS. Average days in school and days in the community for children with SED and at risk for SED are provided in Table 2. Visual inspection of the means appear to reveal few if any real differences between children with SED and children at risk for SED in the days spent in school or days spent in the community.

Table 1
Childrens Year-to-Date Outcome Report
"SED" Target Population
(Quarters I - IV, FY 1996-97)

Performance Outcomes

Provider Number: 999999999										Total Children Served: 304			
Provider Name: NAME										Contracted to Serve: 300			
Purpose	Days in Community				School Days			C-GAS Scores			CAFAS Scores		
	Prov. Avg	State Avg.	Z	Exhibit D	Prov. Avg.	State Avg.	Z	Prov. Avg.	State Avg.	Z	Prov. Avg.	State Avg.	Z
Admission	27	26.29			21.40	21.03		53	55.47			40.79	
6 mo. annual	30	27.80			22.04	21.97		53	59.72		40	33.22	
Discharge	30	27.22			23.00	21.30		60	61.14			29.96	
Post-admission	30	27.03	0.48	20	22.13	21.48	0.38	54	59.22	-5.04	40	33.06	-0.62

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The lack of apparent differences between the target populations with regard to these performance outcomes may be contrasted with the differences found between the two populations on the CAFAS. As seen in Table 3, large differences exist between the two target populations in average CAFAS scores. Based on this preliminary data, differences that exist at admission between the two populations also carry over to discharge. Further analysis of the CAFAS data suggests that the differences in these two populations may extend to differences in the kinds of problems children present at admission. Future research will investigate differences in target populations and implications for the possible revision or addition of new target populations.

In addition to using the data to understand target groups, the data may also be used to investigate

regional differences with regard to special populations and service needs and to understand the service system and its components, such as the use of residential placement. Finally, analysis of the data will provide important feedback regarding the value of the measures themselves. Preliminary analysis of regional system differences already has begun.

Implications for the Field

The first six months of the performance outcomes process has produced both successes and dilemmas. Among the successes has been the wide spread acceptance of new measures and procedures forced on numerous service providing agencies on short notice. The success of this implementation phase of the outcomes project is largely the result of an active process of technical assistance offered to local agencies by phone and face to face contact. In

spite of the overall acceptance of the new protocol, the dilemma remains regarding how to ensure continued compliance for all agencies, and how to quickly and efficiently communicate new information and changes in policies and procedures to the field.

Related to this dilemma are the problems brought about by a largely top-down process that did not actively involve the service providers. Channels of communication that might otherwise have been established early in the development of the project do not exist. Without procedures in place for clear communication among service providers, district and state staff, and those responsible for data analysis and reporting, there is

Table 2
Average Days in Community and Days in School for Children with SED and At Risk for SED

	SED				At Risk			
	Community		School		Community		School	
	Days	N	Days	N	Days	N	Days	N
Admission	26.5	3544	19.1	2574	26.1	979	19.8	581
6 month/Annual	24.1	489	16.5	224	28.1	148	19.8	72
Discharge	24.6	437	18.3	247	25.9	189	19.3	99

Table 3
Average CAFAS Scores for Children with SED and At Risk for SED

	SED			At Risk		
	Average	SD	N	Average	SD	N
Admission	57.8	(27.4)	1912	37.5	(26)	367
6 month/Annual	62.3	(27.5)	87	39.5	(34.9)	19
Discharge	50.0	(31.4)	1655	35.9	(31.1)	59

little formal opportunity to benefit from the experiences and insights of the project participants.

A third dilemma relates to the scheduling and implementation of the project. One of the most difficult tasks has been ensuring that final decisions on policy are made before project phases are initiated. For example, legislatively mandated deadlines were often put into place before final policy decisions were made. Our best solution for these problems has been to help identify clear lines of authority, clear lines of communication, and an emphasis on creative problem solving.

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An Outcomes Management System for Child/Adolescent Public Mental Health Services

Introduction

Public mental health services are being increasingly challenged by demands for cost containment, improved quality, and greater accountability. A performance and outcome measurement system (POMS) is being implemented on a pilot basis in Virginia to test a mechanism for the routine assessment of consumer level outcomes and provider performance. The POMS is intended to (a) function as a tool for the continuous quality improvement of services for persons with mental disabilities and substance abuse problems, and (b) improve accountability for taxpayer dollars. This article provides a brief overview of the POMS pilot project as it applies to child/adolescent public mental health services including project goals, the types of performance domains and indicators being tested, and a description of the process used to select instruments and implement the pilot project.

Pilot Project Goals

The six goals associated with the initial design and implementation of POMS are described below:

1. Design a system for ongoing performance and outcome measurement (i.e., the POMS), including the selection of organizational-level performance measures and individual outcome assessment methods that utilize standardized instruments.

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2. Build the technical infrastructure required to support POMS and develop detailed protocols for the collection, analysis, management and reporting of performance and outcome data.
3. Implement the POMS in selected pilot sites, tailoring the specific design features to the structural characteristics of the individual provider organizations.
4. Identify issues and barriers affecting the efficient and effective operation of the POMS, and develop solutions when possible.
5. Evaluate the POMS, including its cost-benefit and usefulness of information to consumers, providers, state administrators, and the Virginia General Assembly.
6. Based on the results of the pilot, develop recommendations for improvement of the POMS and potential statewide implementation that could include replacement of some current reporting and regulatory requirements with the outcome-based accountability mechanisms.

Performance Domains and Indicators

The POMS will measure five domains related to the effective delivery of publicly-funded mental health and substance abuse services: access, quality and appropriateness of care, outcomes, human rights, and inter-system performance. The specification of these performance domains reflects a significant “paradigm shift” for public services. Through the POMS, providers of publicly-funded services will be held accountable for outcomes and performance, rather than outputs and compliance with standards.

A common set of indicators from these domains will be measured and reported by each provider in a standardized manner. The Mental Health Statistics Improvement Program (MHSIP) Consumer-Oriented Report Card, developed under the sponsorship of the Center for Mental Health Services (CMHS, 1996), (with the addition of indicators reflecting human

rights and inter-system performance) provides the core set of indicators included in the POMS. The indicators are measured using a combination of standardized instruments and data typically found in provider information systems or administrative records. The domains to be addressed by the POMS are as follows:¹

1. **Access.** Access to a system is the “degree to which services are quickly and readily obtainable” (CMHS, 1996, p.9). This is determined by the extent to which needed services are available, how responsive the system is to individual and cultural needs, and the convenience with which services are obtained. Examples of relevant indicators include convenience of location and length of time between a request for services and an actual face-to-face meeting with a service provider.
2. **Quality of care/appropriateness.** Appropriate services and supports for a particular consumer are determined by a variety of factors, including the consumer’s condition, strengths and weaknesses, and cultural context, as well as research findings on efficacy and effectiveness of services. Indicators include the proportion of persons discharged from emergency care who are seen in outpatient services within three days, the percentage of persons discharged from inpatient care seen within seven days, and the percentage of consumers/family members who actively participate in service decisions.
3. **Outcomes.** Outcomes refer to the extent to which services provided have a positive or negative effect on consumers’ “well-being, life circumstances, and capacity for self-management and recovery” (CMHS, 1996, p.10). Examples of outcome indicators include the percentage of persons who report a decreased level of psychological distress, proportion of inpatient

¹ Much of the description of the access, quality of care/appropriateness, and outcome domains is drawn from the *Consumer-Oriented Mental Health Report Card* (CMHS, 1996).

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readmissions that occur within 30 days after discharge, and the change in the proportion of service recipients who abuse or are dependent on alcohol or drugs.

4. **Human rights.** Human rights indicators reflect the occurrence of events which violate the rights and dignity of consumers, including the rates of founded complaints and substantiated abuse and neglect allegations.
5. **Inter-system performance.** The inter-system domain refers to the relationship between the public mental health system and other systems and organizations (e.g., criminal justice, welfare, education, and private providers) and the impact of the mental health system on these other systems at both the consumer and system level. Indicators include other organizations' satisfaction with community-based and state facility services on a variety of dimensions (e.g., access, responsiveness, and inter-agency linkages).

Method

Selection of Instruments

A collaborative process between the Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS) and the statewide association of publicly-funded community based providers (i.e., community services boards or CSBs) was used to identify and recommend a set of instruments to assess outcomes within the public mental health system. A work group was established that included representatives from CSBs, state inpatient facility staff, DMHMRSAS Central Office staff, university faculty, and consumers. Based on a review of the literature and evaluation of individual instruments, this work group recommended the following instruments:

- Child and Adolescent Functional Assessment Scale (CAFAS), Hodges, 1990
- Child Behavior Checklist (CBCL) and Youth Self Report (YSR), Achenbach, 1991

- Family Assessment Device (FAD), Epstein, 1983
- Consumer Satisfaction Questionnaire (CSQ-8), Attkisson, 1995
- Family Satisfaction Questionnaire (FSQ), MACRO International, Inc., 1995

These instruments were then subjected to a field test in three locations. At each site, four staff administered the instruments to four youth. Each instrument was evaluated using an assessment log and focus group methodology to determine their acceptability to staff and consumers/parents and appropriateness for the population being assessed. In addition, issues/obstacles to be addressed in the routine assessment of consumer outcomes were identified. Based on the results of the field test, the CAFAS was recommended for use by community-based providers, the CBCL was recommended for use by state facilities, and the FSQ was identified as the preferred instrument to measure satisfaction with outpatient services.

The recommendations of the outcome instrument work group were taken under consideration by the Pilot Leadership Team, a multi-stakeholder group with responsibility for providing oversight to the system reform efforts being implemented by DMHMRSAS. A POMS subcommittee was established to manage the implementation of the POMS. That group decided to add the Patient Satisfaction System (PSS: Holcomb, Adams, Ponder & Reitz, 1989; parent and youth versions) as a means of assessing satisfaction with inpatient services. The standardized instruments to be used in the POMS pilot are summarized in Table 1.

Selection of Pilot Sites

A request for applications for the first wave of pilot sites was mailed to all CSBs and state hospitals. The request for applications included detailed information regarding the purpose and design of the pilot project, the expectations for pilot sites, and

the level and types of support to be provided by the DMHMRSAS Central Office. Sites were asked to specify the population they intended to assess. Two CSBs and one state hospital applied to evaluate services for children/adolescents. After a review of the applications, the Pilot Leadership Team recommended that each application be accepted and letters of award were sent to each selected site. The CSBs included both a large urban community mental health system and a small suburban system.

Implementation

The first step in implementation has been to establish local work groups at each site to develop protocols for data collection, management, analysis, and reporting. The work groups are being assisted in these efforts through weekly or bi-weekly on-site technical assistance provided by the Department's Office of Research and Evaluation. Each of the pilot sites also has established mechanisms to involve consumers and/or family members in the pilot project.

The Department's Office of Information Technology Services is developing an automated system to support the collection, integration, analysis, and reporting of the POMS data. This system will be implemented at the pilot sites in collaboration with local MIS staff. Data collection is expected to commence in the summer of 1997, with the first reports available in the fall.

Evaluation of the POMS

As part of the pilot project, the Southeastern Rural Mental Health Research Center at the University of Virginia is conducting an evaluation of the POMS. Results of this evaluation will be used to determine the viability of the POMS, identify refinements that will enhance its efficiency and effectiveness, and begin determining the overall costs and benefits of such systems. At a global level, the POMS will be evaluated to determine:

1. Its relevance to Virginia's public system of services.
2. Its feasibility.
3. The costs associated with implementing and operating the POMS.
4. The utility of its products.

More specifically, the evaluation will include an assessment of the measures/instruments and their methods of application, as well as a broad range of logistical issues related to implementing the POMS. Of critical importance is to learn what state and local infrastructure is required to support the routine operation of the POMS within different provider structures and settings. The overarching issue to be addressed by the evaluation is the relative costs and benefits of the POMS; that is, are the benefits of the POMS and its individual indicators worth the costs of operating the system?

Table 1
POMS Standardized Instruments: Population by Area of Measurement

Population	Problematic Behaviors	Level of Functioning	Satisfaction
Child/Adolescent Mental Health-Community		<ul style="list-style-type: none"> • Child & Adolescent Functional Assessment Scale 	<ul style="list-style-type: none"> • Family Satisfaction Questionnaire
Child/Adolescent Mental Health-Hospital	<ul style="list-style-type: none"> • Child Behavior Checklist • Youth Self Report 		<ul style="list-style-type: none"> • Patient Satisfaction System (parent and youth versions)

Performance and Outcome Measurement System

Discussion

Given the implications of this pilot in facilitating a “paradigm shift” towards accountability for outcomes and performance, it is critical to have a process that allows for full participation by all major stakeholders in the public mental health system. Beginning with the initial standardized outcome assessment initiative in the fall of 1994 and ending with the scheduled completion of the POMS pilot project in the spring of 1999, the process described in this article has been designed to be inclusive and meet the needs of multiple stakeholders. As a result, the likelihood that the pilot will produce meaningful information to policymakers, payers, providers, and consumers is greatly enhanced. The information gained from this pilot will support these stakeholders in the creation of a new vision of the public mental health services system that is supported by participants in the system and results in cost effective, high quality care.

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Developing Predictors of Treatment Success Based on Outcome Measures

Introduction

The Pressley Ridge Schools is a 165-year old nonprofit agency that provides an array of social and mental health services and special education programs for troubled children and their families in Pennsylvania, West Virginia, Ohio, and Maryland. Pressley Ridge serves approximately 1500 children and their families each day. The array of available services includes four general areas: (a) therapeutic foster care; (b) educational programs; (c) family preservation, and (d) residential services. Some children receive services from more than one area.

Treatment foster care offers alternatives to institutionalizing seriously troubled children through the use of highly individualized and flexible treatment in the homes of trained, professional parents. About 25% of Pressley Ridge children received treatment foster care services.

Educational programs are designed to provide intensive, short-term educational and mental health treatment. These services allow children with serious emotional disturbances and/or behavioral disorders to successfully adjust to and effectively function in their home, school and community environments. About 15% of the children we serve attend educational programs.

Family preservation or in-home services provide short-term, intensive, community-based treatment for families whose children are at imminent risk of being placed in out-of-home

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care. Because these services are very short-term, Family Preservation touches the lives of more children and families each year compared to any other service provided. About 50% of the children we serve receive family preservation services.

Residential services support severely troubled children and adolescents in family-focused treatment. These programs strive to provide alternatives to more restrictive treatment such as institutionalized placement or long-term psychiatric hospitalization. Children and adolescents live together in small groups, and are guided by teacher/counselors who emphasize group work, individualized treatment plans, and when possible, family reunification. About 20% of the children we serve receive residential services.

For the past decade, The Pressley Ridge Schools has conducted an annual outcomes study in order to measure the effectiveness of the services provided to children and families. Each year, staff members of Pressley Ridge's Center for Research & Public Policy contact children and their parents who received at least 30 days of service and were discharged at least one year earlier. Through the use of structured interviews with each child and her/his caregiver, outcome information is gathered concerning the children's current living situations, school situations, social activities, drug and alcohol use, and their satisfaction with school, work, and life in general. Demographic information from case records is also included to create a "snapshot" of each child. This effort represents information from a cumulative 2000 children. Last year's **Outcomes '96** study alone collected information from over 700 children discharged from the same year.

The results of these studies are used by Pressley Ridge to evaluate the impact of its programs, and to strategically plan for program improvement. Over the past five years or so, Pressley Ridge has concurrently been developing a multi-agency,

computer-networked outcomes monitoring system. A software program, *SumOne for Kids™*, has been developed by the Corporation for Standards & Outcomes to support this data-intensive system. This system offers the opportunity to create a practical method for examining outcomes and impacting the daily operations of services.

Pressley Ridge was exposed to a dense amount of data by the Outcomes '96 study. This data represented at least 25 diverse treatment programs, spanning four states, serving children from age 6 through young adulthood, and supporting children with a broad range of family, emotional, psychiatric, and traumatic issues. With the drive towards a multi-agency, computer-networked outcome monitoring system (*SumOne for Kids™*), it was clear that collecting outcome data is not enough.

Growing numbers of conferences, workshops, and professional publications have targeted defining, measuring and utilizing outcomes in the quest for accountability of our services. Oftentimes, not only are the data for outcome efforts lacking, but also a methodology for interpreting and consuming the data. The continued popularity of outcomes monitoring begs the question, "What measures are good predictors of outcome success?"

This question suggested that a systematic analysis of the patterns of data might yield powerful and useful predictors of the effect our services would have on the lives of the children. Inferential statistics (factor and regression analyses) were utilized to group relevant outcome measures, eliminate redundant information, and create indices which represented multiple outcome measures as a single metric. This summary addresses the results of this analysis, as well as implications for the outcome evaluation field.

Predictors of Treatment Success

Method

A number of key elements of Pressley Ridge's outcome monitoring system should be discussed prior to examining any possible predictors. These elements include a focus on functional outcomes, practical evaluation strategies, leadership, and collaboration. The following is a brief discussion of some of these elements.

Functional Outcomes. In outcome monitoring, oftentimes the focus is not on *functional* outcomes (outcomes which indicate a child's ability to succeed in their own community and lead a productive life), but rather on *process* outcomes (outcomes which measure how service was delivered) or on *clinical* outcomes (outcomes which measure reduction in symptoms or alleviation of a syndrome). One of Pressley Ridge Schools' values is, "Our Programs Succeed When Our Kids and Families Succeed." The definition of success, according to our most important stakeholders (children and their families), are best reflected through measures of functional outcomes. Process and clinical outcomes are measured, but they are not the key focus, and they are not the only types of outcomes measured.

In addition to collecting demographic information (i.e., age, gender, race, restrictiveness of previous living environments and school placements, behavioral issues, social, family, and community problems, psychiatric diagnoses), a core set of outcomes are measured each year, including restrictiveness of living environment, school attendance, employment situation, alcohol and drug use, frequency of negative police contacts, frequency of aggression, number and type of leisure activities, frequency of social and family contacts, and satisfaction with school, work, and life. Input from stakeholders and peer agency groups was collected to establish the social validity of these outcomes.

Practicality. Another of Pressley Ridge's values is, "A Simple Solution is Often the Best Solution." This has been a critical and often hard-learned lesson. We have learned that our stakeholders are interested in describing some basic information (i.e., who was served, what services were provided, what were the outcomes, and how we compare with other agencies). It was also made clear by Pressley Ridge's stakeholders that whatever outcome monitoring system was developed, it needed to be integrated into how business was being done. Pressley Ridge developed methods to collect information about how children and their families were faring in the real world in a way that met the expectations of external stakeholders (e.g., children, families, advocates, regulatory bodies, funders, etc.) and internal stakeholders (e.g., Pressley Ridge staff members, administrators, leaders).

From a practical standpoint, it is also important to understand that outcome monitoring is not empirical research. In outcome monitoring, there are simply too many variables which are beyond the control of service providers to allow unequivocal causal analyses to be conducted. Furthermore, empirical approaches tend to be less frequent, require specialized skills to conduct, are not typically targeted to the needs of a specific agency, and emphasize the long-term development of empirical evidence. Empirical research is valuable, but often impractical to service providers. Providers need frequent results which are accessible, focused on specialized service provided, and can be immediately consumed and used.

Analytical methods. In addition to the use of descriptive statistics and graphical analyses, benchmarking and trend analyses were used to enhance the value of information provided from Pressley Ridge's outcome monitoring system. *Benchmarking* simply refers to comparing your own outcomes to the outcomes of the general population

or overall population of the consumer served. For example, Figure 1 describes some functional outcomes of discharged Pressley Ridge children in 1996 with national average statistics added to serve as benchmarks.

Trend analyses allow comparisons of outcomes within an agency over time. This reflects how services might have changed, how the type of children served may have changed, while still focusing on the same outcomes of importance. These intra-agency trends are often very useful in strategic planning. Furthermore, this provides a baseline against which the agency can compare itself. For example, Figure 2 displays a functional outcome measure for discharged Pressley Ridge children in 1996 along with the outcomes from four prior studies.

Results

Simple statistical techniques (correlation, factor analyses) were used to analyze Pressley Ridge's data from the Outcomes '96 study. The main purpose was to identify variables which were linked to changes in outcomes (hits) and to identify outcomes which were unrelated to changes in outcomes (misses).

To summarize, the following were identified as hits: (a) drug or alcohol use; (b) restrictiveness of living environment; (c) school attendance; and (d) negative police contacts. The following were misses: (a) restrictiveness of school environment; (b) employment situation; (c) number and type of leisure or social activities; and (d) satisfaction with job, school, or life.

Superficially, these results suggest which variables might be good predictors of outcomes. Unfortunately, there were a number of serious limitations in the data set and with the measurement system itself which suggest that these results be interpreted with caution. First, the time lag between pre- and post-measurements was enormous (on average, about 11 months). These outcomes may lack validity. Second, the variability in delivery of services across programs and states was not controlled; empirical manipulation of the variables was not possible. Third, the measurement tools used were typically self-report or through structured interviews. Again, the validity and reliability of the measures are in question.

Figure 1
Alcohol Use

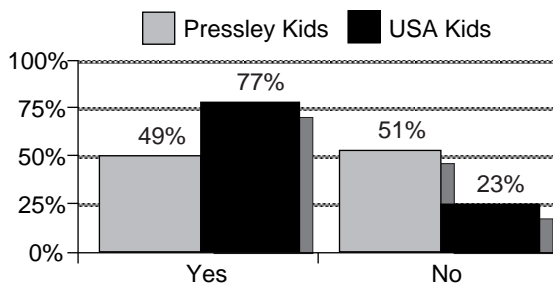
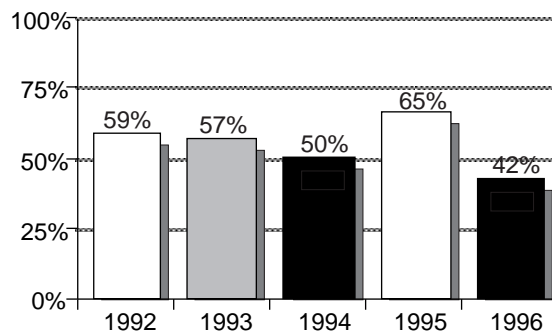


Figure 2
Attending a Non-Restrictive School



Discussion

This summary has outlined a system of outcome monitoring that collects a substantial amount of information on a number of child and family services. Predictors of service outcomes have yet to be established for the field, as few empirical studies have been produced. Furthermore, difficulties are posed by the vast amount of information can be found within agencies providing the services. Service providers need to begin the process of determining the most productive focus for outcome monitoring. There are a number of critical issues which need to be addressed in order to ensure that this process is successful.

The service provider community lacks the needed comparative base for our services. Agencies often act on their own, or react to stakeholder requirements. If a national database of key outcomes or benchmarks existed, providers would be able to conduct more useful analyses. In pursuing standards for a broad-based outcome monitoring system, it appears to be critical that providers collaborate with one another. This can be accomplished through dialogue, membership in groups with common interests, outreach, and dissemination. Although collaboration includes sharing agency information that may be potentially damaging or embarrassing, descriptions of barriers and challenges, as well as best practices, are extremely useful to the design of collective strategies for improvement. Collaboration could result in a identifying a common set of outcomes for monitoring and measurement. Until such collaborative efforts exist, or until large-scale empirical studies are conducted, it will remain difficult for our industry to identify valuable predictors of service success.

Mason

Assessing Levels and Profiles of Service Need Using the CAFAS

Introduction

Over the past two years, the Louisiana Office of Mental Health (OMH) has been incorporating managed care principles and practices into program operations in an effort to better manage costs and to assure quality of care for public mental health services. Starting in 1995, severe Medicaid cuts created the need to redesign the targeted case management program and later the mental health rehabilitation services program into a managed care format. Under this format, OMH became the “managed care agent” of the state Medicaid agency. Regional OMH staff performed prior-authorization for target population eligibility and level-of-need and monitored utilization and outcomes of these services which were delivered through a network of private Medicaid provider agencies. The Child and Adolescent Functional Assessment Scale (CAFAS; Hodges & Wong, 1996) has been utilized as the standardized functional assessment instrument for establishing high, medium, and low levels-of-need for services (Lemoine, Speier, Ellzey & Pine, 1996).

In 1996, OMH decided to build on these successful redesign efforts and use some of the same procedures to better manage the seriously limited Community Mental Health Center (CMHC) resources. OMH owns and operates all 43 CMHCs statewide, serving 6,000 children and adolescents and 50,000 adults annually, with a staff of about 900 civil servant service providers. The overall goal of the project was to establish a method for prior authorization, utilization management, and to later develop

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caseload standards and service packages to assure that those most-in-need receive quality care.

The goal of Phase One of the project, the subject of this summary, was to obtain first-hand experience with level of need/level of care (LON/LOC) procedures using the CAFAS with the state CMHC population. LON criteria were tested and an important "normative" data base was established. In Phase Two, to be initiated April, 1997, CAFAS LON assessments will be incorporated into the ongoing CMHC assessment process. Full implementation is scheduled for July, 1997.

Method

A total of 4,513 CMHC child/youth cases were rated using the CAFAS during the study period from October, 1995 through January, 1996. For purposes of analysis, the total group of persons served was separated into 'recent admits', defined as persons rated within the first 30 days of their admission ($n= 401$), and the remaining 'continuing cases'. A variety of statistical analyses were conducted to evaluate how well the CAFAS Combined Scale Score, (the sum of the five Youth and two Caregiver Scales scores), discriminated among groups with varying levels-of-need and in comparison to use of the Youth Scale alone. Also of interest was how well pre-set criteria for High, Medium, and Low levels-of-need based on the Combined Scale discriminated for the CMHC group. Descriptive statistics were computed and differences between groups were analyzed using Chi-square, *t*-tests and analysis of variance.

In addition, a cluster analysis was performed on the recent admissions to statistically identify groupings of persons served based on the similarity of their CAFAS profiles. This was done to assist in the development of service packages based on the level and profile of need. For the cluster analysis, the total sample of recent admits ($n=405$) was randomly

divided into an analysis group ($n=197$) and a cross-validation group ($n=208$). A separate K-means cluster analysis was performed on each group, using Ward's Minimum Distance criteria (a hierarchical clustering procedure) and through Statistical Analysis System software. Five of seven distinct clusters cross-validated (159 of 197 cases, or 81%). The socio-demographic and clinical features of these five groups were then analyzed.

Results

Table 1 presents the socio-demographic characteristics for the total sample, separated by recent admits and continuing cases. Table 2 shows the clinical characteristics.

Results indicated that the Combined Scale ratings were normally distributed, with a mean, median, and mode score of 90. Using pre-set level-of-need criteria, 25% of the admission group were rated High (Score: 120+), 59% Medium (60-110), and

Table 1
Demographic Characteristics for Entire Sample

Variables	Categories	Recent Admits	Continuing Clients
		($n = 401$)	($n = 4098$)
Age	<8	11%	9%
	8-12	39%	39%
	13-19	50%	51%
Gender	Female	39%	35%
	Male	61%	65%
Race	African-American	45%	53%
	Caucasian	55%	47%
Income	< \$5,000	38%	41%
	\$ 5- 9,999	21%	23%
	\$10-14,999	16%	16%
	\$15-19,999	10%	9%
	\$20-24,999	6%	5%
	\$25-29,999	5%	3%
	>\$30,000	5%	3%

Assessing Service Need using the CAFAS

16% Low (50 or less). Analyses of variance revealed no significant differences on the socio-demographic variables of age ($F(2,385)=1.10, p=ns$), gender ($t(390)=1.4, p=ns$) or race ($t(290)=1.5, p=ns$). The Combined Scale discriminated by clinical variables. Children/youth meeting criteria for SED (serious emotional/behavior disordered) scored significantly higher than those who were non-SED ($\bar{X}=92.7$ vs. $82.8, t(403)=2.60, p<.01$). There were also significant differences by severity of diagnosis ($F(13,388)=2.91, p<.001$). Individuals diagnosed with Schizophrenia (SZ) and Pervasive Developmental Disorder (PDD) scored highest (120s) and individuals diagnosed with Adjustment (Adj.) Disorder and Anxiety (Anx.) Disorder scored lowest ($\bar{X}=76$ and 58).

The distribution of the Youth Scale ratings showed a slight negative skew, i.e., shifted to the higher rating scores with a mean of 66, a median of 70 and a mode of 80. An analysis of variance of these ratings revealed significant age differences ($F(2,382)=4.92, p<.01$). Thirteen-to-nineteen year olds scored significantly higher than eight-to-twelve year olds, but not higher than the under-age-eight group. No differences were found for gender ($t(387)=.96, p=ns$) or race ($t(387)=.68, p=ns$). Results of analyses for the clinical variables were similar to the Combined score; that is, SED was greater than non-SED ($\bar{X}=68.5$ vs. $60.7, t(399)=3.2, p<.01$); PDD and SZ cases scored highest, and Adj. and Anx. Disorder cases scored lowest ($F(13,384)=3.17, p<.001$).

The distribution of ratings for the Caregiver Scale, which is the sum of the Material Needs and

Table 2
Clinical Characteristics for Entire Sample

Variables	Categories	Recent Admits (<i>n</i> = 398)	Continuing Clients (<i>n</i> = 4055)
Primary Diagnosis	Major Affective	16%	11%
	Deferred	15%	3%
	ADHD	14%	35%
	Dysthymia	14%	11%
	ODD	10%	10%
	Adjustment Dis	8%	6%
	Conduct Dis	7%	7%
	Other	6%	3%
	PTSD	5%	3%
	Schizophrenia	2%	5%
Anxiety	1%	3%	
Target Population	EBD	73%	77%
	NON-EBD	27%	23%
Length of Service	< 30 days	9%	
	31-90 days		13%
	91-180 days		14%
	7-9 months		9%
	10-12 months		9%
	1-2 years		19%
	2-3 years		12%
>3years		15%	

Family/Social Supports subscales for the relevant caregiver setting, showed a strong positive skew, i.e., many low scores. In fact, 71% of cases were ratings of 20 (moderate impairment) or less and nearly 25% showed a “0” score, i.e., no dysfunction on either subscale. Results of ANOVAs indicated that the only significant difference on this scale was for race. African-Americans scored significantly higher ($\bar{X}=21.5$) than Caucasians ($t(387)=3.22, p<.01$).

The distributions of scale ratings for the continuing group also revealed significant findings. As might be expected, each of the three global scales (Combined, Youth, and Caregiver) evidenced lower scores, overall, than those for the recent admit group, likely reflecting the effect of treatment. Scores decreased significantly with longer lengths of service ($F(7,4491)=24.73, p<.0001$). There was a

sharp reduction in scores over the first 180 days (six months), with a slight increase in LON at seven-to-nine months of service, the time when re-assessments are typically done. Criteria for High, Medium, and Low levels-of-need appeared to apply well across lengths of service.

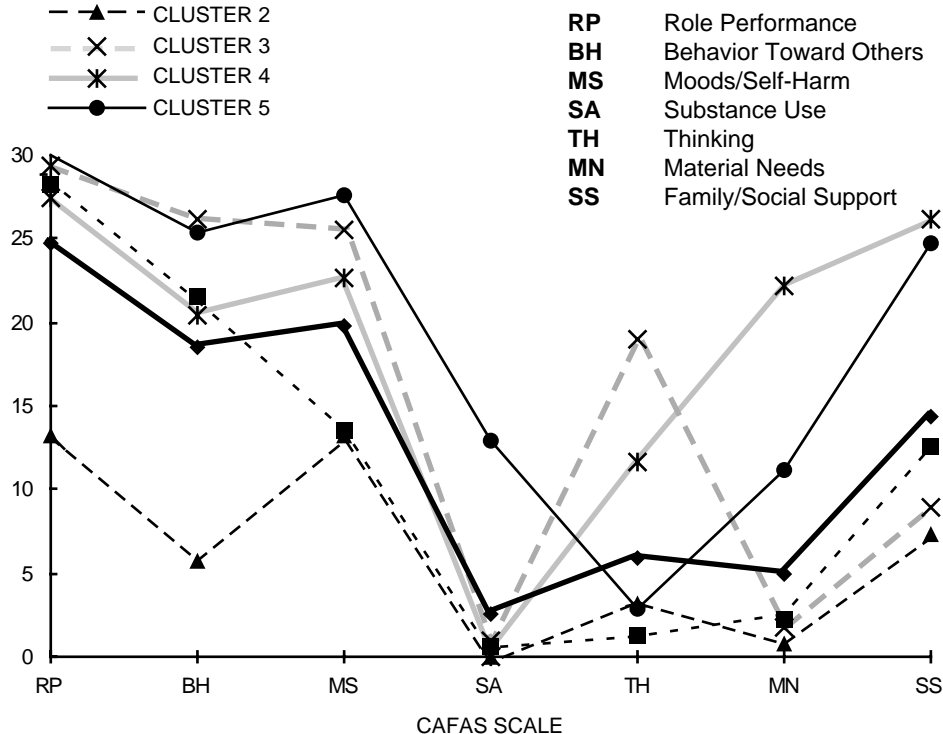
Figure 1 shows the mean subscale profiles of the final five clusters obtained through the cluster analysis procedure. Also shown is the mean subscale profile for the total analysis sample (heavy line). As can be seen from this figure, the cluster procedure identified vastly different profiles of need or impairment at admission.

Cluster 1 was the largest cluster (27% of the cases) and consisted of mostly latency age males with high role performance (RP) and behavioral (BH) impairment but moderate overall impairment

(\bar{X} =80). An examination of diagnoses in this group indicated these individuals were more likely to exhibit disruptive behavior disorders. In contrast, Cluster 2, the second largest cluster (19%), contained youth with generally low overall levels-of-need (\bar{X} =44) and mood disorders predominated. This cluster was mostly adolescent age youth and relatively few were classified as SED (57%) compared to the total group (73%). Cluster 3 showed a high level of impairment (\bar{X} =112) and a large percentage (86%) were SED and latency age. A significant feature of this profile is that the Thinking (TH) scale was elevated. As might be expected, Schizophrenia, Pervasive Developmental Disorder, and Mental Retardation together account for a large percentage (27%) of the group.

The final two clusters are striking in that they are very high need groups (\bar{X} =130 and 135, respectively) and illustrate the multidimensional nature of youth/family functioning. In contrast to the other clusters, caregiver factors are highly relevant in these youth's overall profile. Also, whereas their Combined LON score was not statistically different, the Youth and Caregiver scales were quite different. Both clusters were composed primarily of adolescents, although the gender varies. Cluster 5, the smallest cluster (9%), was the highest need group and includes youth with substance abuse problems as well as mood and behavior disturbances.

Figure 1
Cluster Analysis Results
Total Analysis Sample
(n= 197)



Discussion

A variety of findings are evident from Phase One of this project. First, the Combined CAFAS Scale Score appears to work well as a global measure of level-of-need. It is normally distributed, not influenced by age, sex, or gender differences, and it appears to reflect differences in clinical-functional status as well as or better than the Youth Scale alone with this sample. Unlike the Youth Scale alone, it takes into account caregiver characteristics, and it appears more discriminating clinically. The pre-set score criteria for High, Medium, and Low levels-of-need based on prior work appeared to partition meaningful, distinct groupings of the CMHC admission group, and, therefore, could be used for prior-authorization purposes. These data provide a large “normative” base from which to judge level-of-eligibility of cases at admission and for continuing service.

A second finding is that the magnitude of the Youth Scale scores suggest that the Louisiana CMHC admission group were significantly more impaired than other service groups for which there is published data. For example, the mean for the outpatient Fort Bragg admission group was 41 (Bickman, Guthrie, Foster, Lambert, Summerfelt, Breda & Heflinger, 1994); it was 66 for our group. This underscores the importance of developing local or state norms when using the CAFAS to establish level-of-need or level-of-care for services.

Third, we found our population evidenced overall low levels-of-need on the Caregiver Scales. This may reflect either a low level of family need/dysfunction, which seems unlikely, or that CMHC clinicians did not have good family life assessment information upon which to base a CAFAS rating. This suggests a need to augment CMHC assessments in this regard. The cluster analysis suggests the low mean score may be influenced more by low ratings on the Material Needs Scale. Family/Social Support appears more discriminating.

The cluster analyses results illustrated that vastly different profiles of need exist for child/youth at various levels-of-need. The profiles also illustrate the varying levels of youth versus caregiver levels of impairment which has implications for treatment. These profiles, once validated through additional samples, can serve as “templates” to match and identify incoming cases by “type” which then may relate to standardized service packages. In addition, the profiles of impairment/functioning are likely to be more sensitive to treatment outcomes than are the global scores alone.

Much has been learned about the CAFAS as a LON instrument. In general, it appears to have performed well in that it made meaningful and equitable discriminations among groups.

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Implementing Eligibility Determination Process for Children's Mental Health Services In Massachusetts Characteristics of Youth: The First Six Months

Introduction

On July 1, 1996, the Massachusetts Department of Mental Health (DMH) radically changed the way it did business when it transferred responsibility for all acute care services – along with the appropriate budget—to the Medicaid agency's managed care organization (MCO), retaining only the 'deep end' services. The Department also instituted a formal mechanism to determine eligibility for its services.

The DMH instituted these eligibility criteria for continued care services in order to ensure standardized access across the state and to clarify the role of DMH vis a vis the new MCO. All eligibility determinations are conducted by licensed, independent clinicians, *Eligibility Determination Specialists*, who have been trained in both the eligibility protocols and administering the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1996).

Three criteria are used for determining eligibility for children and adolescents under 19:

- a diagnosable mental, behavior or emotional disorder;
- impairment of one year's duration; and
- and establishment of a level of functional impairment, as documented by using the CAFAS.

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Establishing the Impairment Threshold

In order to determine the appropriate impairment threshold, a point in time analysis was conducted. For a one month period, all existing case managed clients and all new applicants were assessed using the CAFAS. In the final determination, only the scores from six subscales were included. The subscales, Role in Community and Substance Use were excluded because they focus on antisocial behavior. Youth served within the DMH system must have a primary mental health problem. A score of at least 80, the sum of scores from the six included subscales, was established as the threshold. When this score was applied to the pilot data, 76% of the pilot group would have met the threshold.

Data Analysis: Six Months Review

After the program had been in operation for six months, a review of the implementation was conducted. Reviewers examined whether the protocol was appropriately implemented, the assessment process was appropriate and reasonable, if the right threshold had been established, and whether the guidelines were uniformly applied. Additionally, the review sought to determine if the right clients being determined eligible, and identify and bias influencing the determination. To address these issues, reviewer looked more closely at the characteristics of children and adolescents who had applied for services and those who were determined eligible.

An analysis was conducted on all clients who applied and were assessed for eligibility between July 1 and December 31, 1996. During this period of time, 333 children and adolescents applied and were assessed; 89% ($n = 296$) of them were determined eligible.

Characteristics of the Applicants

Age. 77% of the applicants were between 11 and 18 years old; the largest group were between 11 and 15 years old. The mean age of applicants was 13.4 years old.

Gender. About two-thirds of applicants were male.

Race/Ethnicity. About 75% of the applicants were White; an equal percentage (10% each) were African-American and Hispanic.

Diagnostic Category. Each application identified a primary diagnosis for the applicant; the diagnosis was made by the previous clinician(s). DMH did not do an independent diagnostic evaluation as part of the eligibility process.

In conducting the analysis, we categorized the diagnoses into 5 groups:

- Psychotic Disorders, including schizophrenia, atypical psychosis, and paranoia
- Behavioral Disorders, including ADD, ADHD, and oppositional conduct
- Anxiety Disorders, including PTSD, anxiety states, phobias and adjustment disorders
- Affective Disorders, including depression, and bi-polar disorders
- Developmental Disorders, including PDD

The primary diagnosis for over 90% of the applicants fell into one of three categories. The primary diagnosis for 44% of the applicants fell into the classification of Psychotic Disorders; 25% were identified as having one of the Behavioral Disorders; and 22% as having one of the Anxiety Disorders. Reviewer found it surprising that the largest proportion of children and adolescents had a diagnosis which fell within the classification of Psychotic Disorders. There was speculation that this diagnosis may have been used by the referring agency to ensure DMH eligibility.

Eligibility Determination in Massachusetts

Characteristics of those determined eligible (N= 296)

Age. Not surprisingly, as age increased, the percentage of youth accepted increased. Eighty-one percent of those between 6-10 years old, 89% of those between 11-15 years old, and 93% of those between 16-18 years old were determined eligible (see Figure 1).

Race/Ethnicity. Race did not appear to be a factor in the eligibility determination process. There was no difference in the percentage of applicants determined eligible within each of the different racial/ethnic groups.

Diagnosis. As mentioned, the primary diagnoses of most the applicants were classified into one of three diagnostic categories: Psychotic Disorders, Behavioral Disorders, and Anxiety Disorders. Not surprisingly, virtually all of the applicants so classified were determined eligible. Ninety-five percent of those whose primary diagnosis was classified as one of the Psychotic Disorders, 91% of those identified as having one of the Anxiety Disorders, as well as 81% of those applicants identified as having one of the Behavioral Disorders, were determined eligible (see Figure 2).

The smallest percentage of eligible youth within the three categories were those having a diagnosed Behavioral Disorder. Because this category is the most controversial, reviewers were did not find this remarkable. It was, however, unclear why children whose primary diagnosis fell into a category of

Figure 1
Age of Number of Applicants vs. Number of Applicants Accepted

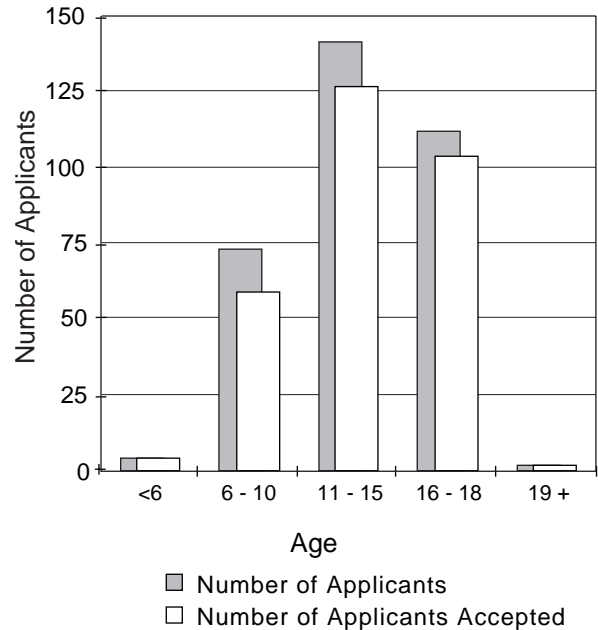
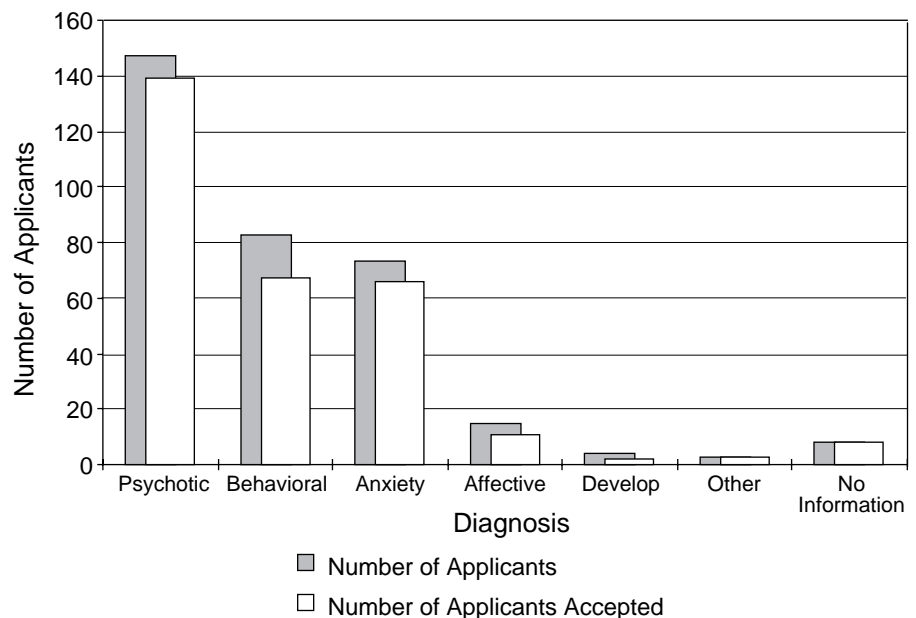


Figure 2
Diagnostic Category of Number of Applicants vs. Number of Applicants Accepted



Hersch

Psychotic Disorders were not determined eligible. It will be important to look more closely at the characteristics of these children.

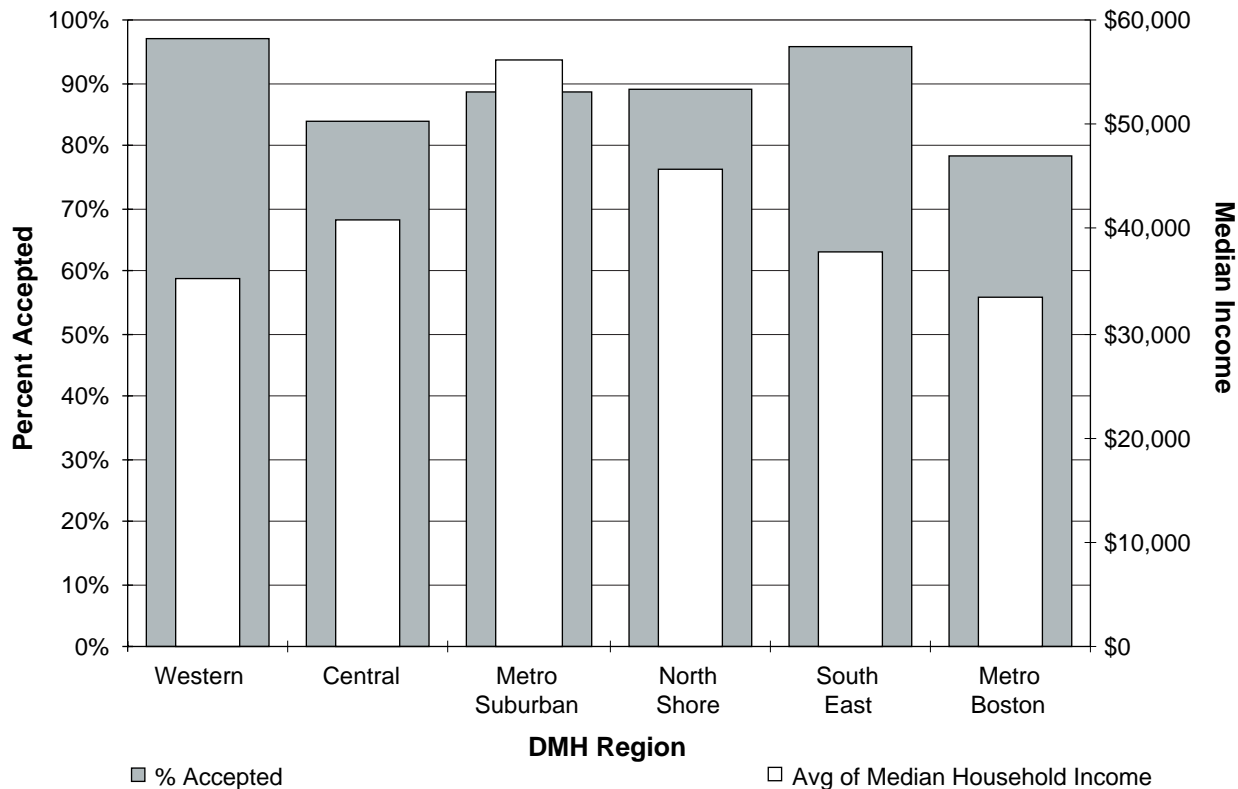
Area of Residence. The youth's eligibility appeared to be somehow related to their area of residence in the state at the time of application. The percentage of eligible youth ranged from a low of 78% in one area of the state, to 97% in another. We compared these rates to the median income of households within these areas to see if the discrepancy could be accounted for by variance in income. There was no relationship between income and eligibility acceptance rates (see Figure 3).

CAFAS Scores. The Massachusetts threshold for functional impairment using the CAFAS was the aggregate score of at least 80, the sum of each of the six subscales. Eighty-nine percent of the applicants scored at or above this threshold level.

When looking at the percentage of applicants who scored in the very serious range on these scales (i.e., either moderate or severe), it was clear that most of the applicants for DMH services were children who had serious problems (see Figure 4).

For most of the scales, more than 80% of all applicants scored in the very serious range, indicating a need for intensive services. It is noteworthy that almost half of the children scored in the very

Figure 3
Percent Accepted Compared vs. Median Household Income
by AREA



Eligibility Determination in Massachusetts

serious range on the subscale Thinking. The number of children with severe disturbances whose primary symptom is psychotic thinking is usually quite low. Further analysis, however, will be needed to explain the relationship between these findings and the high percentage of youth who were diagnosed as psychotic.

Questions for Further Discussion

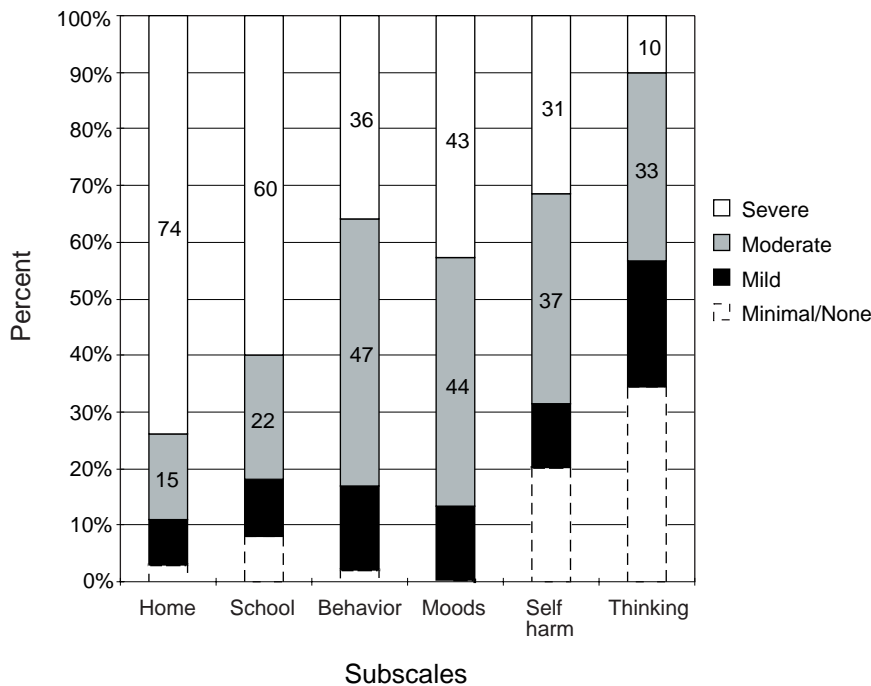
Since discrepancy among different areas of the state in eligibility acceptance rates was not explained by income, it will be necessary to look at other factors, and to determine whether there is uniformity across the state in the implementation of the procedures and interpretation of the CAFAS.

Preliminary analysis of the characteristics of youth meeting eligibility criteria suggests that the CAFAS is both an efficient and effective instrument for identifying level of impairment, and is an appropriate measure to support determination of eligibility within mental health care system. The relationship of clinical diagnosis to the subscale scores, however, bears further analysis, particularly for those youth diagnosed as psychotic. Given the high percentage of applicants whose scores indicate that they are very seriously in need of services, we will look at how well the scores can be used to project level of service need. Finally, it will be important to conduct a complete analysis of those applicants who were not deemed eligible under the current system.

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Figure 4
Impairment Level of Applicants
for 6 CAFAS Subscales



Hersch

Approaches to Outcomes Management in Child Mental Health

Introduction

We are in a climate of rapid change in the design of mental health service systems. The advent of managed care into the public mental health service system (and other social services) means an increasing emphasis on accountability and cost containment. Optimally, system changes should be guided, at least in part, by the needs of the consumers served by the system of care. *Needs-based planning* is a form of outcomes methodology with this objective (Lyons, Howard, O'Mahoney, & Lish, 1997). The process of needs-based planning builds on three primary outcomes evaluation methods; change analysis, decision analysis, or outcome prediction.. The focus, however, in this strategy is less on any given case or provider, but rather on the functioning of a system of providers. We will present two examples of this strategy.

Illinois—Community Reinvestment

In 1995, Illinois spent about \$440 million on all forms of mental health services for approximately 50,000 wards of the state. While this is a substantial mental health benefit for these children, the distribution of these expenditures was not consistent with uniformly good access to high quality services. Instead, about 80% of these expenditures were spent on approximately 6,000 children who were in long-term residential care, about 800 of whom were placed outside of Illinois. Resources for community-based services

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were relatively few. Even more problematic, almost two-thirds of all wards come from only a couple of geographic areas on the South and West sides of Chicago. Few existing services were located in these high-need communities.

Illinois' strategy is one of community re-investment. In the existing political climate, there was little possibility of convincing the legislature that new money should be invested in building community services. However, since new money was clearly needed, the only available source for this was from the existing expenditures on long-term residential care.

The CSPI is a 25-item tool that allows the retrospective review of cases to identify the type and levels of needs on five dimensions— symptomatology, risk behaviors, functioning, co-morbidities and caregiver characteristics. Ratings on these dimensions are accomplished on 4-point scales for each item with inter-rater reliability average about 0.85 (kappa). The CSPI was developed to assess the key information used by providers within the system to make decisions about treatment, setting, and duration of services. Developed through focus groups, the CSPI has high face validity for stakeholders in the system. As such, it provides a credible representation of the actual mental health needs of the children served.

A state-wide stratified random sample study of 333 cases currently residing in group homes or institutions was conducted, and each case was reviewed using the CSPI at admission and current status. About 20% of these cases did not meet the criteria for having a Serious Emotional Disorder. Even more importantly, about 15% of the sample had never engaged in any significant risk behaviors. In other words, we estimated that about 15% of the 5,200 children in state residential placements had never been suicidal AND had never been dangerous to others AND had never run away from anywhere

AND had never engage in criminal or delinquent behavior AND had never been sexually aggressive. These estimated 780 'no risk' children cost the state about \$60 million per year to serve at this level of care.

Clearly from the above analysis, there are a considerable number of children and adolescents currently in residential care who neither need that level of care nor are likely to require significant community-based services beyond a safe living environment. The opportunity for a successful community re-investment strategy exists in Illinois. However, at least two significant barriers remain. First, the existing expertise is currently tied to residentially based programs. Since residential care is where the money has been, that is where the talent exists. Second, since many children and adolescents can be moved from residential care to community placements, there is an excess capacity among residential providers. This means that many providers must downsize and some providers will likely close.

Florida – Cost Containment in Residential Care

The State of Florida has been facing somewhat different pressures. Medicaid in this state funds mental health services provided within residential settings. In a period of constricted financial resources, Medicaid leadership has been interested in developing strategies for reimbursing appropriate services for eligible children but placing some constraints on the growing costs of these services.

Like most Medicaid reimbursement across the country, Florida used categorical funding of services in a fee-for-service model for mental health services provided to children in residential settings. Once a facility became Medicaid eligible, services could be billed for any Medicaid eligible child served at that facility.

Approaches to Outcomes Management

Categorically funded services, however, limit a provider's ability to specifically address the individual needs of a case. As such, Florida's Medicaid program became interested in exploring the option of a bundled rate methodology in which providers are given a set per diem rate to provide necessary services. A bundled rate has several advantages over categorically funded fee-for-service. First, it allows greater flexibility in treatment planning—a provider no longer must worry about maximizing reimbursements. Second, it allows predictability for expenditures, thereby providing a mechanism for cost containment. Third, it has the potential to reduce paperwork therefore reducing the indirect costs of providing care.

Each site was requested to supply a list of all children and adolescents for whom the site billed Medicaid for services from January, 1996 through December, 1997. From these lists ($n= 210$), 30 children were randomly selected. Both active and discharged cases were included in the sample. The majority of cases (90%) were male. Also, most cases were either Caucasian (49%) or Black (43%). Only six percent were Hispanic and one percent were Asian. Only 11% of cases were 12 years or younger, while 63.6% were between the ages of 13 and 16. An additional 25% of cases were 17 or 18 years of age.

In terms of diagnostic complexity using the CSPI, 20% of cases failed to meet the criteria for any of the six major DSM-IV psychiatric diagnosis categories. An additional 21% met criteria for only one diagnostic condition (generally Conduct Disorder). However, 23% met criteria for two categories; 22% met criteria on three, and 14% met criteria for four or five diagnostic categories.

Table 1 presents the levels of risk behaviors assessed on the five risk dimensions of the CSPI. Review of these data reveal that the most common risk behaviors are dangerousness (e.g. fighting,

threatening) and crime/delinquent behavior. About one-half of cases had any history of runaway. One third of cases had a history of suicidal ideation or gesture; for only a small proportion (5%) was this recent or acute. And, 24% of cases had any history of sexually aggressive acts or accusations.

When synthesizing cases across the five risk behaviors, a very small subset of cases (3%) had no history of risk behaviors. In contrast, 75% had recent or acute risk behavior. In addition, many children and adolescents had demonstrated multiple risk behaviors, with only 13% of cases indicating a single risk behavior. In cases with multiple risk behaviors, 29% had engaged in two risk behaviors (i.e., most commonly a combination of crime and dangerousness), 32% had at least a history of three, 24% had engaged in four or five risk behaviors. In sum, this sample represents a very high risk group of children and adolescents.

Across the seven Florida sites reviewed there was little variation in the service packages provided. Basically, each program had a schedule that involved home-based rehabilitation services at wake-up (e.g. personal grooming), meals (e.g. eating skills) and bedtime (e.g. personal grooming), day

Table 1
Frequency of Risk Behaviors at Admission into Programs as Assessed Using the Childhood Severity of Psychiatric Illness

Risk	None	History	Recent	Acute
Suicide	65.5%	29.5%	2.9%	1.9%
Dangerousness	22.3%	51.9%	21.4%	3.9%
Runaway	50.5%	28.6%	16.0%	4.4%
Crime/ Delinquency	20.4%	24.3%	27.2%	27.7%
Sexual Aggression	76.3%	9.2%	5.8%	8.7%

treatment, and counseling. These schedules were essentially identical for all residents and very similar across programs. Day treatment was provided in group sessions surrounding a school day.

The only notable variations occurred for two services—medication management and family therapy. About one half (52%) of cases were receiving psychotropic medications during their residential stays. Only 24% received any family therapy. This rate seemed influenced to a large extent by the availability of family members. Both geographic (e.g. family lived far away from treatment setting) and family constellation (e.g., child in state custody) appeared to be factors. Only 53% of cases had any parental visits (including surrogate parents—such as, grandmother or aunt) during their stays.

In Florida, the high volume Medicaid providers serve a consistently high risk group of children and adolescents. However, the way in which services are provided did not appear to be sensitive to the varying needs of the children served. The data from the present review provide strong support for a bundled rate approach to Medicaid reimbursement. Most of these children were in clear need of mental health services both from a diagnostic and a risk profile prospective. Often these cases were complicated and involved multiple diagnostic conditions, multiple risk behaviors, and significant co-morbidities. In addition, the service packages that these children and adolescents receive are remarkably uniform. Tight schedules that attempt to fit rehabilitative and day treatment services into ongoing education require a level of structure that does not appear to allow a great deal of flexibility in terms of billable services. The content and focus of services might vary by case but the actual service mix does not appear to vary significantly across cases, particularly within a single site. The notable exceptions to these are psychotropic medication management and family therapy; however, these services are

either relatively infrequent (e.g., a monthly psychiatric visit) or uncommon (e.g., less than one quarter of cases receive family therapy).

Discussion

In these two examples, we have taken a needs-based planning approach to attempt to manage changes in funding and service provision within the system. A primary tool in this effort has been the CSPI, a reliable and valid measure of individual children and adolescents' mental health needs that is directly relevant to current decision making practices. By keeping the needs of the children in the forefront of the reform processes, the change management strategy is better able to address the sometimes competing pressures of economic efficiency and clinical appropriateness. Service system reform requires shifts in human capital and changes in human behavior. By building on the shared value of addressing the needs of children, changes in stakeholder behavior can be facilitated and directed.

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The Access Vermont Report Card: Using Outcomes to Improve Services

Introduction

Program evaluation was a historic first step in establishing accountability and testing the efficacy of mental health services provision to children and families (Burchard & Schaefer, 1992b). With the advent of managed care, outcomes have gained in importance (Goldfried & Wolfe, 1996). It is no longer enough, however, to simply evaluate programs. The information needs to be used in two ways: by the community to improve services; and by researchers and evaluators to assure that the types of data being gathered are valid, reliable, and have the most utility in helping communities improve the quality of services to children and families.

In order to approach the improvement of community mental health services, it is important to consider the role of the evaluation team. The evaluation team does more than just provide objective outcome data— it is part of the larger System of Care. The team does not exist as a separate, independent entity, but rather is embedded in a larger network, as part of the macrosystem of mental health care that influences the intertwined microsystems of service providers, the child and their family (Bronfenbrenner, 1977). This can be visualized as two overlapping circles encompassed by another, larger circle that represents mental health provision in the community.

As the attainment of outcomes gains importance, the relationship of the evaluation team to consumers of their research

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becomes more of a partnership. This partnership can be visualized as a circle representing the evaluation team linked with an equal sized circle: the clinical community of families and service providers. The idea of partnerships has emerged fairly recently in mental health services. Three specific examples had an influence on the Access Vermont Evaluation Team in rethinking the role of the team in the larger mental health community. First, the advent of individualized services, or Wraparound services, brought together families and professionals as a team with the goal of increasing input from children and families into the types of services needed (Burchard, Burchard, Sewell, & VanDenBerg, 1993; Burchard & Clarke, 1990; VanDenBerg & Grealish, 1996). One of the first applications of this type was the Alaska Youth Initiative Demonstration Project (AYI). In general, children and families in AYI were satisfied with services to the degree to which they had been provided in partnership between professionals and families (Minton, 1995).

Second, the role of the evaluation team is analogous to what Singh (1995) has called “unity” between families and professionals, with “unity” describing a more interactive relationship in which both parties learn from each other. In a sense, the evaluation team is “united” with, or in partnership with, the larger community, including professionals, children and families, educators, administrators, and other stakeholders that use outcome data to consider the efficacy of mental health services.

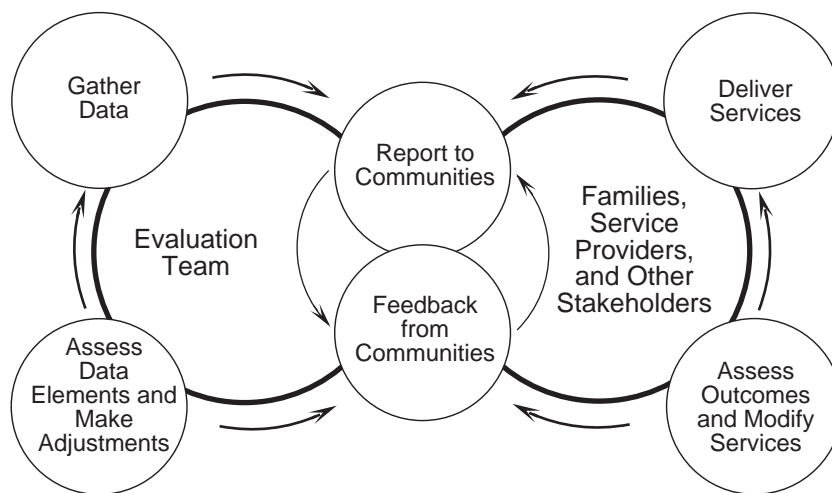
Finally, the extension of the concept of partnership to include interagency collaborations has been a major influence. In Vermont, there has been extensive collaboration between the Department of Psychology at the University of Vermont and the Vermont Department

of Mental Health and Mental Retardation, Division of Mental Health in an attempt to improve community-based services for both children and adults by providing multidisciplinary training to doctoral-level psychology and social work students (Cioffari, Burchard, Carling, & Copeland, 1993).

If one thinks of partnerships as linked circles, the quality assurance movement has provided an expanded way of looking at the model. Quality assurance uses a model of applied research–quality improvement is on-going via constant cycles of planning and predicting, carrying out the plan, reflecting on the efforts and identifying ways to make improvements, and incorporating the changes and improvements in the next cycle (Dever, 1997; Scholtes, 1988). Each cycle can be considered a traditional research project, comprised of prediction, data collection, and analysis.

Traditionally, program evaluation has been a one-way communication–outcome data is gathered, then presented to the service community. As depicted in Figure 1, the Access Vermont Evaluation Team has a different conceptualization—that of being the interface between evaluation (research)

Figure 1
The Communication Cycle



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and the community of families and service providers (clinical practice). This systems view also eliminates the one-way communication that can occur when services providers and families provide information, or data, to the evaluation team, but get nothing in return. An effective communication cycle assures the return of the data to the original “owners,” children and families, and allows them to give feedback on the evaluation process.

Other instances of consumer feedback already have been used in Vermont. For example, comments of parents and care-providers were used to evaluate the effectiveness of Intensive Family-Based Services (Fondacaro & Tighe, 1990). The opportunity for individual parents to provide feedback on the quality of their services has resulted in increased family empowerment (VanNess-Knolls & Tighe, 1996). It follows, then, that the opportunity for a community (including service providers and families as the recipients of outcome data) to provide feedback may help them feel more unified and empowered as a local microsystem of a larger system of care. With the objective to build on and refine past efforts at incorporating consumer feedback, the Access Vermont Evaluation Team developed a Community Services Report. The report has two goals: (1) to compile accurate outcome data and present it in a format meaningful to a community audience; and (2) to improve services by creating a communication cycle of outcome information. The latter goal is accomplished by getting feedback from the community audience.

Method

First, outcome data was gathered from Access Vermont as part of the Comprehensive Community Mental Health Services Program for Children (Vermont Agency of Human Services, 1993). Primary caregivers were interviewed by telephone through third-party interviewers, who used a research protocol

established by Macro International for the Access Evaluation at 22 sites nationwide. The interview protocol for caregivers included an Intake and Demographics Form, the Child Behavior Checklist (CBCL: Achenbach, 1991), the Family Empowerment Scale, the Family Satisfaction Questionnaire, and the Child and Adolescent Functional Assessment Scale (CAFAS: Hodges, 1994); the data collection instruments for youth were the Youth Self-Report (YSR: Achenbach, 1991) and the Youth Satisfaction Questionnaire.

Second, outcome data were compiled and presented to individual regions of the state in the form of a Community Services Report. The reports were approximately 20 pages long, and were based on criteria developed by the evaluation team to facilitate understanding by all members of the community audience—families, youth, service providers, school representatives, and others. The Community Services Reports used everyday language rather than research terminology, and used the simplest possible graphing format to illustrate the data and to increase consumer access to the information.

The Community Services Reports are divided into three general categories:

1. **Descriptive:** Characteristics of the youth being served (age and gender), living situations, economic status, and type of educational classroom and special educational services.
2. **Changes in youth adjustment over time:** Data from the CBCL, YSR, and CAFAS at 6-month intervals. Later reports will include 1-year intervals.
3. **Family satisfaction and family empowerment:** (a) Data on family satisfaction addresses the dimensions of overall satisfaction with services, involvement, and unconditional care, and includes qualitative information in the form of

actual quotes from parents and caregivers in response to two open-ended questions: *What were the most helpful things about the services received?*; and *What would have made things better?* These two questions reflect the quality assurance model of assessing both what is working in a system and what can be improved; and (b) Caregivers rated family empowerment on three factors: feelings of competence as a parent, perceptions of self-efficacy in obtaining needed services for her/his child, and perceptions of efficacy in being an advocate for change in the overall system of children's mental health (VanNess-Knolls & Tighe, 1996).

Third, feedback was gathered from each community audience in response to the Community Services Report using the questionnaire, *Your Opinion* (see Table 1). *Your Opinion* was developed using criteria similar to that of the Services Report:

- The language is simple and non-technical
- The wording in the questionnaire refers back to the titles used in the Community Services Report
- The rating scales are word-based Likert-type scales and are clearly defined
- Open-ended questions are included to assess what worked and what could be improved
- Respondents are asked to give their position in the System of Care, but specific identifying information is excluded

Respondents included 53 stakeholders, including family members, foster parents, direct service providers, agency administrators, and members of other community agencies, such as the court system. Their feedback on *Your Opinion* is considered collectively as a response to the Community Services Report.

Results and Discussion

Two sets of results are generated in this cyclic process of evaluation: outcome data, in the form of the Community Services Report (available upon request from the authors), and the community response to the report gathered from *Your Opinion*. Parts of the Community Services Report are presented in the familiar style of a "report card," and the feedback information is formatted similarly (see Table 2). The 5-point scale used in *Your Opinion* has been converted to the 5-letter grading system of A, B, C, D, and F, and the conversion scale is included for reference.

Results of the consumer feedback show overall satisfaction with the Community Services Report. The highest rating given to any item was an "A" (4.5 to 4.7 on a 5-point scale). Six of the 14 items received an "A" rating:

- Outside, third party, collection of feedback information;
- Family involvement;
- Report of caregivers getting the services they wanted;
- Report of caregivers needing more services than they got;
- Comments of caregivers: What helped?; and
- Comments of caregivers: What would have made things better?

The first item, third-party collection of data, reflects the importance of the evaluation team's dual roles as objective data collectors and participating members in the System of Care. The other five items reflect a theme of family involvement and satisfaction, two criteria used to measure the extent to which the family-professional partnership exists and the level of communication between the two parties about needed services. In addition, the qualitative comments of caregivers were rated as very important. According

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Table 1
Questions From: *Your Opinion*

1. Overall, how helpful was the feedback?

Not helpful at all	Not very helpful	Somewhat helpful	Mostly helpful	Very helpful
1	2	3	4	5

2. Will the feedback be helpful in improving services?

Not at all	Maybe	Not Sure	Probably	Definitely
1	2	3	4	5

3. How often should feedback be provided?

Once	Monthly	Quarterly	Bi-Annually	Annually
1	2	3	4	5

4. How important is it to have an outside, third-party collect the feedback information?

Not at all	Not very	Somewhat	Important	Very important
1	2	3	4	5

5. How helpful were the following aspects of the report?

(Please circle response in the left-hand column using one of these five choices.)

Not helpful at all	Not very helpful	Somewhat helpful	Mostly helpful	Very helpful
1	2	3	4	5

- | | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | Level of youth adjustment |
| 1 | 2 | 3 | 4 | 5 | Level of youth functioning |
| 1 | 2 | 3 | 4 | 5 | SRS custody information |
| 1 | 2 | 3 | 4 | 5 | Caregiver and youth Community Services Report Cards |
| 1 | 2 | 3 | 4 | 5 | Level of empowerment of caregiver |
| 1 | 2 | 3 | 4 | 5 | Family involvement |
| 1 | 2 | 3 | 4 | 5 | Youth involvement |
| 1 | 2 | 3 | 4 | 5 | Report of caregivers getting services they wanted |
| 1 | 2 | 3 | 4 | 5 | Comments of caregivers: What helped? |
| 1 | 2 | 3 | 4 | 5 | Report of caregivers needing more services than they got |
| 1 | 2 | 3 | 4 | 5 | Comments of caregivers: What would have made things better? |

6. How can this report be improved?

7. Is there another form of feedback you would find useful?

All responses are anonymous, but could you tell us, in general, who you are by marking one of the following:

- Primary caregiver (*examples: parent, foster parent, relative*)
- Family, friend, or advocate
- Youth
- Direct service provider (*examples: therapist, case manager, respite worker, teacher*)
- Agency administrator or policy maker
- Member of community agency (*examples: police, hospital, court*)

to written comments on *Your Opinion*, the quotes from caregivers are useful because they often give very specific, concrete ideas for change.

The lowest ratings were “B+” (3.9 to 4.1 on a 5-point scale) on two items:

- The report will be helpful in improving services; and
- SRS (Social and Rehabilitative Services) custody information.

Again, written comments on *Your Opinion* were useful in interpreting these results. For example, one respondent noted that while the report could be helpful in improving services, she was skeptical that the information would actually be used by service providers.

Overall, respondents found the Report very helpful, with 12 of the 14 “grades” being an “A-” or “A” (4.2 to 4.4 and 4.5 to 4.7 on a 5-point scale, respectively).

The Access Vermont Community Services Reports combined with *Your Opinion* feedback synthesizes a tradition of program evaluation and partnerships in service provision and creates a flow of information between research and clinical practice. When a communication cycle is established (see Figure 1), there is a flow of information between the evaluation team and the families, services providers, and other stakeholders. The Community Services Reports from

the evaluation team are used to guide Community System of Care planning and service delivery. In the same manner, feedback to the evaluators from *Your Opinion* guides what information is collected and how it is reported. Each informs the other. Viewing the evaluation team as part of a communication cycle does not dilute the outcome results, nor does it impair the objectivity of third-party evaluation. Rather, such a systems view places the evaluation

Table 2
Feedback Report Card

Access Feedback Report Card	
State of Vermont	
53 Responses	
Satisfaction with Community Services Report	Grade
Overall, the report was helpful	A-
The report will be helpful in improving services	B+
Feedback should be provided	Quarterly to Biannually
Outside, third party, collection of feedback information	A
The following aspects of the report were helpful:	
Level of youth adjustment	A-
Level of Youth functioning	A-
SRS custody information	B+
Caregiver and youth Community Services Report Cards	A-
Level of empowerment of caregiver	A-
Family involvement	A
Youth involvement	A-
Report of caregivers getting the services they wanted	A
Comments of caregivers; What helped?	A
Report of caregivers needing more services than they got	A
Comments of caregivers: What would have made things better?	A

Grading Scale:

A+	= 4.8 - 5.0	C+	= 3.0 - 3.2
A	= 4.5 - 4.7	C	= 2.7 - 2.9
A-	= 4.2 - 4.4	C-	= 2.4 - 2.6
B+	= 3.9 - 4.1	D+	= 2.1 - 2.3
B	= 3.6 - 3.8	D	= 1.8 - 2.0
B-	= 3.3 - 3.5	D-	= 1.5 - 1.7

Access Vermont Report Card

team in a larger context, and makes the product—in this case, the Access Vermont Community Services Report Card—an interactive product of research that can readily be used by mental health service providers to improve the lives of children and families.

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Successful Selection and Implementation of a Children's Information System

Introduction

Children's mental health programs need data daily – for decision making, planning, reporting, evaluation, and tracking outcomes. In this era of change, there are more decisions to make and questions to answer than ever before. Unfortunately existing data often reside in paper files or data bases developed on an ad hoc basis over time, so each new initiative requires expensive and time consuming data collection. As the demand for more and better data continues to increase, children's agencies that still use primarily paper record systems or outdated automated systems are being overwhelmed by the demands of data management. They feel at a disadvantage because they do not have the benefits of contemporary automated information systems and realize they are quickly losing their ability to compete in the current marketplace. While acknowledging the need for more efficient data management, many agencies still resist the move into automation because they lack the internal expertise needed to manage the selection and implementation of an information system.

Work on this project was sponsored by the Technical Assistance Center for the Evaluation of Children's Mental Health Systems at the Judge Baker Children's Center, Boston, MA through funding from the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services under Cooperative Agreement #SM51377-02.

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The Solution

This summary provides a framework that can guide agencies through the process of choosing and implementing an information system. Some basic steps and specific resource materials are identified. This framework also includes strategies that children's mental health administrators can use to develop successful partnerships with external information systems consultants and vendors (Hutcheson & Snowdon, 1996).

The process for selecting and implementing a children's mental health information system includes the following steps:

- Project planning and management orientation, including identifying and mobilizing project teams, developing a work plan, sampling the market and determining a bid process;
- Defining and prioritizing system requirements by reviewing existing state-of-the-art systems to learn what the possibilities are, getting input from all prospective information system users on their needs, and translating these needs into requirements for a request for proposals for vendors/consultants;
- Selecting a vendor and a software package by planning the proposal evaluation, defining evaluation criteria, conducting the evaluation, and formulating a recommendation;
- Conducting successful vendor negotiations, by preparing carefully, keeping the priorities clear, finding "tradeoffs" to offer vendors to reduce costs, and negotiating a detailed payment schedule with clear deliverables.
- Implementing the system by analyzing impact of the new system on staff and operating procedures, developing and delivering training, implementing a support plan, and monitoring and assessing system implementation.

Organizational Issues

The goal of this process is an automated system that is technically successful (i.e. a system that will manage information for the organization). Organizations attempting to choose an information system can find the wealth of available technology, both hardware and software, overwhelming and intimidating. A careful planning process is necessary to define the specific system requirements for the organization and then select hardware and software that best meet those specific requirements. The process also incorporates some organizational issues which are an integral part of reaching a successful outcome. These issues become themes that are woven throughout the steps of the technical decision-making process. They include:

- ***Broad Stakeholder Involvement*** –The purchase of an information system affects both members within an organization as well as many external stakeholders. Major costs will be incurred, and there will inevitably be substantial disruption of activities within the organization during the selection and implementation process. Those who are looking for something to criticize will always be able to find some fault with the process and products. However, wide stakeholder involvement will improve the quality of the decisions and reduce the potential for criticism and second guessing after the decisions have been made.
- ***A Reasonable Cost*** –An information system is a substantial investment for an organization that may require creative approaches to financing. Organizations are encouraged to find a way to finance the purchase of the system that is best for them, and not to be put off by what may appear initially to be prohibitive costs. Conversely, decision makers should take care not to pay more than they should; in the majority of cases the most expensive system may not necessarily be the best choice for an organization.

Selection of Children's Information System

- ***Focus on Key Information Needs of the Agency*** – It is easy for enthusiastic participants in the process of selecting a new information system to become engaged in the technical considerations and lose focus on the central purpose of an information system: to provide the data needed to manage the ongoing activities of the organization. Decisions should be made based on the identified information needs of the organization.

The goal of the process is to give administrators the confidence to develop a plan and start the process to acquire an information system that uses the best technology available to support the information needs of the agency.

References

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