Chapter Eight

**Use of Data to
Assure Quality and
Enhance Outcomes
in a System of Care**

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Symposium
Community-Based Theories of Change: Highlights of Findings from a National Study

Introduction

Sharon Hodges

This symposium presented findings of a five-year national study of community-based theories of change that was conducted between 1999 and 2004 as part of the Research and Training Center for Children's Mental Health at the University of South Florida. This study was designed to investigate the process of local policy implementation and how policies related to children with emotional disturbance and their families impact the availability of services and access to these services in the community. The goals of this study were to: gather information about how organizations conceptualize, operationalize, and implement community-based service policies; to gather information about how organizations transfer policy agendas across stakeholders in local organizations; and to learn more about how organizations sustain their local service strategies over time. The papers presented in this symposium provided a description of the study background and design as well as an overview of the findings. In addition, more detailed findings from specific aspects of Phases I and II of this study are presented.

Community-Based Theories of Change: Study Background and Design

Sharon Hodges

The Community-Based Theories of Change Study was designed for the purpose of understanding how child-serving organizations that have a clearly articulated and widely held theory of change carry out their mission and goals. For the purpose of this study, a theory of change can be understood as the underlying assumptions that guide a service delivery strategy and are believed to be critical to producing change and improvement for children and families (Hernandez & Hodges, 2003). This study was grounded in the assumption that a clearly articulated and widely held theory of change facilitates local policy implementation. It was further assumed that a participating site's theory of change reflects the organization's mission and goals and represents the implementation of policy by the organization.

Community-Based Theories of Change used a multi-site case study design conducted in two phases. The case study design was used to balance aspects of the study's inductive and exploratory inquiry with the more bounded approach common to hypothetical-deductive inquiry, and the multi-site approach was used to increase the potential for generalizing findings to local service delivery systems and programs not included in this study (Yin, 1994). The major research questions for this study were: (a) What organizational structures and processes support the clear and effective conceptualization, operationalization, and implementation of service-related policy; (b) How are efforts to carry out organizational missions and goals sustained over time; and (c) What benefits and challenges are associated with having a clearly articulated and widely held theory of change?

Phase I of this study involved three sites that used distinctly different theories of change in their efforts to serve children and families. The purpose of Phase I was to identify any organizational structures and processes that existed across the sites to support policy implementation and to identify benefits and challenges that the sites associated with using a theory of change approach. This phase of the study used a purposeful sample of organizations identified through a rigorous site selection process. During the site selection process, it was necessary to confirm that nominated sites were using a theory of change approach to accomplish their successful implementation of local service-related policy. Data related to the operating

theory of change included document review, on-site and telephone interviews, and on-site observation of organizational structures and processes. Logic models were developed and reviewed by informants at each site in order to identify site-specific themes and clarify the presence of an active theory of change.

After identifying three sites that were using a theory of change approach to policy implementation, Phase I data collection focused on identifying the structures and processes within these organizations that contributed to their ability to carry out their mission and goals. Phase I data collection included a comprehensive review of documents at each site, facilitation of a concept mapping process (Concept Systems 2002), semi-structured interviews with key stakeholders at multiple levels of each organization, and on-site observation of structures and processes related to the organizations' mission and goals.

Inductive inference was used to develop and describe results of Phase I. The narrative data (interview notes and transcripts, document review, and statements brainstormed during the concept mapping process) were analyzed to identify emergent patterns and themes within and across respondent types. Concept maps were developed for each site based on a facilitated group brainstorming process and individual statement sorting and rating activities. The concept mapping results were discussed with each site and presented in individual written site reports. In addition to the site specific findings that were reported to individual sites, the cross-site analysis of Phase I data suggested the presence of four organizational characteristics and two organizational facilitators that were common to the participating organizations' ability to carry out their missions and goals. These Phase I findings were summarized in a nationally distributed report (Hodges, Hernandez, Nesman, & Lipien 2002), and were further investigated in Phase II of the study.

The purpose of Phase II was to confirm or disconfirm the findings of Phase I. This phase used a purposeful sample of five organizations that used the same theory of change across sites to carry out their mission and goals. Because the five agencies participating in Phase II were certified by the Teaching Family Association as confirmed implementers of the Teaching Family Model, it was unnecessary to use the site selection process to identify and confirm the active theory of change at each site. However, document review and telephone interviews were used in advance of the site visit for the purpose of familiarizing the research team with the participating agency. Data collection for Phase II mirrored the processes used in Phase I and included a comprehensive review of documents at each site, facilitation of a concept mapping process, semi-structured interviews with key stakeholders at multiple levels of each organization, and on-site observations of structures and processes related to the organizations' mission and goals. The analysis of narrative data for Phase II (i.e., interview notes and transcripts, document review, and statements brainstormed during the concept mapping process) is ongoing at the time of this writing. The most detailed analysis to date is of the 433 statements generated during the brainstorming phase of the concept mapping process across the five sites. The Phase I findings were operationalized and a coding schema developed for each of the Phase I themes. The research team developed a shared understanding of these operationalized findings and inter-rater reliability was established. Subsequently, the 433 Phase II concept mapping statements were coded according to the codes representing the Phase I findings. This initial analysis of the Phase II data indicate that the Phase I findings can be confirmed as present in the Phase II organizations. Analysis of Phase II data will continue with the coding of transcribed interview data across the participating sites.

References

Concept Systems, Inc. (2002). *The Concept System* (Version 1.75) [Computer Software]. Ithaca, NY: Author.

Hernandez, M., & Hodges, S. (2003). Building upon the theory of change for systems of care. *Journal of Emotional and Behavioral Disorders, 11*(1), 19-26.

Hodges, S., Hernandez, M., Nesman, T., & Lipien, L. (2002). *Cross-Site Findings: Phase I Community-Based Theories of Change.* Tampa: University of South Florida, Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health,.

Yin, R. K. (1994) *Case study research: Design and Methods* (Second Ed.) Thousand Oaks: Sage Publications.

Community-Based Theories of Change: Overview of Findings

Mario Hernandez

This paper presents the cross-site, cross-phase findings of the Community-Based Theories of Change Study. Although data analysis is ongoing, the findings to date provide insight into the planning and management processes of human service organizations that have a clearly articulated and widely held theory of change. This study examined the organizational structures and processes that human service organizations believe allow them to carry out their mission and goals and to sustain this effort over time. Organizations participating in this study used a theory-based approach, which examines underlying beliefs and assumptions, links expected outcomes to a specific population of focus, and links expected outcomes to strategies for achieving those outcomes. As a result, organizations could focus their activity on why they believe certain services or policies will lead to positive changes in their identified service population.

Data from document reviews, key informant interviews, and concept mapping for Phase I were analyzed for the purpose of identifying emergent themes common across the sites. These themes are discussed in detail in a report of the cross-site findings (Hodges, Hernandez, Nesman, & Lipien, 2002). Analysis of Phase II data confirmed the presence of themes common across the participating sites in both phases. These cross-site, cross-phase themes include four characteristics that emerged from the cross-site data. These characteristics were common across the sites and significantly shaped the nature and complexion of these organizations as they worked to carry out their mission and goals. The four organizational characteristics were:

1. *Identity*—a clear and shared understanding of the organization's purpose, what the organization intends to accomplish and why. This includes that the organization's identity is anchored in its vision and mission and its shared and clearly articulated values and principles. The vision and mission of the organization guide priority setting and decision making

2. *Integration*—structures and functions that are well aligned and work together to support the achievement of the organizational mission and goals. This requires that individual roles within the organizations are clear and well supported. Integration ensures that the intended mission can be carried out without structural or functional impediments and also facilitates building community partnerships.

3. *Initiative*—is characterized by an achievement orientation within the organization and a willingness to meet challenges. Members of these organizations believe themselves to be accountable for the results of their strategies; they evaluate and critique their own processes.

4. *Innovation*—organizations use new and creative approaches to service delivery and are willing to challenge convention. Innovation is measured against the ability to achieve the organizational mission while maintaining flexibility.

Two facilitators support the organizational characteristics of identity, integration, initiative, and innovation. These facilitators are leadership and communication. The Phase I data suggested that leadership can be characterized as: (a) providing inspiration, guidance and direction that is strong and empowering; (b) maintaining clear lines of authority with decentralized decision making; and (c) providing positive reinforcement, motivation, and rewards. These attributes of leadership were confirmed in Phase II organizations. The Phase I data suggested that the facilitator identified as communication can be characterized as the flow of information and ideas within and outside the organization in ways that are open, multi-directional, and continuous. This includes formal (staff meetings, written reports, training events) and informal (impromptu phone calls, office visits, lunch gatherings) methods of communication. Like the concept of leadership, evidence of such communication was identified in the Phase II sites. Together these facilitators enhance the impact of the organizational characteristics by reducing any obstacles to their accomplishment. Without these facilitators, the influence of strong organizational identity, integration, initiative, and innovation would be impeded.

A useful concept emerging from this analysis is the existence of a balance between regulative and generative organizational processes in human service organizations. Drawing from Uzzell's (1990) description of regulative and generative organizations, regulative processes can be identified as those that rely upon power for decision making authority, employ standardization of work practices, filter out information that would provide feedback, and treat actions as final rather than conditional. In contrast, generative processes can be identified as those which rely on information for decision making authority, allow for idiosyncratic or contextual design, incorporate information that will provide feedback, and treat actions as experimental and open to adaptation when necessary.

The cross-phase findings of this study suggest that human service organizations cannot be operated through entirely generative or entirely regulative processes. A balance between the processes allows for organizational responsiveness built upon a foundation of proactive and strategic implementation (see Figure 1). The findings further suggest that the relationship between the identified organizational characteristics and facilitators help human service organizations establish a balance between regulative and generative planning and management.

Figure 1
Facilitating the Balance
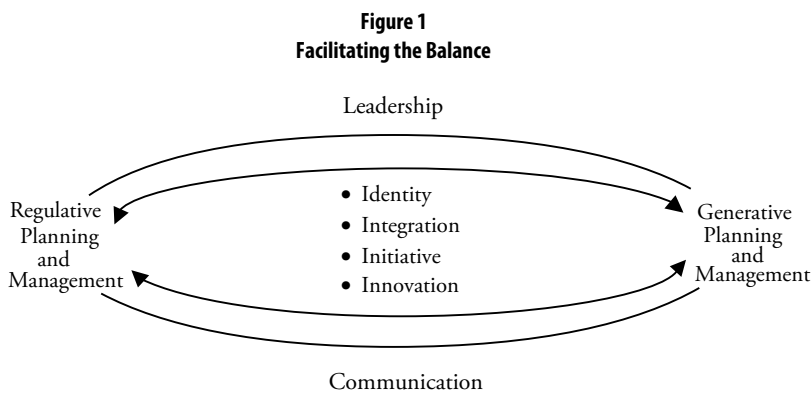
References

Hodges, S., Hernandez, M., Nesman, T., & Lipien, L. (2002). *Cross-Site Findings: Phase I Community-Based Theories of Change.* Tampa: University of South Florida, Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health.

Uzzell, D. (1990). Dissonance of formal and informal planning styles, or can planners do bricolage? *City and Society, 4*, 114-130.

Structures and Processes Supporting the Mission and Goals of a Family-Run Organization: King County Blended Funding Project

Svetlana Yampolskaya

Introduction

The last decade has seen the concept of family involvement in healthcare decision making grow. Family involvement has been shown to reduce morbidity rates, improve treatment outcomes, and increase satisfaction with services (Hawley & Weisz, 2005; Kaas, Lee, & Peitzman, 2003; Lefley, 1996). As part of an ongoing dialog regarding family involvement, Bewrnheim (1994) suggested that a new goal for professional approach in mental health should be to develop cooperative alliances with families. This approach corresponds with the advocacy efforts of the National Alliance for the Mentally Ill (NAMI). Marsh (1994) recommended that new models of service delivery should include collaborative family-professional partnerships and that such strategies would enable families to play active roles in decisions that affect them. Finally, Osher, Kammen, and Zaro (2001) noted that in the system of care model of services for children's mental health, a core value is that families are considered full partners and should therefore share decision making with administrators and policymakers. They further noted that families have begun to take new roles in child-serving systems including establishing family-run organizations where parents of children with mental health problems guide and control expenditures and decisions on behalf of their children. An example of such an organization is the King County Blended Funding Project.

The King County Blended Funding Project in Washington State is a family-run organization that utilized a new collaborative approach to serving children with emotional disturbance and their families. The project was designed to establish partnerships with professionals and parents, to actualize services, and to oversee the financial management of available funds. In doing so, the Blended Funding organization combined funds from three participating children's service systems (i.e., child welfare, mental health, and special education) into a single resource pool (Vander Stoep, Williams, Jones, Green & Trupin, 1999). The Blended Funding theory of change recognized that the family is a child's most valuable resource and hinged on family empowerment and the ability to take advantage of available opportunities (Hodges, Hernandez, Nesman & Lipien, 2002).

Because of the rarity of family-run organizations and unique approach such as the one described above, it is important to identify organizational structures and processes that allow the project developers and implementers to accomplish their specific goals. Using The King County Blended Funding Project as an example, this study focused on uncovering structures and processes that enable program participants to carry out the project's mission and goals.

Method

This summary presents the results of a concept mapping process (Trochim, 1989) that was conducted with Blended Funding in 2001. The concept mapping process involved 12 Blended Funding stakeholders and included both family members (*n* = 5) and mental health professionals (*n* = 7). Concept mapping, using Concept Systems software (Concept System 2002), was used to collect and analyze data related to the structures and processes within the Blended Funding Project that support how its mission and goals are carried out. Concept mapping begins with a structured brainstorming process in which the participants are given a focus statement and are guided to generate statements in response to the prompt. The focus statement for the concept mapping procedure was, "Generate a list of things that are done in the Blended Funding Project so that you and others understand how to carry out its mission and goals." As a result, 77 statements were generated. Following the brainstorming, participants were provided with a complete set of the statements and asked to sort them in to piles in a way that made sense to them. After creating their piles of statements, participants labeled each pile with a name they thought described the statements included in that pile. In addition to sorting the statements, participants were asked to rate
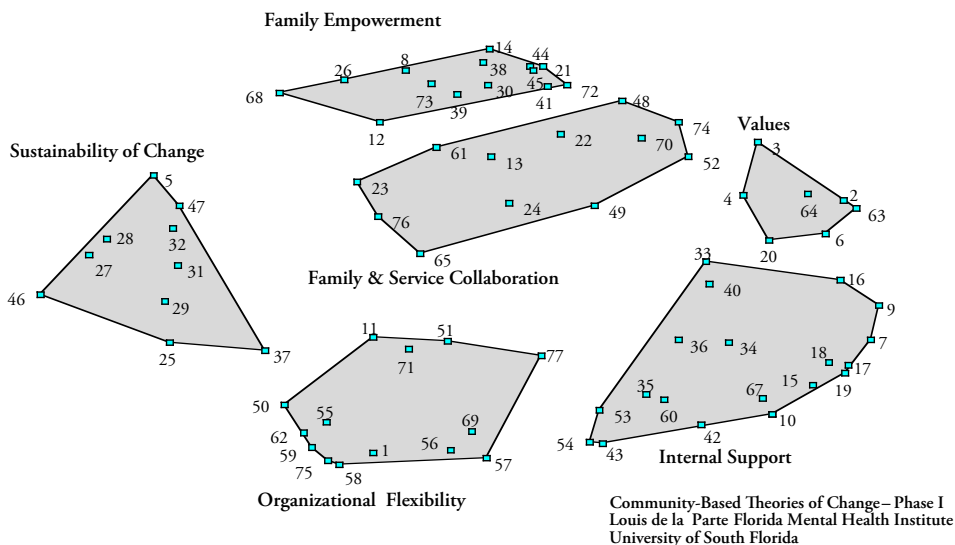
each statement on a 1 to 5 scale as to its importance in terms of carrying out the organization's mission and goals. This was followed by a rating of each statement according to its effectiveness.

The Concept Mapping software makes use of multivariate statistical techniques for the analysis of data, including multidimensional scaling and cluster analysis. This analysis was used to create a conceptual map for the Blended Funding Project that positions statements perceived by participants to be similar to one another close together and statements perceived to be dissimilar located farther apart. Similar statements are grouped together in non-overlapping categories called clusters based on their proximity to one another. Semi-structured telephone interviews were conducted in order to validate the results for concept mapping.

Results

A six cluster solution was examined in order to identify categories of statements that represent the elements of the Blended Funding Project theory of change. The six cluster categories were: (a) family empowerment, (b) family and service collaboration, (c) values, (d) internal support, (e) organizational flexibility, and (f) sustainability of change. Figure 1 shows the clusters observed. The *family empowerment* category is directly linked to the family empowerment as part of the project theory of change. The cluster *family and service collaboration* incorporated both family collaboration with community and family and the service system collaboration elements. *Values* reflected the child and family support element. *Organizational flexibility* and *sustainability of change* represent financial flexibility and individual/organizational elements of the project theory of change. Although one of the key elements of the Blended Funding Project Theory of Change (i.e., addressing children's needs across multiple domains) was not identified as a separate cluster, the services in place provided ample response to a wide array of children's needs. One additional cluster identified as *internal support* was observed.

Figure 1
Six-Cluster Solution Map

Blended Funding Project

Community-Based Theories of Change– Phase I
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University of South Florida

In addition, the point map (see Figure 2) was examined in order to provide dimensional interpretation of these results. Examination of the 2-dimensional solution point map suggested two interpretable dimensions of the service elements configuration: (a) conceptualization/implementation of the project mission and goals and (b) collaboration with both families and community partners.

Figure 2
Point Map With Statement Numbers
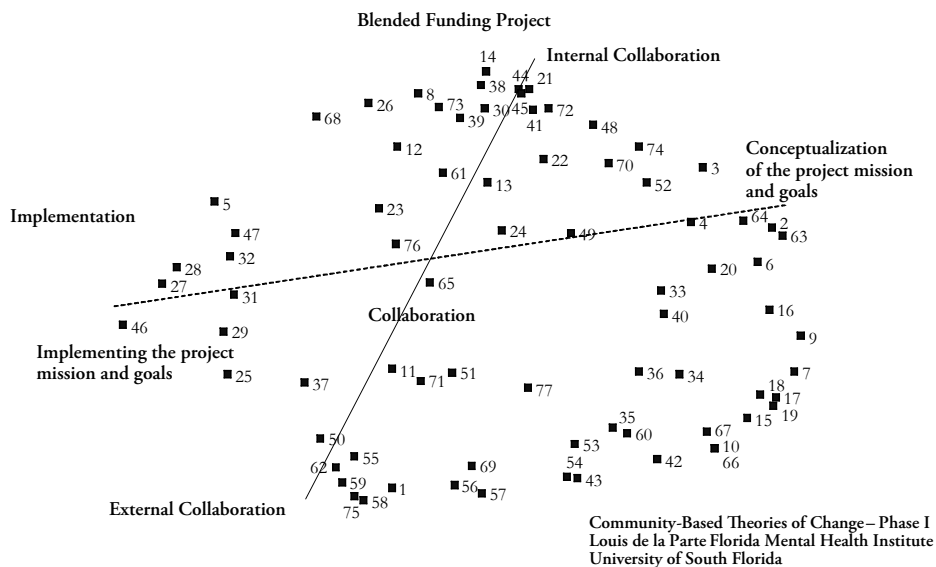
Conceptualization/implementation of the project mission and goals can be seen progressing from the right to the left and represents the continuum ranging from values and concepts of the project to implementation of these conceptions. The collaboration with both families and community partners dimension forms a continuum that is progressing from the upper-middle area of the map to the lower-middle area and ranges from internal collaboration (e.g., collaboration among families, staff members, and administrators) to external collaboration (e.g., relationships with funding entities and community partners).

Finally, results of the semi-structured interviews were analyzed. With regard to the concept mapping results, three interrelated themes were identified through the interview analysis: (a) care teams were created and they were functioning, (b) care teams served as a mechanism to achieve the Blended Funding Project mission and goals, and (c) care teams were created as family-centered.

Discussion

The Blended Funding Project appeared to represent the widely held theory of change, and the major elements of the project theory were identified in concept maps. The key categories that represent the Blended Funding Project's theory of change are family empowerment, organizational flexibility, and family and service system collaboration. There were two main strategies developed and utilized in the project: (a) widespread and extensive collaboration and (b) communication of the key values shared by the stakeholders. In addition, the results of semi-structured interviews revealed the importance of creating care teams. Care teams were identified as mechanisms to achieve the project mission and goals and ensure that services were family-centered. In summary, the results of both the concept mapping procedure and the results of the interviews indicated that the project was created as family-centered. In brief, this project demonstrated the viability of family members as both overseers and recipients of services.

References

Bewrnheim, K. F. (1994). Determining and implementing the family service plan. In H. P. Lefley and M. Wasow (Eds.), *Helping families cope with mental illness*. Chur, Switzerland: Harwood Academic.

Concept Systems, Inc. (2002). *The Concept System* (Version 1.75) [Computer Softward]. Ithaca, NY: Author.

Hawley, K. M. & Weisz, J. R. (2005). Youth versus parent working alliance in usual clinical care: Distinctive associations with retention, satisfaction, and treatment outcome. *Journal of Clinical Child and Adolescent Psychology, 34*, 117-128.

Hodges, S., Hernandez, M., Nesman, T., & Lipien, L. (2002). *Creating change and keeping it real: How excellent child-serving organizations carry out their goals*. Tampa: University of South Florida, Louis de la Parte Florida Mental Health Institute.

Kaas, M. J., Lee, S., & Peitzman, C. (2003). Barriers to collaboration between mental health professional and families in the care of persons with serious mental illness. *Issues in Mental Health Nursing, 24*, 741-756.

Lefley, H. P. (1996). *Family caregiving in mental health*. Thousand Oaks, CA: Sage.

Marsh, D. T. (1994). Services for families: New models, models, and intervention strategies. In H. P. Lefley and M. Wasow (Eds.), *Helping families cope with mental illness*. Chur, Switzerland: Harwood Academic.

Osher, T. W., Kammen, W. V., & Zaro, S. M. (2001). Family participation in evaluating systems of care. *Journal of Emotional and Behavioral Disorders, 9*, 63-70.

Vander Stoep, A., Williams, M., Jones, R., Green, L., & Trupin, E. (1999). Families as full research partners: What's in it for us? *The Journal of Behavioral Health Services and Research, 26*, 329-344.

Trochim, W. M. (1989). An introduction to concept mapping for planning and evaluation. *Evaluation and Program Planning, 12*, 1-16.

Organizational Structures and Processes Within an Evidence-Based Practice: Cross-Site Findings From a Study of Teaching Family Organizations

Teresa Nesman

Introduction

This paper describes findings from Phase II of the Community-Based Theories of Change study. Phase II focused on confirming or disconfirming the presence of organizational characteristics and organizational facilitators used for policy implementation that were identified in Phase I (Hodges, Hernandez, Nesman, & Lipien, 2002). These organizational characteristics and facilitators are described in the above discussion by Hernandez.

Improving the clarity of the conceptualization and operationalization of local policy and its implementation is important for effective service planning and delivery (Wholey, 1997) as well as for focusing evaluation efforts (Chen, 1990; Cohen & Kibel, 1993; Rimer, 1991; Weiss, 1992). Theories of change, made explicit with the use of logic models, have been found to improve local stakeholders' understanding of the relationships between the children and families served, the services and supports provided and the resulting outcomes by making abstract service concepts concrete and understandable (Alter & Murty, 1997; Julian, Jones, & Deyo, 1995). This increased understanding may be especially helpful in implementing evidence-based practices within differing community contexts, but research that illuminates this process is needed.

This summary provides an example of how evidence-based practices are operationalized at the local level and how this translates to actual service delivery. Research questions for the study include, "How does an organization implementing an evidence-based practice turn ideas into action?" "What structures and processes support such an organization's ability to carry out its mission and goals?" and "How does such an organization sustain its focus?"

Method

The data presented were collected through concept mapping (Concept Systems Inc., 2002) with organizations implementing the Teaching Family Model (Wolf, Kirigin, Fixsen, Blase, & Braukmann 1995), an evidence-based practice that has a clearly articulated theory of change. This model is supported by the Teaching Family Association (TFA), which is an international organization that supports the consistent implementation of the model, certification of member agencies, recognition of programs, standardization of useful training and evaluation procedures, supervision of program replication, and the provision of annual conferences for sharing new material and program development (TFA, 2002). Implementation of the model is based on a theory of change that includes the following components: (a) Behavioral problems in children and youth result from a lack of appropriate alternative ways of interacting with their home, school, and community environments; (b) Therapeutic change takes place through the implementation of individualized child and family treatment plans, and (c) Change for professionals and organizations is necessary to achieve client-level outcomes. Concept mapping was used to identify structures and processes that support carrying out the mission and goals of TFA within each of the five participating organizations. The sampling protocol for this process required that concept mapping participants be actively involved in carrying out the mission and goals of the organization and the Teaching-Family Model. Participants included staff from five organizations implementing the evidence-based practice of the TFA. There were a total of 71 participants, with a mean of 14.2 participants per site. Names of the organization and the number of participants for each one are: (a) Barium Springs Home for Children (*N* = 13); (b) Bringing It All Back Home (BIABH; *N* = 16); (c) Closer To Home (*N* = 20); (d) Utah Youth Village (*N* = 11) and (e) Devereaux Family Programs (*N* = 11).

Concept mapping began with a structured brainstorming process in which participants were given a focus statement and guided to generate statements in response to the prompt statement: "Generate a list of things that are done at [name of organization] so that we understand how to carry out the Teaching-

Family mission and goals." A total of 433 statements were generated across the sites, an average of 66.4 statements per site. The number of statements generated for each site included 101 for Barium Springs, 97 for BIABH, 101 for Closer To Home, 53 for Utah Youth Village, and 81 for Devereaux. Following the brainstorming, each participant was provided with a complete set of the statements and asked to sort the statements into piles in a way that made sense to them. After the individuals created their piles of statements, they named each pile according to the type of statements included in that pile. In addition to sorting the statements, each participant was given a list of all generated statements and asked to rate them from 1 to 5 in terms of importance, 1 being *not important* and 5 being *very important*. Finally, participants rated the same statements as to their effectiveness.

Data analysis included coding of each brainstormed statement by three research team members. A coding scheme was created by fully operationalizing the six organizational characteristics and facilitators described in cross-site findings from Phase I. Designated coders were trained in this coding scheme to ensure complete and consistent understanding of their meaning across coders. Coding of statements was done on a Yes/No scale for each of the six Phase I themes: Identity, Integration, Initiative, Innovation, Leadership, and Communication. As a pilot test, statements from one Phase I site were coded, followed by discussion of items that were confusing or did not fit existing definitions. In the final coding, coders were given a list that operationalized the six factors. One theme was coded at a time, so that all statements for a site were reviewed for one factor before moving on to the next factor. A single statement could be coded as representing more than one theme, such as Initiative and Innovation, and coders could also create additional themes or suggest adaptations to the operationalized definitions of a code. The order of statements and themes were shuffled across coders in order to avoid order effects. The analysis included inter-rater agreement and disagreement (i.e., to what extent are coders creating new themes) and comparing reliability with importance and effectiveness ratings for each statement.

Results

Inter-rater reliability (percent agreement) by TFA site and Phase I organizational characteristics and facilitators are shown in Table 1 (N = 3 raters). Reliability ranged from 70% to 96%. The characteristic with the lowest reliability (71%) was Integration and the one with the highest reliability (90%) was Innovation. The TFA site for which there was the lowest reliability (82%) was Barium Springs and the site with the highest reliability (87%) was Utah Youth Village. Differences in reliability may be attributed to need for additional clarification of a factor or different emphases at the various TFA organizations.

The brainstormed statements with highest inter-rater reliability and highest ratings for importance and effectiveness are shown in Table 2. Statements are provided for each TFA site by the organizational factor. Note the similarity in statements for each factor, such as adherence to the Teaching Family (TF) model's approach or philosophy (Identity), flexibility (Innovation), an emphasis on accountability, evaluation and feedback (Initiative), and training (Communication). There are also some differences in

Table 1
Interrater Reliability (Percent Agreement) by TFA Site and Phase 1 Theme (N = 3 Raters)

TFA Site	Phase 1 Factor						Total
	Identity	*Integration*	*Initiative*	*Innovation*	*Communication*	*Leadership*	*Total*
Utah Youth Village	83%	75%	81%	95%	92%	95%	87%
Closer to Home	86%	69%	88%	88%	83%	91%	84%
Devereux	93%	73%	90%	86%	80%	96%	86%
Bringing It All Back Home	91%	69%	91%	89%	86%	86%	85%
Barium Springs	91%	69%	91%	91%	75%	70%	82%
Total	89%	71%	88%	90%	83%	88%	85%

emphasis across sites, such as the different Leadership aspects emphasized (e.g., involvement of staff in admission procedures, leaders as role models) and differences in how Integration occurs (e.g., adequate staffing, skills development) within organizations.

Table 2
Highest Reliability, Importance & Effectiveness Ratings for each Organizational Factor

Identity	*Statement*
Site	
Barium	Family teachers live and model the TF approach
BIABH	Philosophy of promoting staff from within
Closer	Kids and families come first
Devereaux	Mission: To provide effective treatment in a humane and individualized way in a family setting
Utah	Knowledge that the TFM works, high degree of confidence in the model.

Integration	*Statement*
Barium	Group homes have a couple and two staff, plus three floaters available (adequate staffing)
BIABH	All consultants are experienced as Teaching Parents
Closer	In-home support staff for teaching parents
Devereaux	Provide TPs with skills (skill list) to teach to children, skill curriculum
Utah	Families and children are part of the treatment team.

Initiative	*Statement*
Barium	Evaluations - individual and program components using aggregate information from all program evaluations as a systemic tool
BIABH	High criteria for accountability and job performance at all levels
Closer	Working toward clearly defined outcomes (e.g., performance based contracts with funders)
Devereaux	TFA evaluation process offers feedback that allows program to grow
Utah	Consultation feedback as to strengths, what's been done that's been right, feedback on ways to improve.

Innovation	*Statement*
Barium	Flexibility: fitting model to the kid - techniques have to be individualized
BIABH	TFM is not a cookie-cutter approach (allows different approaches with different children)
Closer	Flexible responses to needs of consumers
Devereaux	Flexibility of TPs
Utah	Devoted to growth and expanding organization.

Leadership	*Statement*
Barium	Admissions is by clinical team decision
BIABH	Leadership of BIABH serves as role models
Closer	Higher authority to make decision-making 24-7
Devereaux	Motivators, such as food, Christmas parties, music, dancing, coffee, donuts
Utah	Consumer-driven facilitative administration: All pieces of the TFM (consultation, evaluation, and training) work together, but administration must make it happen

Communication	*Statement*
Barium	Preservice training
BIABH	Preservice training
Closer	Preservice training
Devereaux	Intensive training initial preservice training
Utah	Preservice workshop/training: 40+ hours includes teaching TFM, general child welfare, professionalism, ethics, first aid CPR, restraint training, social learning theory, teaching interactions, role playing (10 hrs) with role play feedback.

Conclusion

The preliminary findings for Phase II confirm the presence of all organizational characteristics and facilitators from Phase I in the five organizations implementing the TFA theory of change. These include a clear identity, integration of structures and functions, flexibility and innovation in service approaches, initiative to meet challenges and self-evaluate, strong and empowering leadership and multi-directional communication. This suggests the important role these organizational characteristics play in turning ideas into action in organizations implementing an evidence-based practice.

Key concepts of the TFA theory of change are evident in the statements for each factor, which indicates clarity of both conceptualization and implementation of this evidence-based practice. That is, organizational structures and processes that help staff carry out the mission and goals of TFA include theory of change elements such as professional and organizational change as a requirement for achieving client-level outcomes, providing alternative ways for children to interact with their environments, and implementing individualized child and family treatment plans.

Closer examination of individual brainstormed statements also indicates a high level of integration of organizational characteristics within sites. That is, many statements were coded for and included elements of more than one characteristic. High reliability in coding for each characteristic and importance/effectiveness also supports the consistency of these factors across organizations. Some differences in reliability and importance/effectiveness ratings suggest the need for further clarification of factors and the possibility of different emphases in implementation of the Teaching Family model at some sites. Future analyses will include examination of concept maps that group statements by clusters based on participant sorting. This analysis will provide additional insight into the way in which the organizational characteristics are incorporated across organizational structures and processes within each organization implementing this evidence-based practice.

References

Alter, C., & Murty, S. (1997). Logic modeling: A tool for teaching practice evaluation. *Journal of Social Work Education, 33*(1), 103-117.

Chen, H. T. (1990). *Theory-driven evaluations*. Newbury Park, CA: Sage.

Cohen, A. Y. & Kibel, B. M. (1993). *The basics of open systems evaluation*. Chapel Hill, NC: The Pacific Institute for Research and Evaluation.

Concept Systems, Inc. (2002). *The Concept System (Version 1.75)* [Computer Software]. Ithaca, NY: Author.

Hodges, S., Hernandez, M., Nesman, T., & Lipien, L. (2002) *Cross-Site Findings: Phase I, Community-Based Theories of Change*. University of South Florida, Department of Child and Family Studies, Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health.

Julian, D. A., Jones, A., & Deyo, D. (1995). Open systems evaluation and the logic model: Program planning and evaluation tools. *Evaluation and Program Planning, 18*(4), 333-341.

Rimer, B. K. (1991). The role of theory in improving primary care practice. In H. Hibbard, P.A. Nutting, & M. L. Grady (Eds.), *Primary care research: Theory and methods*. Agency for Health Care Policy and Research Publication No. 91-0011. Rockville, MD: Department of Health and Human Services, Public Health Service/Agency for Health Care Policy and Research.

Teaching Family Association. (2002). *About Teaching Family Association*. http://www.teaching-family.org/about-us.html. Retrieved 10/18/2002.

Weiss, C. H. (1992). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families. In J. P. Connell, A. C. Kubisch, L. B. Schorr, & C. H. Weiss, (Eds.), *New approaches to evaluating community initiatives: concepts, methods and contexts*, (pp.65-92). Washington, DC: The Aspen Institute.

Wholey, J. S. (1997). Clarifying goals, reporting results. In D. J. Rog & D. Fournier (Eds.), *Progress and future directions in evaluation: Perspectives on theory, practice, and methods, New Direction for Evaluation, 76,* (pp.95-105). San Francisco, CA: Jossey-Bass.

Wolf, M., Kirigin, K., Fixsen, D., Blase, K., & Braukmann, C. (1995) The Teaching-Family Model: A case study in data-based program development and refinement (and dragon wrestling). *Journal of Organizational Behavior Management, 15*, 12-25.

Symposium Discussion

Sharon Hodges

For human services in general and child mental health services in particular, it is important for planners and providers to understand how policy is conceptualized and operationalized at the local level and how this translates into actual service delivery. Without an explicit understanding of why service policies are expected to affect change among children and families, local stakeholders cannot easily measure the relevant dimensions of performance or understand and interpret the results that are achieved.

Benefits and challenges emerged across sites that are associated with using a theory of change approach to policy implementation. The benefits of using a theory of change approach to policy implementation supports careful thinking to ensure feasibility and defensible use of resources, development of local solutions to community needs, strategic planning, evaluation, and quality improvement activities, and helps build consensus among diverse stakeholders. The challenges of using a theory of change approach to policy implementation include the surfacing of conflict among stakeholders as ambiguity is clarified, increased anxiety about achieving organizational goals as they become clearer, and lack of assurance that organizational strategies will be effective in achieving goals even if consensus is achieved among planners and implementers.

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A National Look at the Academic Achievement of Children with Emotional Disturbances

Mary Wagner
W. Carl Sumi

Introduction

Much is expected from our education system in terms of preparing future citizens, workers, and leaders. However, academic performance remains the central mission of our schools. Further, limitations in academic achievement represent the primary implication of disability for most students receiving special education services, including students with emotional disturbances. In fact, a student's emotional or behavioral issues must affect his or her ability to learn in order for a student to qualify for special education services in the category of emotional disturbance (ED). Ameliorating learning limitations is crucial to the ability of children with ED to be successful in school. Fortunately, some evidence suggests that instructional strategies that are effective in overcoming academic deficits also reduce the occurrence of behavior problems in the classroom (McComas, Hoch, Paone, & El-Roy, 2000).

Within the current accountability environment, it is crucial to understand the progress of all students, including those with disabilities, and the factors that contribute to their positive academic performance. The Special Education Elementary Longitudinal Study (SEELS)[1] provides a national perspective on how students with disabilities, including children with ED, are faring academically. This summary presents information on the demographics of children with ED; their academic achievement, functional cognitive skills, sense of locus of control, and motivation toward schooling; and results of multivariate analyses identifying individual (e.g., age, race/ethnicity, social skills), household (e.g., income), and school factors (e.g., modifications received, prior grade retention) associated with variations in reading and math proficiency.

Methods

The Office of Special Education Programs (OSEP) of the U. S. Department of Education commissioned a six-year study that is generating the information needed to assess the achievements of students with disabilities in their elementary and middle school years in multiple domains. The SEELS is documenting the characteristics, experiences, and outcomes of a nationally representative sample of more than 11,000 students who were ages 6 through 12 and were receiving special education services in grades 1 through 6 when the study began in 2000. SEELS findings are generalizable to students with disabilities nationally, and to students in each of the federal special education disability categories in use for students in the SEELS age range, including children with emotional disturbances (ED).

Data are reported from the first wave of telephone interviews with parents, conducted in 2000, and from the first wave of mail surveys of school staff serving sample members in the 2000-01 school year. Data also are presented from two years of direct academic assessments conducted in the 2000-01 and 2001-02 school years. These assessments used research editions of the Woodcock Johnson III (Woodcock, McGrew, & Mather, 2001). Reading was assessed using the letter-word identification and passage comprehension subtests, whereas math was assessed using the calculation and applied problems subtests. Locus of control and motivation toward schooling scores were derived from the School Attitude Measure (Wick, 1990) and obtained during an in-person interview with students that was part of the direct assessment. Descriptive percentages and means reported for youth with ED and youth with disabilities as a whole are weighted to

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Author note: [1]SEELS design details, data tables, and reports are available at www.seels.net

represent those groups nationally. Multivariate analyses are unweighted and employ ordinary least squares to identify the independent relationships of motivation for schooling and locus of control to academic performance, holding constant a variety of other individual, household, and school factors.

Results

Student Characteristics

Four-fifths of children in the SEELS age range with ED were male, compared with 51% of children in the general population ($p < .001$), and 27% were African-American, compared with 17% in the general population ($p < .001$). A higher percentage of children with ED were found to be living in poverty (31%) than their same-age peers in the general population (16%; $p < .001$). In addition to being identified as having an emotional disturbance, 65% of parents of children with ED reported that their children also had Attention Deficit/Hyperactivity Disorder (ADHD).

Academic Achievement

Comparisons of the abilities of students with ED on letter-word identification, passage comprehension, mathematics calculation, and applied problem solving showed no significant changes from 2001 to 2002 (see Table 1). On all subtests in 2001 and 2002, the majority of children with ED scored in the bottom quartile, ranging from 42% in the 25th percentile on math calculation in 2001 to 64% on passage comprehension in 2002. Similarly, no more than 10% of children with ED scored in the highest quartile, ranging from 5% on passage comprehension to 10% on letter-word identification.

Table 1
Reading and Math Achievement Scores by Percentile Rank for Children with ED

		Percentile				
	Year	*0-25*	*26-50*	*51-75*	*76-100*	*Mean*
Reading						
Letter-word identification	2001	56%	25%	9%	10%	29.6
	2002	53%	24%	14%	9%	30.7
Passage comprehension	2001	61%	24%	10%	5%	25.6
	2002	64%	22%	9%	5%	24.6
Math						
Math calculation	2001	42%	31%	18%	9%	34.3
	2002	48%	27%	18%	7%	31.9
Applied problems	2001	52%	23%	16%	8%	32.7
	2002	44%	33%	16%	7%	33.5

Although in the aggregate, children with ED did not improve in these academic measures in a one-year period; over time it is important to note that some fluctuation in scores did occur at the individual level. Whereas from 49% to 63% of the children's scores did not fluctuate from year to year across the four measures, 14% to 29% declined at least one-half standard deviation and 19% to 27% improved at least one-half standard deviation.

Locus of Control and Motivation toward Schooling

Locus of control refers to the tendency to attribute both successes and difficulties either to internal factors (e.g., one's own effort, skill, or choices) or external factors (e.g., luck or other people's decisions) (Conner, 1995). The psychological dimension of engagement at school inherent in motivation toward schooling reflects the extent to which a student identifies with the school environment (Finn, 1993). Students' motivations, their overall attitudes toward coming to school each day, and their disposition while they are there are other psychological indicators of their engagement at school.

Although there are no significant changes in locus of control or motivation toward schooling responses from 2001 to 2002, it is interesting to note that the majority of children with ED, 64% to 83%, responded "usually agree" or "always agree" to statements that they do not believe they have a lot of control over whether or not they will be successful in school. Scores on individual items regarding locus of control and motivation toward schooling were summed to create scales and summarized into categories of low, medium, and high. Approximately three-fourths of children scored in the medium range in 2001 and 2002 for locus of control and motivation towards schooling, with no significant change in a one-year period.

Multivariate Analyses

To help understand the contribution that variations in locus of control and motivation toward schooling make toward variation in academic performance (i.e., passage comprehension and mathematics calculation) multivariate analyses were conducted to examine the independent relationship of the two factors to academic performance, holding constant statistically a variety of other factors the SEELS conceptual framework suggests would influence reading and math abilities. Factors with statistically significant independent relationships to academic performance are listed in Table 2.

Table 2
Results of Multivariate Analyses Measuring the Relationship
of Independent Factors to Direct Assessment Scores in Reading and Math

Independent Variable	Direct Assessment Score in Reading	Direct Assessment Score in Math
Child has ADD/ADHD	–*	
Functional cognitive skills		+‡
Gender—being male	+**	
Race/ethnicity—being African American	–***	–*
Number of school changes	–‡	
Child has been retained at grade level	–*	
Locus of control		
Motivation for schooling		
Number of instructional modifications		–‡
Participation in literature-related activities		+‡

Note. Additional variables that also were analyzed but not included in this table include: age, students' social skills, number of domains affected by disability, household income, parents' expectation for college, family involvement at home, takes language arts in special education class, receives tutoring, number of presentation/communication modifications, teachers education, frequency of whole class instruction, frequency of small group instruction, frequency of individual instruction, and participation in general instruction activities.

Notation:
+ Contributes to academic performance
– Detracts from academic performance
    Statistical significance: ‡$p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Although many children with ED have a weak internal locus of control and some are not strongly motivated toward school, these factors are not associated with academic performance for children in the SEELS age range, independent of other differences between them. Other factors are related, however. Children with ADHD as well as ED have added academic challenges. Boys with ED read better than girls. Being African American is negatively associated with reading and math performance, independent of income, which is unrelated. Children with ED change schools more than other categories of children, and do so more often because they are reassigned by their schools. Mobility shows a negative relationship with reading performance that could strengthen over time if a pattern of mobility persists. Although retaining students at grade level is done to help students' master content in one grade before progressing

to the next, those who have been retained continue to have poorer academic performance, independent of other differences between students. Receiving more instructional modifications is negatively related to math performance, probably reflecting the fact that underachieving students are most likely to receive them. Finally, those who participate in more literature-oriented activities also demonstrate stronger academic performance.

Discussion

The majority of children with ED have significant deficits in reading and math that, as a group, do not show change in a one-year period. Half or more are in the lowest quartile in reading with only about 1 in 7 in the top half. About half are in the lowest quartile in math with about one-fourth in the top half. Overall scores mask considerable fluctuation in performance for individual children. About one-fourth of children with ED improve in reading comprehension and math calculation in one year, and an equal proportion have declining scores.

Although there were no significant changes over one year in academic functioning for children with ED in the SEELS age range, the information gathered through SEELS is still a vital component to the field of special education's knowledge base regarding the daily functioning for children with ED nationally. These data help special education professionals understand more thoroughly how children with ED progress from year to year. Surprisingly, when variables that are expected to affect academic performance are investigated while holding other variables constant, statistical analyses show that they do not have the affect expected (e.g., household income, social skills, age) while other variables do affect academic achievement (e.g., number of instructional modifications, participation in literature-based activities). Understanding how many different variables interact and affect children's outcomes provides professionals in the field with important information that can help meet the complex needs of children with ED and hopefully improve outcomes.

References

Conner, M. J. (1995). Locus of Control. *Therapeutic Care and Education, 4*, 16-26.

Finn, J. D. (1993). *School engagement and students at risk*. Buffalo, NY: State University of New York (ERIC Document Reproduction Service No. ED362322).

McComas, J., Hoch, H., Paone, D., & El-Roy, D. (2000). Escape behavior during academic tasks: A preliminary analysis of idiosyncratic establishing operations. *Journal of Applied Behavior Analysis, 33*, 479-493.

Wick, J. (1990). *School Attitude Measure*. Iowa City, IA: American College Testing.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson III*. Itasca, IL: Riverside Publishing.

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Linking Outcomes Information to Decision Making: Preliminary Findings Using a Case Study Approach

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Introduction

Although national interest exists to use outcomes information to provide accountability and improve the quality of child mental health services, little is known about how outcomes management systems are implemented and how this information can inform decision making at various levels of the organization, such as at the clinical, program management and executive leadership levels (Hodges, Woodbridge, & Huang, 2001). Actual use of information has been identified as a key step in the quality improvement process, although few studies have attempted to understand information utilization within child and adolescent mental health settings (Rouse, Toprac, & MacCabe, 1998). The goals of this study are to identify the conditions under which the use of outcomes information is supported and hindered, and describe the experiences of various staff within such organizations in using data on the outcomes of children and youth in their care.

Methods

We studied a subset of child out-of-home care agencies in Maryland that used an Internet-based Outcomes Management System (OMS) developed through the support of their professional organization, Maryland Association of Resources for Families and Youth. The OMS captures the following data: demographic data, family history, behavioral/social issues, psychiatric diagnoses, prior care and treatment, program type, and functional rating scale. Using a multiple case study design we purposefully selected two Residential Treatment Centers (RTC) and two Treatment Foster Care (TFC) programs from 10 programs that were using the same outcomes system. The selection of RTCs and TFCs was based upon our desire to contrast the use of outcomes information in these programs as they differ most in terms of the intensity of services they offer, costs, and potentially in the quality of care they provide among out-of-home care settings (USDHHS, 1999).

Using qualitative methods, within each program, information was gathered from staff members representing different groups of users (clinician, program manager/clinical supervisor, quality improvement, executive director) using tailored semi-structured field guides. Interviews lasted approximately one hour, were audio-recorded and transcribed. Treatment team meetings and quality improvement meetings were observed to describe the decision making processes, including how and who discussed outcomes information and other types of data at these meetings.

The data collection process is still ongoing. As of March 2005, 23 interviews with staff members had been conducted across three programs (2 TFC and 1 RTC), representing 10 clinicians/case managers, four Quality Improvement managers, seven Unit Directors/clinical supervisors, and two Executive Directors (one of whom is responsible for two of the three programs). At the three different programs, six meetings (both quality improvement and treatment team meetings) have been observed. Subsequently, additional interviews and observations of meetings were conducted at a fourth program, an RTC.

The analysis of the data collected—text from the transcribed interviews and field notes describing observations related to meetings—has been guided by grounded theory (Corbin & Strauss, 1998) and case study methods (Yin, 2003). The use of Atlas.ti software (Scientific Software Development, 1997) has facilitated both the management of the data as well as analysis. Data triangulation was done to check

the consistency and convergence of the findings obtained from different sources by comparing interviews with observations of meetings. Member checking has also been done by presenting initial findings to participants to elicit feedback.

Results

"I don't know…that they are seeing a correlation between the data collecting and the information that they are getting or the decisions that are being made organizationally."

Organizations are struggling to generate meaning from the data they are collecting. Although the level of use varied to a degree across programs and types of staff, overall outcomes information has done little to inform decision making. Typically, outcomes management systems are implemented within these agencies as far as data collection and entry efforts and little action is taken to actually use the information. Despite this struggle to generate meaning from the data, executive directors and program management staff do recognize that their current methods for evaluating their work fall short:

"The longer I'm in the business the more I realize how much we don't know— how much we're shooting in the dark… so we collect the data that begins to let us know in a systematic way what impact we're having."

Their reliance on individual vignettes and anecdotal data to substantiate their work rather than analysis of aggregated, objective data was cited as a concern. They also recognize that current decision making processes are more reliant on people's opinions rather than hard data.

Issues identified as contributing to the struggle to generate meaning include: the ability to link data directly to work processes; limitations of the measures and the complexity of care provided that make it difficult for staff to understand and interpret the information; quality and quantity of feedback provided to staff, and staff fears regarding how the data will be used. These issues impact staff buy-in and subsequent use of the data for decision making. The struggle to make sense of the data directly relates to the poor integration of outcomes data to work processes. This problem is pervasive and is reflected at all levels of the organization:

"…people don't know how to make that meaningful because it's not related to anything else that they do. It's not tied in any way to what they do."

This lack of integration is especially evident in clinical processes. Outcomes data are not linked to treatment plans or goals. Treatment teams—a major mechanism for treatment decision making in these settings of care—do not discuss outcomes data; instead the data monitored in RTCs to evaluate the progress of youth are negative behaviors, such as the number of therapeutic holds. These types of data are valued because they are very specific and relevant to behavior modification strategies employed by staff. In contrast, outcomes data are not valued because they are more global in nature and are seen as more subjective because they are clinician ratings of functioning.

Another potential barrier to incorporating outcomes into work processes is the poor understanding of outcomes across organizational levels. The emphasis is placed on data collection and entry rather than on analysis and interpretation of the data, resulting in a repository of data that are not used, and are considered meaningless by staff. According to one program manager:

"…right now we talk outcomes, but I don't really see us — first of all most people don't understand an outcome — and secondly they don't know what to do with it anyway if they did get one. …We have tons of data on kids, but nobody collating that together into something useful."

Staff members currently do not know what they want from an outcomes system and express difficulty interpreting outcomes data and applying it to their work:

"I don't know that…we know how to translate it [outcomes data] into meaningful terms."

This lack of knowledge is exacerbated by limited amount and poor quality of feedback provided to staff. Organizational leaders and management recognize this problem as critical:

"One has never been able to get meaningful data down to the clinician and treatment team level. That in turn has contributed to the lack of real buy-in on the part of those people. We're just producing reports that aren't terribly useful for them."

Clinical staff report that they rarely see the data after they are collected and that communications regarding even summary level findings are rare. However, they also admit that very little demand for data exists, reflecting how rarely the data are used and how little the data are valued.

Another barrier limiting the use of data for decision making includes fears regarding the potential misuses of the data. Both clinicians and executive directors expressed concerns that regulators would use the data for "watchdog" purposes rather than for trying to improve practice or obtain additional resources for needy clients. Fear of what the data will show—their flaws—was specifically cited as a major concern by some. Clinicians also expressed fears about the data being used to attack their clinical judgment. They specifically cited the dangers of using conclusions drawn from aggregate data to individual level cases, thereby losing the uniqueness of each child.

Implications

These findings demonstrate that organizations are struggling with a key step in the process of information utilization: generating meaning from the data. A greater emphasis needs to be placed on the analysis, interpretation and application of the data collected rather than on data collection and entry. Such efforts should also seek to link outcomes data to specific clinical and managerial work processes and obtain the buy-in of staff collecting the data. In order to accomplish this, regulatory agencies and accreditation organizations should recognize and support the development of an infrastructure to support the use of data for decision making within child and adolescent mental health organizations.

References

Hodges, S., Woodbridge, M., & Huang, L. N. (2001). Creating useful information in data-rich environments. In M. Hernandez & S. Hodges (Eds.), *Developing outcome strategies in children's mental health.* Baltimore: Paul H. Brookes.

Rouse, L. W., Toprac, M. G., MacCabe, N. A. (1998). The development of a statewide continuous evaluation system for the Texas Children's Mental Health Plan: A total quality management approach. *Journal of Behavioral Health Services Research, 25*(2),194-207.

Scientific Software Development. (1997). Atlas.ti Software (Version 4.2) [Computer software]. Berlin, Germany: Author.

USDHHS. (1999). *Mental health: A report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institute of Mental Health.

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Using Data for Continuous Quality Improvement in an Integrated Setting

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Introduction

The need for explicit data review and defined quality improvement processes has often been overlooked in the human services field. In system of care initiatives, this need is even greater as adherence to the principles and values base of the wraparound model is what has typically assured successful outcomes from both a quality and financial perspective. In Monroe County, New York, a non-federally funded system of care initiative engaged in data review as part of a quality improvement process. Results demonstrated both positive clinical outcomes and sizable cost savings and resulted in significant program expansion. In addition, the data have revealed that despite challenges with fidelity, positive outcomes can be achieved.

The Monroe County Youth and Family Partnership (YFP) in Rochester, NY is an innovative integrated cross-system approach whereby each Care Coordinator serves as a Mental Health Case Manager, a probation officer and a child welfare caseworker for enrolled youth and their families. This integration of functions represents a novel approach to reducing the number of people with whom families need to interact in order to get their needs met. The initiative began as a 25-youth pilot project in 2002. From the outset, the project's leadership asserted the need to demonstrate successful outcomes, both clinically and fiscally, for continuation. In 2004, as a result of demonstrated cost savings and improvements in youth functioning, the project doubled to serve 50 families. In 2005, at a time when service reductions and budget cuts have been the norm in Monroe County, the project was approved for expansion to serve 100 families. This is wholly attributable to the project's ability to demonstrate compelling cost savings to Monroe County while also providing a more effective intervention that supports families in developing their own skills and abilities to meet their needs. This summary describes methods and results from comprehensive evaluation of the YFP project, and demonstrates how data were used for quality improvement.

Method

Coordinated Care Services, Inc. has provided a comprehensive annual evaluation of the YFP project for Year 1 (July 2002-June 2003) and Year 2 (July 2003- June 2004). This evaluation has included computation of the overall and local cost-savings of the initiative, assessment of fidelity to the wraparound model, consumer satisfaction, review of clinical and functional improvements using the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 2000) and impact on overall County out-of-home placement rates.

Fiscal indicators were computed using the CareManager® information system, which captures actual client and family costs for all YFP families enrolled during the evaluation periods. Total costs were computed and compared to local residential care costs which were established through an extensive cost-finding study completed at the project's inception.

To assess fidelity to the project's model, several indicators were reviewed using CareManager® including child and family team composition, frequency of team meetings, and the use of informal/natural resources, system/community supports and paid providers to meet family needs. Changes in functioning were assessed by reviewing the intake CAFAS scores and comparing them to the most recent CAFAS scores. Hodges, the scale's author, suggests that as the instrument is "very sensitive to changes in functioning" (Hodges, 1999, p. 24), and an improvement in Total score from intake to most recent functioning of 20 points or more is significant.

Results

A portion of the results from this evaluation, including fiscal, functional and fidelity indicators are presented here.

In Year 1, cost-savings to Monroe County averaged approximately $38,274 per youth, which was conservatively estimated at over a half-million dollars in total savings. For Year 2, savings per enrollee were $45,751 on average, totaling nearly a million dollars for the entire project.

With respect to functional improvements, the CAFAS has reflected improvements for enrollees. Sixty-nine percent of children and families evidenced functional improvements in Total CAFAS scores in Year 1. This result was consistent in Year 2 as total CAFAS scores improved for 71% of enrollees. In addition to Total scores, improvements were noted in many of the other critical subscales of the CAFAS.

The CAFAS data also provided unique insights into areas for growth and development. Specifically, Community domain improvements were noted in only 52% of enrollees in Year 1. As all YFP participants are on probation and functioning in the community is critical, this was an area of focus in Year 2. Focused attention resulted in an increase in improvement in this domain to 68% of enrollees. Figure 1 reflects the percentage of enrollees who demonstrated any improvement in the various CAFAS domains.

The wraparound model used by the YFP assists families with the development of informal and natural resources to support them over time, thereby ultimately reducing the family's reliance on the formalized service system. From this philosophical underpinning, more substantial increases in scores in the Family Social Support domain were anticipated. As this has not been substantiated, it has become a concerted area of focus for the YFP in Year 3. Efforts include a broader social marketing and awareness campaign regarding system of care values and principles as well as the hiring of one employee devoted to community development.

Figure 1
CAFAS Improvements
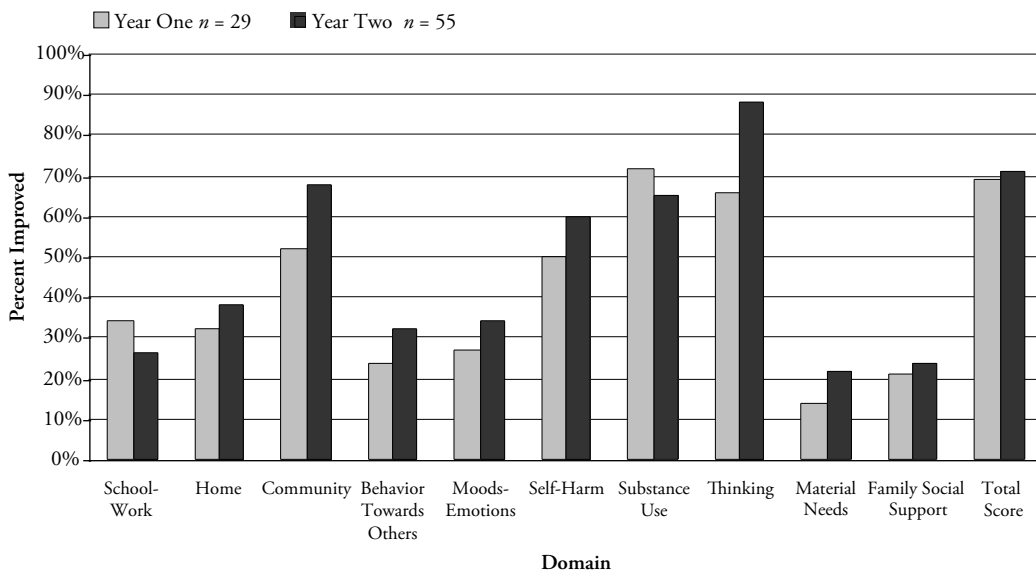
One indicator of fidelity to the wraparound model is the balanced use of a variety of supports—natural/informal, system/community and paid providers—to meet family needs. Informal/natural supports may include family members, neighbors, etc. System/community supports include school staff and other service providers who are not directly paid by the YFP. Paid providers include, but are not limited to, therapists or skill-builders that are paid by the YFP. Team Plans for the YFP reflected high use of paid provider supports and minimal use of informal/natural and system/community supports in Year 1. Efforts made to focus on this area in Year 2 yielded slight increases. As this is a key component of effective wraparound, a more concrete plan to address this is in place for Year 3 which includes the hiring of the community developer and securing the services of a professional Wraparound Process Coach to support Care Coordinators in building supportive teams with families and maximizing team contributions in plan development and implementation. Figure 2 illustrates the percentage of plans for all enrollees and for all enrollment months which authorized the various types of supports (informal/natural, system/community, paid provider).

Figure 2
Plans Use of Informal, Community & Paid Supports
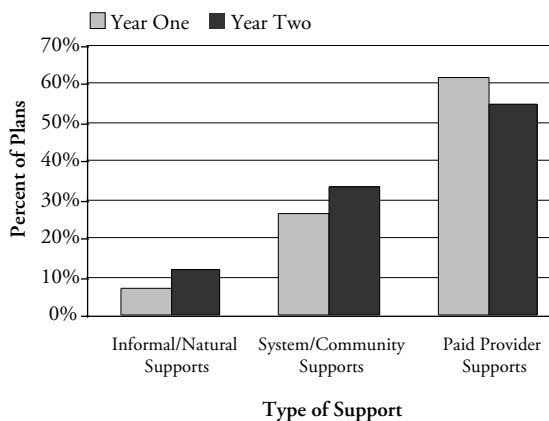
Conclusion

The results from this evaluation have demonstrated the ability to effect positive outcomes both clinically and fiscally despite apparent challenges with fidelity. The evaluation report has served as the basis to identify areas of strength and areas for growth and development with program leadership, administration and staff and has provided a foundation for planning and continuous quality improvement initiatives. Further study of the innovative approach used by Monroe County, where the roles of three child-serving systems (mental health, child welfare and juvenile justice) are blended, is warranted. In addition, the evaluation suggests many areas for growth and development and offers myriad recommendations to assure that the project enhances its ability to deliver high quality, cost effective and culturally competent services.

This has culminated in a larger scale quality improvement initiative for the project that involves the project's leadership from the key child-serving systems (mental health, juvenile justice and social services), project administrators and supervisors and the project staff. Several steps have been taken to build upon the project's strengths and enhance areas of perceived weakness including fidelity and specific areas on the CAFAS, such as the Family Social Support and Community domains. This quality improvement process has included a focused effort to revisit the model's parameters and values, a review of the integration of the functions of the Care Coordinators, planning a response to the Care Coordinators identified needs through modified staffing structures, as well as a plan to conduct more real-time data review and analysis for immediate feedback to program administrators, supervisors and staff.

References

Hodges, K. (1999). Child and adolescent functional assessment scale. In M. Maruish. *The Use of Psychological testing for Treatment Planning and Outcome Assessment – Second Edition* (pp.1-40). Mahwah, NJ: Lawrence Erlbaum.

Hodges, K. (2000). *Child and Adolescent Functional Assessment Scale* (3ʳᵈ ed.). Ypsilanti, MI: Eastern Michigan University.

Caremanager®. (2002-2005). Web-based management information system with integrated care planning, service authorization, payment, and reporting modules [computer software]. Available from http://commcaresys.com

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Four Clinical Pathways to Success in Systems of Care

Shannon Van Deman
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Introduction

The Dawn Project, which is the system of care in Marion County (Indianapolis), Indiana, serves youth with serious emotional disorders who are at-risk for or have a history of residential placement. Youth enrolled in the Dawn Project are involved in at least two child-serving agencies (e.g., juvenile justice, child welfare, education, and mental health) and approximately 60% are in costly out-of-home placements at the time of referral. These youth represent a substantial financial burden to the systems mandated to serve them. By managing costs within a per-child per-month case rate paid by referring agencies, the Dawn Project provides the community with a way to stabilize costs and find community-based solutions for serving these youth.

The primary focus of the Dawn Project is to develop service coordination plans that help youth and families succeed at home, in school and in the community. Plans are developed by child and family teams, which include the youth, family members, representatives from the referral agency, providers and other individuals identified by the family. Child and family teams are responsible for managing the case rate and for purchasing services that best meet the needs of youth and their families. Given the severity of the needs faced by youth enrolled in the Dawn Project, many youth are placed in residential treatment at some point during their enrollment. The timing of these placements affects the child and family team process, the content of service coordination plans and youth and family outcomes.

The purpose of this study was two-fold. First, it was hypothesized that the timing of residential placements would not only affect the overall experience that children and families have with the Dawn Project, but also the level of success attained by Dawn Project participants. Second, variables that might predict residential placement timing were examined.

Method

The independent variable was clinical pathway. Based on the patterns of referrals received from child welfare and juvenile probation and existing clinical data, four clinical pathways were identified to reflect whether youth had a residential placement at some point during their involvement with the Dawn Project and when the residential placement occurred relative to enrollment in the Dawn Project. The four pathways are defined below.

- *No Residential* – Youth in this pathway did not have a residential placement while they were enrolled in the Dawn Project.
- *Placed After* – Youth in this category include youth who were placed in residential treatment after being enrolled in the Dawn Project for at least 30 days.
- *Transition Out* – Youth in this pathway were in a residential placement at the time they were referred into the Dawn Project and left their residential placement within 90 days of their Dawn Project enrollment.
- *Placed Prior* – This category includes youth who were already in residential at the time of their enrollment or were placed within 30 days of their enrollment in the Dawn Project and remained in residential placements for more than 90 days.

The dependent variables included length of stay in the Dawn Project, cost per child per month, success in meeting child and family team goals, child characteristics, such as gender, race, age at enrollment, initial diagnoses, and initial Child and Adolescent Functioning Assessment Scale (CAFAS; Hodges, 1996), and system processes (i.e., child and family team size, referring agency, and service utilization).

All juvenile justice and child welfare youth referrals enrolled between May 1, 1997 and April 30, 2003 and disenrolled by July 31, 2004 were examined (*N* = 452). The data were obtained from The Clinical Manager (TCM; Clinical Data Solutions LLC, 1998), which is the information management system used by the Dawn Project to collect clinical, fiscal and outcome information.

Results

Length of stay

The data were analyzed using SPSS software (SPSS, 2002). All statistically significant results rely on an alpha level of .05. An omnibus ANOVA revealed that length of stay (see Figure 1) in the Dawn Project varied by clinical pathway, *F* (3, 448) = 9.5, *p* < .000. Specifically, independent *t*-tests indicated that the Placed After youth (*M* = 19.0, *SD* = 9.1) had longer lengths of stay than the Placed Prior (*M* = 14.3, *SD* = 9.8), *t*(207) = -3.6, *p* < .000, Transition Out (*M* = 13.6, *SD* = 9.5), *t*(185) = -3.9, *p* < .000, and No Residential youth (*M* = 13.9, *SD* = 7.2), *t*(276) = 5.2, *p* < .000. This is not surprising since the Placed After youth spend a period in Dawn prior to residential placement and then often a period in Dawn after residential placement.

Figure1

Length of Stay in Dawn and Residential Treatment, Cost per Child per Month, and Child and Family Team Successful Goal Completion Rate by Clinical Pathway
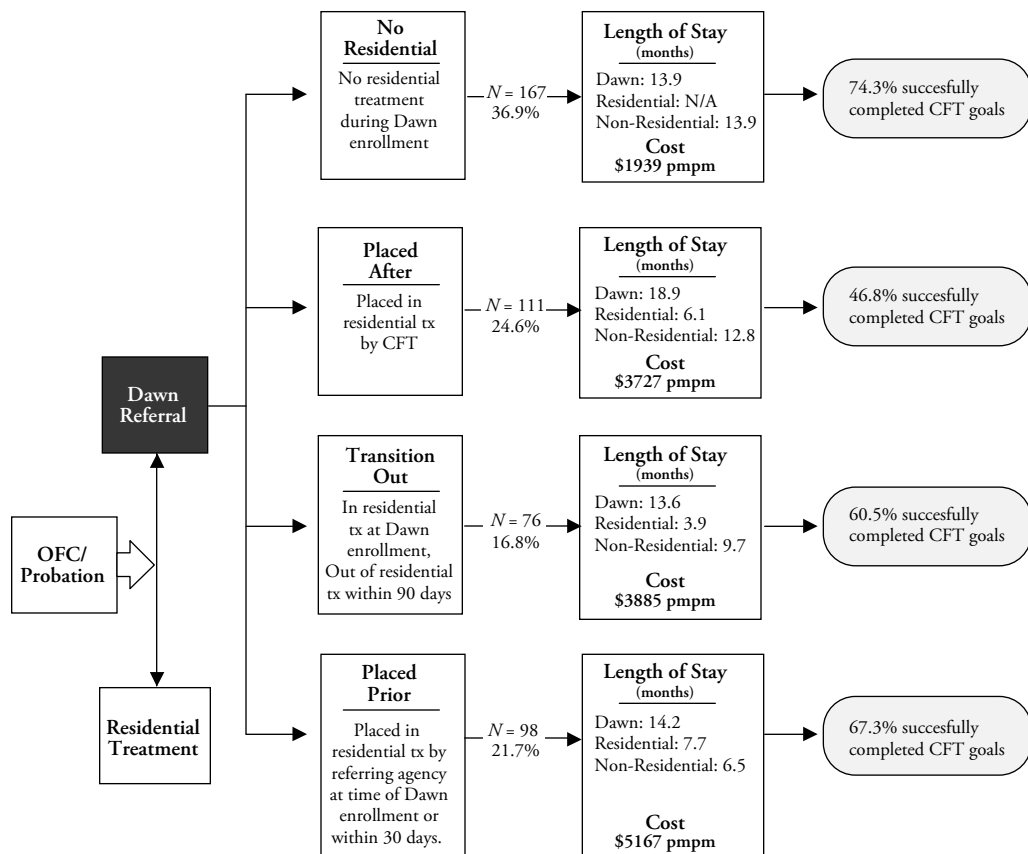
Cost

An omnibus ANOVA also revealed that the cost per child per month varied by clinical pathway, $F(3, 448)$ = 84.7, $p < .000$. Independent t-tests indicated that every clinical pathway varied from every other clinical pathway except the Transition Out and Placed After pathways $t(185)$ = .6, p = .54. As shown in Figure 1, the No Residential pathway was the least costly (M = 1939.3, SD = 1439.7) followed by the Placed After (M = 3727.2, SD = 1599.2) and Transition Out (M = 3885.6, SD = 1932.8) pathways, with the Placed Prior pathway being the most costly (M = 5167.6, SD = 1802.9). Furthermore, Figure 1 shows that as the number of months the youth spent in the Dawn Project outside of residential placement increases, the average cost decreases.

Treatment goals

The proportion of youth who successfully completed their child and family team treatment goals at the time of Dawn Project disenrollment (see Figure 1) varied by clinical pathway, $\chi^2(27, N = 452)$ = 77.6, $p < .000$. The No Residential pathway youth were the most successful, meeting 74.3% of the child and family team goals, followed by the Placed Prior (67.3%) and Transition Out (60.5%) pathways, and finally the Placed After pathway (46.8%).

Child characteristics

Race, $\chi^2(9, N = 452)$ = 11.6, p = .236, and age at enrollment, $F(3, 448)$ = 1.4, p = .246, did not vary as a function of clinical pathway. The proportion of females did vary by clinical pathway, $\chi^2(3, N = 452)$ = 10.9, p = .012, with the Transition Out pathway having the largest proportion of females (50%), followed by the Placed Prior (40%), No Residential (35%), and Placed After pathways (27%). A gender by referring agency interaction, $\chi^2(1, N = 452)$ = 10.0, p = .002, was also found, however. Child welfare (43%) referred a larger proportion of females than juvenile probation (28%) and child welfare had larger proportions of referrals to the Transition Out and Placed Prior pathways.

The proportion of youth in each clinical pathway with an initial DSM-IV diagnosis in each of the categories listed in Table 1 were compared using a Chi-square analysis. The only statistically significant difference between pathways was found for the affective/psychotic category of diagnoses. Specifically, the Placed Prior (61.5%) and Transition Out (58.0%) pathways had higher proportions of youth with affective/psychotic diagnoses than the No Residential (46.8%) and Placed After pathways (44.9%). This suggests that youth with affective/psychotic diagnoses were more apt to be in a residential placement at the time of Dawn Project enrollment.

Table 1
Proportion of Youth by Initial Diagnoses and Clinical Pathway

	Affective/ Psychotic	*Attention Deficit*	*Conduct Based*	*MR/ DD/LD*	*Reactive Stress*	*Personality*	*Other*
No Residential	46.8%	41.6%	48.7%	14.9%	18.8%	3.9%	7.1%
Placed After	44.9%	45.9%	61.2%	11.2%	14.3%	7.1%	4.1%
Transition Out	58.0%	33.3%	58.0%	10.1%	15.9%	4.3%	11.6%
Placed Prior	61.5%	38.5%	59.3%	13.2%	17.6%	8.8%	14.3%
Across Groups	51.5%	40.5%	55.6%	12.9%	17.0%	5.8%	8.7%
Chi-Square $df(3)$	7.9	2.9	4.9	1.3	0.96	3.1	7.4
p-value	0.05	0.41	0.18	0.73	0.81	0.38	0.06

Individual functioning at the time of enrollment in the Dawn Project was assessed using the CAFAS. The average total CAFAS score was computed for each clinical pathway. An omnibus ANOVA found statistically significant differences in CAFAS scores across clinical pathway, $F(3, 448) = 10.3$, $p < .000$. Independent t-tests revealed that the No Residential pathway ($M = 85.8$, $SD = 43.1$) varied from the Placed After ($M = 109.9$, $SD = 33.3$), $t(186) = 4.0$, $p < .000$, and Placed Prior ($M = 99.6$, $SD = 38.5$), $t(184) = 2.2$, $p = .03$, pathways and that the Transition Out pathway ($M = 73.3$, $SD = 43$) varied from the Placed After, $t(121) = -5.3$, $p < .000$, and Placed Prior, $t(119) = 3.5$, $p = .001$, pathways. The No Residential and Transition Out pathways did not vary from one another, $t(167) = -1.7$, $p = .083$, nor did the Placed After and Placed Prior pathways, $t(138) = -1.7$, $p = .093$. This suggests that the functioning level of the youth at time of Dawn Project enrollment was not the determining factor for residential placement as seen by the similarity in CAFAS scores for the Placed Prior and Placed After pathways.

System processes

The number of team members on the child and family team did not vary by pathway at 30 days, $F(3, 448) = 1.0$, $p = .402$, or 3 months, $F(3, 448) = .9$, $p = .451$, after Dawn Project enrollment. There were statistically significant differences between clinical pathway and referral agency, $\chi^2(3, N = 452) = 57.9$, $p < .000$, with child welfare referring larger proportions of youth in the Placed Prior (74.5%) and Transition Out (85.5%) pathways and juvenile justice referring larger proportions of youth in the Placed After (62.2%) and No Residential (50.3%) pathways. This is likely a reflection on the nature of these agencies and the populations they serve.

Service utilization was examined by looking at resource allocation (i.e., proportion of monies spent) among the following service categories: behavioral health, placement, respite, mentoring, discretionary funds, behavioral support, and substance use. The results indicated that as more resources were allocated to placement services, fewer resources were allocated to the remaining service categories. Youth in the Placed Prior group had almost 90% of their resources allocated to placement services, Transition Out had 80%, Placed After had 70%, and No Residential had only 45%.

Discussion

The identification of four clinical pathways has clinical and fiscal implications not only for the Dawn Project, but for other system of care communities as well. Specifically, the experience of children and families in the Dawn Project varies based on the clinical pathway to which they belong. Knowing whether a youth will be in the Placed After or No Residential pathways can allow child and family teams to more effectively purchase the services and supports necessary to fulfill the youth's needs.

The results of this study also have implications for system-level decision making. For example, functioning level, rather than diagnosis, may be more effective in determining which youth will need a residential placement. System-level decision makers should also take note of the high success rates (74.3%) and low cost ($1,939 per child per month) for the No Residential pathway. These are youth with complex behavioral and emotional issues that were referred into the Dawn Project before they were placed in residential treatment by a referring agency and were successfully maintained in the community through the support of their child and family team. The success of these youth in the Dawn Project points to the importance of the timing of referrals (i.e., prior to or after placement in residential treatment) and understanding the level of functioning of these youth at the time of referral. Being able to identify which clinical pathway a youth belongs to at the time of referral would give youth the best chance for success and reduce costs for the entire system of care.

References

Clinical Data Solutions LLC, (1998). *The Clinical Manager.* Madison, Wisconsin.

Hodges, K. (1996). *Child and Adolescent Functional Assessment Scale.* Ypsilanti, MI: Department of Psychology, Eastern Michigan University.

SPSS (2002). *SPSS Statistical Software: Version 11.5.* Chicago, IL: SPSS, Inc.

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Characteristics of Children with Chronic Physical Illness, their Service Use and Clinical Outcomes in Systems of Care

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Introduction

The President's New Freedom Commission on Mental Health recommends addressing mental health care with the same urgency as physical health (New Freedom Commission, 2003) under the first goal (i.e., for Americans to understand that mental health is essential to overall health). Integrating mental and physical health is stressed also in the recommendation that mental health screening occur in primary care settings.

The co-existence of mental health disorders with physical illnesses and the heightened risk of one by the other is well established (Bair, Robinson, Katon, & Kroenke; 2003; National Institute for Mental Health, 2002). Children with psychiatric disorders have been described by their mothers as more burdened by physical health issues (Garralda, Bowman, & Mandalia, 1999). Children and youth with depression and anxiety disorders often also experience eating disorders that may lead to obesity (Burghart, 2004; CDC, 1994), and mental illness can manifest through physical symptoms (Center for Disease Control, 2003; Glazebrook, Hollis, Heussler, Goodman & Coates, 2003; Holden Chmielewski, Nelson, Kager & Foltz, 1997).

A child's serious physical illness often places psychological burden on both child and family. The impact of physical illnesses on children's daily activities may exacerbate mental health concerns (Holden, et al., 1997; Ireys, Werthamer-Larsson, Kolodner, & Gross, 1994; Newacheck, & Halfon, 1998; Stein, Westbrook, & Silver, 1998; Thompson & Gustafson, 1996). Children with chronic medical conditions have been found to have a twofold risk of psychiatric disorders (Cadman, Boyle, Szatmari & Offord, 1987).

Barriers to the assessment of mental health needs include limitations in detection of mental health needs by primary care providers (Asarnow, Jaycox & Anderson, 2002; Holden & Schuman, 1995). Due to time constraints on appointments, children may not disclose mental health problems and parents may fail to voice their concerns (Asarnow et al., 2002). For mental health practitioners, pressing psychological and social needs of children with chronic physical illness co-morbidity may present additional challenges. This study uses national data to examine intake characteristics, service use, and outcomes of children with and without chronic physical illnesses served in systems of care.

Method

Participants

Participants were drawn from youth and families who participated in the national evaluation of the Comprehensive Community Mental Health Service for Children and Their Families Program of the Center for Mental Health Services (CMHS) at the Substance Abuse Mental Health Services Administration (CMHS, 2004). This program has funded systems of care in 92 communities since 1994 throughout the United States and its territories, and represents the largest federal investment to develop community-based mental health services for children and their families (Manteuffel, Stephens, & Santiago, 2002).

Data for 13,602 children and youth for whom physical health data were available were drawn from the 45 communities initially funded from 1997 to 2000. The mean age for this group was 12.1 years; most were male (67.1%) and White (56.9%); 24.9% were Black/African American, followed by 11.8% American Indian/Alaska Native, 11.8% of Hispanic origin, 1.4% Asian/Pacific Islander, 8.3% multi-racial, and 1.2% Other.

Measures

Descriptive data include chronic illness, clinical characteristics, risk factors, and service use history. Behavioral and emotional problems were assessed with the Child Behavior Checklist (CBCL; Achenbach, 1991), and functional impairment with the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges & Wong, 1996). The Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998) was used to assess child strengths. Caregivers reported service use on the Multi-Sector Service Contacts (MSSC) form.

Results

Among 13,602 children, 36.5% had chronic physical health problems at intake; of these, 38% had asthma, 37% had allergies. Other problems were head pain (8.9%), migraine headaches (8.6%), neurological disorders (5.6%), ear problems (4.3%), gastrointestinal problems (4.1%), sinus problems (3.6%), excretory problems (3.4%), heart problems (3.2%), and skin problems (3.1%). Physical illnesses disrupted daily activities an average of 8.55 times in six months (SD = 28.3). During the six months before intake, 63% of children with chronic illnesses took medications for physical health problems (N = 4,770). Among the smaller sample reporting on medical service use (1999- and 2000- funded communities only), children with chronic illness averaged 2.72 doctor visits (N = 1,827, SD = 8.6) and .42 emergency room visits (N = 1,848, SD = 1.6), and were hospitalized an average of .11 times (N = 1,853, SD = 1.03) with lengths of stay averaging 12.69 days (SD = 24.5) among these hospitalized children (n = 106).

Differences in demographics, risk factors, clinical characteristics, and service use history are reported in Table 1. Children with chronic illnesses were significantly more likely to be diagnosed with mood disorders, anxiety disorders, autism, impulse control disorders, personality disorders, and mental retardation. Children without chronic illnesses were more frequently diagnosed with conduct and adjustment disorders. Children with chronic illnesses were more likely to be referred to system-of-care services by mental health agencies (34.8% versus 30.5%; χ^2 = 23.9%, n = 12,295, p < .001), and somewhat more likely to be referred by a primary care provider (1.72% versus 1.25%; χ^2 = 4.36, n = 12,295, p < .05). Children without chronic illnesses were more likely to be referred by courts/corrections, schools, and child welfare. Regression analyses (Table 2) confirm that children with chronic physical illness are characterized by more serious clinical impairment, even after controlling for risk factors and previous service receipt.

During their first six months in services, children with chronic illnesses were more likely to receive individual therapy (78.4% versus 75.5%, χ^2 = 4.64, n = 4,009, p < 0.05), case management (77.7% versus 74.1%, χ^2 = 6.82, n = 4,001, p < 0.05) transportation (24.7% versus 22.1%, χ^2 = 3.82, n = 3,997, p < 0.05), and flexible funds (25.9% versus 21.9%, χ^2 = 8.61, n = 3,965, p < 0.05), although they were significantly less likely to receive therapeutic foster care (3.7% versus 5.2%, χ^2 = 5.01, n = 4,009, p < 0.05).

Among children with chronic illnesses, 35.7% made clinically significant improvements in their behavioral and emotional problems (CBCL Total Problems T-score; without chronic illness = 39.5%), and 39.4% improved in their strengths (BERS Overall Strengths Quotient; without chronic illness = 40.5%). Similarly, 36.8% of children with chronic illness improved their school performance, and 20.4% improved school attendance (without chronic illness: 20.4%, 18.0%, respectively). Total CAFAS Scores indicating marked to severe impairment fell by 13.1% from 65.4% at intake to 52.3% at six months (z = -7.47, n = 1,589, p < .001) among children with chronic illness; below average strengths (BERS Overall Strength Quotient) decreased by 7.6% (60.4% to 52.8%; z = -4.31, n = 1,600, p < .001), and problems in the clinical range (CBCL Total Problem Scale T-score) decreased by 9.6% (83.7% to 74.1%; z = -6.39, n = 1,500, p < .001) after the first six months of services. Children without chronic illnesses showed similar changes.

Table 1
Children's Intake Characteristics by Physical Health Status

Demographic Characteristics	N	Chronic Physical Illness	No Chronic Physical Illness	Significance Test
Mean age	13,597	12.08	12.12	*ns*
Girls	13,589	34.5%	32.1%	χ^2= 8.47, *p* < .01
White	12,508	59.9%	57.8%	χ^2 = 5.6, *p* < .05
Below Poverty	11,704	49.7%	45.5%	χ^2 = 19.34, *p* < .001
Acute illness in past 6 months		47.0%	26.5%	χ^2 = 205.79, *p* < .001
Mean number of times acute illness in past 6 months		2.64	2.06	*t* = -3.12, *df* = 1,602, *p* = .002
Service Use History				
Outpatient mental health services	12,916	70.9%	63.5%	χ^2 = 72.0, *p* < .01
School-based mental health services	12,776	61.9%	53.8%	χ^2 = 78.8, *p* < .01
RTC/Hospitalization	12,937	31.0%	26.7%	χ^2 = 78.8, *p* < .001
Medication	12,871	59.0%	49.6%	χ^2 = 107.75, *p* < .001
Substance Use Treatment	12,830	10.8%	9.7%	χ^2 = 27.36, *p* = .49
Child Risk Factors				
Physical abuse	12,970	29.2%	25.8%	χ^2 = 16.8, *p* < .01
Sexual abuse	12,647	24.2%	20.4%	χ^2 = 25.7, *p* < .01
Suicide attempt	13,150	18.4%	13.6%	χ^2 = 52.3, *p* < .01
Run away	13,174	33.7%	31.6%	χ^2 = 6.18, *p* = .01
Family Risk Factors				
Chronic illness among family/household members	13,602	89.4%	84.0%	χ^2 = 76.8, *p* < .01
Mental illness among biological family members	12,437	62.9%	52.0%	χ^2 = 138.91, *p* < .01
Domestic violence	12,683	52.1%	49.2%	χ^2 = 10.12, *p* < .01
Substance abuse among biological family members	12,667	68.5%	64.8%	χ^2 = 17.75, *p* < .01
Clinical Characteristics				
CAFAS Total Scale Score	6,579	*M* = 114.9	*M* = 109.9	*F* = 17.42, *p* < .001
CBCL Total Problems T-score	5,849	*M* = 71.9	*M* = 69.2	*F* = 100.1, *p* < .001
BERS Total Strengths Score	6,439	*M* = 86.2	*M* = 86.8	*F* = 2.29, *ns*

Table 2
Predictors of Behavioral and Emotional Problems
(CBCL Total Problems T-Score)

Covariates	Model 1 Coefficients	Model 2 Coefficients
Does your child have a recurring or chronic health problem?	0.112 ($p < 0.001$)	0.059 ($p < 0.01$)
Has child received outpatient services in the previous 12 months?	–	0.093 ($p < 0.001$)
Has child received school based services in the previous 12 months?	–	0.103 ($p < 0.001$)
Has child been physically abused?	–	0.032 ($p > 0.05$)
Has child been sexually abused?	–	0.066 ($p < 0.01$)
Has child attempted suicide?	–	0.147 ($p < 0.001$)
Is there a history of family violence/spousal abuse in biological family, but child was not the direct target?	–	0.038 ($p > 0.05$)
Is there a history of mental illness in child's biological family?	–	0.201 ($p < 0.001$)
Is there a history of substance abuse among biological family members?	–	0.010 ($p > 0.05$)
Does any member of child's household have chronic health problems?	–	0.053 ($p < 0.05$)
Adjusted R-Squared	0.012	0.148

Note: Both models included a constant term.

Discussion

Children with chronic physical illnesses served in systems of care differed demographically and clinically from those without chronic health problems. They had increased child and family risk factors, were burdened by health problems, and entered services with different diagnostic patterns, and greater behavioral and emotional problems and functional impairment, and had made greater use of outpatient, residential, and medication services. Chronic health problem was a predictor of behavioral and emotional problems, but was not as strong a predictor as other factors, and did not predict functional impairment when other factors were considered. Although children with chronic illnesses entered services with greater problems, they improved at rates similar to those of children without chronic illness.

Systems of care addressed the service needs of children with and without chronic illnesses differently. Greater use of case management, individual therapy, transportation and flexible funds may reflect greater service need as well as greater poverty among these children. Fewer children with chronic illness receiving therapeutic foster care suggests a perceived risk of serving these children in this setting.

Over half (51%) of the 45 communities represented by this sample involved local public health agencies in their programs (e.g., public health was on the governing board in about 29% communities). Specific efforts by some communities to engage the public health sector to address children's and families' mental health needs included training in system of care principles, outstationing of public health staff in schools and juvenile justice, and flexible availability of these staff. Referrals from public health were made in about 20% of communities, yet rates of referral from primary care were low, and public health providers rarely contributed to mental health service planning or wraparound.

Further research is needed to understand the interrelationship of behavioral, emotional, physical and environmental problems among children. A better understanding of the interrelationship of these problems, and the service needs of children with chronic illness can improve identification of service needs. The somewhat higher referrals from primary care for children with chronic illnesses suggest that these providers can assist in the identification of mental health needs. Factors impacting primary care provider referral to mental health services (e.g., frequency of contact with a provider, consistency of provider) may account for slightly increased referral of children with a chronic illness, and may yield a better understanding of primary care identification of mental health needs.

References

Achenbach, T. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile.* Burlington, VT: University of Vermont Department of Psychiatry.

Asarnow, J. R., Jaycox L. H., & Anderson, M. (2002). Depression among youth in primary care models for delivering mental health services. *Child & Adolescent Psychiatric Clinics of North America, 11*(3), 477-97.

Bair, M. J., Robinson, R. L., Katon, W., & Kroenke, K. (2003). Depression and pain comorbidity: A literature review. *Archives of Internal Medicine, 163*, 2433-2445.

Burghart, T. (2004). *Feds find no decline in obesity rates.* Retrieved July 12, 2004, from http://www.stopgettingsick.com/templates/news_template.cfm/7715

Cadman, D., Boyle, M., Szatmari, P., & Offord, D. R. (1987). Chronic illness, disability, and mental and social well-being: Findings of the Ontario Child Health Study. *Pediatrics, 79*(5), 805-13.

Centers for Disease Control and Prevention. (1994). Health objectives for the Nation: Prevalence of overweight among adolescents—United States, 1988-1991. *Morbidity and Mortality Weekly Report, 43*(44), 818-821.

Center for Disease Control. (2003). Bridging the artificial gap between physical and mental illness. *Chronic Disease Notes and Reports*, 16.

Center for Mental Health Services. (2004). *Annual Report to Congress on the Evaluation of the Comprehensive Community Mental Health Service for Children and Their Families Program.* Atlanta, GA: ORC Macro.

Epstein, M. H. & Sharma, J. (1998). *Behavioral and Emotional Rating Scale: A Strength-based approach to assessment.* Austin, TX: PRO-ED.

Garralda, M. E., Bowman, F. M., & Mandalia, S. (1999). Children with psychiatric disorders who are frequent attenders to primary care. *European Child and Adolescent Psychiatry*, 8(1), 34-44.

Glazebrook, C., Hollis, C., Heussler, H., Goodman, R., & Coates, L. (2003). Detecting emotional and behavioral problems in pediatric clinics. *Child: Care, Health and Development*, 29, 141-149.

Hodges, K. & Wong, M.W. (1996). Psychometric characteristics of a multidimensional measure to assess impairment: The Child and Adolescent Functional Assessment Scale. *Journal of Child and Family Studies*, 5(4), 445-467.

Holden, E. W., Chmielewski, D., Nelson, C. C., Kager, V. A., & Foltz L. (1997). Controlling for general and disease specific effects in child and family adjustment to chronic childhood illness. *Journal of Pediatric Psychology*, 22, 15-27.

Holden, E. W., & Schuman, W. B. (1995). The detection and management of mental health disorders in pediatric primary care: Prevalence and management. *Pediatrics, 73*, 278-293.

Ireys, H. T., Werthamer-Larsson, L. A., Kolodner, K. B., & Gross, S. S. (1994). Mental health of young adults with chronic illness: The mediating effect of perceived impact. *Journal of Pediatric Psychology, 19*, 205-222.

Manteuffel, B., Stephens, R., & Santiago, R. (2002). Overview of the national evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program and summary of current findings. *Children's Services: Social Policy, Research, and Practice, 5*(1), 3-20.

National Institute for Mental Health. (2002). *Depression and HIV/AIDS: A fact sheet.* (NIH Publication No. 02-5005). Retrieved April 5, 2004, from http://www.nimh.nih.gov/ publicat/dephiv.cfm

New Freedom Commission on Mental Health. (2003). *Achieving the promise: Transforming mental health care in America. Final report.* (DHHS Pub. No. SMA-03-3832.) Rockville, MD.

Newacheck, P. W., & Halfon, N. (1998). Prevalence and impact of disabling chronic conditions in childhood. *American Journal of Public Health, 88*, 610-617.

Stein, R. E. K., Westbrook, L. E., & Silver, E. J. (1998). Comparison of adjustment of school-age children with and without chronic conditions: Results from community-based samples. *Developmental and Behavioral Pediatrics, 19*, 267-272.

Thompson, R. J., & Gustafson, K. E. (1996). *Adaptation to chronic childhood illness*. Washington, DC: American Psychological Association.

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Cost Savings with Early Intervention: Impacting Child Welfare and Juvenile Justice Outcomes

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Introduction

The Dawn Project, which is the system of care in Marion County (Indianapolis), Indiana, was developed in 1997 to serve youth with serious emotional disorders who are at-risk for, or have a history of, residential placement (Intensive Dawn). After receiving a Federal system of care grant in 1999, the Dawn Project developed a pilot process through which youth with serious emotional disorders who had not yet reached the level of intensity requiring residential care could participate in the Dawn Project (Early Intervention Dawn). The goal of Early Intervention Dawn was to provide services to youth before they required higher levels of involvement with various child-serving agencies.

The Dawn Project receives referrals from several child-serving systems including child welfare, juvenile justice and education. These systems can refer youth into both Early Intervention and Intensive Dawn. Referring agencies pay a monthly case rate for each youth enrolled in the Dawn Project. The current per member per month case rates for Intensive Dawn and Early Intervention Dawn are $4,383 and $1,809, respectively. The purpose of this study was to examine the success of youth referred by child welfare and juvenile justice into both the Intensive Dawn and Early Intervention Dawn.

Method

Data obtained from the Dawn Project's information management system were used in this study. Youth referred by the Marion County Office of Family and Children (child welfare) for Intensive and Early Intervention Dawn between January, 2001, and November, 2003, and youth referred by Marion Superior Court, Juvenile Division (juvenile justice) between May, 2002, and November, 2003, were included in the analysis based on the dates in which Early Intervention Dawn began within each system. Comparisons between child welfare and juvenile justice referrals in Intensive Dawn and Early Intervention Dawn were made on the following variables: age, gender, race, length of stay, services provided and individual functioning. Individual functioning was assessed using the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1996).
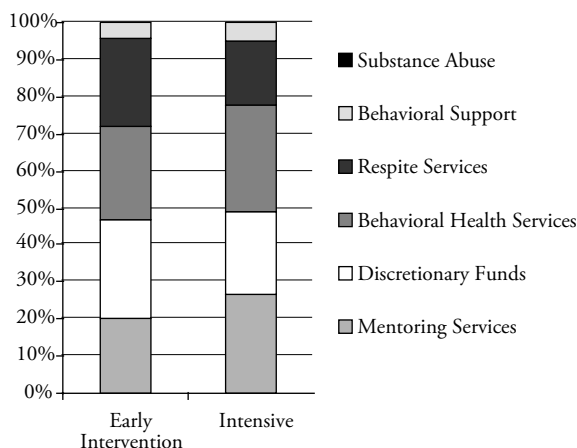
Results

Child Welfare Early Intervention and Intensive Dawn Referrals

Youth referred by child welfare and enrolled in Early Intervention Dawn were younger than youth enrolled in Intensive Dawn (11 years and 13 years, respectively). No differences were found for gender or race. For youth referred by child welfare, the average length of stay in Intensive Dawn was 14.6 months compared to a length of stay of 7.4 months for Early Intervention Dawn.

To examine the array of services provided to children referred from child welfare and enrolled in Intensive and Early Intervention Dawn, the proportion of the case rate spent on services in the following categories was assessed: placement, mentoring, discretionary funds, behavioral health services, respite, behavioral support, and substance abuse. Approximately 90% of the case rate was used for placement services in Intensive Dawn, making comparisons with Early Intervention Dawn (in which placement services for residential treatment were not provided) difficult. Thus, a second analysis was conducted to determine whether the utilization of service categories in Early Intervention Dawn were comparable to non-placement services paid for in Intensive Dawn. When placement was removed from the analysis, the distribution of services within the Early Intervention and Intensive Dawn case rates was similar (see Figure 1).

Figure 1
Child Welfare Early Intervention vs. Intensive Dawn
Average Resource Allocation by Service Type
Eliminating Placement Services

Changes in functioning were compared for youth referred by child welfare into Early Intervention Dawn who had CAFAS scores available at both enrollment and six months (*n* = 13) and at both enrollment and discharge (*n* = 29) and for youth from child welfare in Intensive Dawn who had CAFAS scores available at both enrollment and six months (*n* = 43) and at both enrollment and discharge (*n* = 37). Clinically significant improvements in functioning (i.e., a decrease in CAFAS scores of at least 20 points) were observed for youth enrolled in Early Intervention Dawn between enrollment (*M* = 64.62) and six months (*M* = 36.15) and between enrollment (*M* = 77.59) and discharge (*M* = 51.38). Similarly, youth from child welfare in Intensive Dawn demonstrated clinically significant improvements in functioning between enrollment (*M* = 78.60) and six months (*M* = 58.84) and between enrollment (*M* = 72.43) and discharge (*M* = 38.38).

The percentage of youth referred by child welfare who successfully completed their treatment goals did not differ between Early Intervention Dawn (67%) and Intensive Dawn (71%).

Juvenile Justice Early Intervention and Intensive Dawn Referrals

No differences were found between youth referred by juvenile justice into Early Intervention and Intensive Dawn in age, gender or race. The average length of stay did differ across the two levels, with an average of 14.6 months for Intensive Dawn and 6.8 months for Early Intervention Dawn.

Approximately 85% of the case rate for youth referred by juvenile justice was used for placement services in Intensive Dawn, again making comparisons with Early Intervention Dawn difficult. When placement was removed from the analysis, the distribution of services within the Early Intervention and Intensive Dawn case rates was similar (see Figure 2).

Changes in functioning were compared for youth referred by juvenile justice to Early Intervention Dawn who had CAFAS scores available at both enrollment and six months (*n* = 13) and at both enrollment and discharge (*n* = 22), and for youth referred to Intensive Dawn who had CAFAS scores available at both enrollment and six months (*n* = 21) and at both enrollment and discharge (*n* = 12). Clinically significant improvements in functioning (i.e., a decrease in CAFAS scores of at least 20 points) were observed for youth in Early Intervention Dawn between enrollment (*M* = 84.6) and six months (*M* = 60.77). Youth in Intensive Dawn exhibited only slight improvements in functioning between enrollment (*M* = 84.29) and six months (*M* = 73.33). However, between enrollment and

Figure 2
Probation Early Intervention vs. Intensive Dawn
Average Resource Allocation by Service Type
Eliminating Placement Services
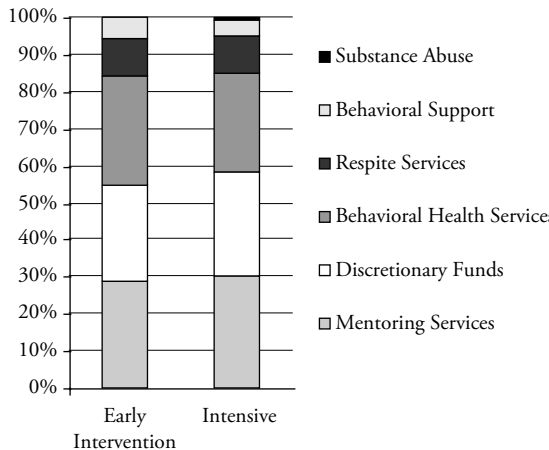
discharge, clinically significant improvements were observed for youth in Intensive Dawn (*M* = 103.33 at enrollment and *M* = 81.67 at discharge), but not in Early Intervention Dawn (*M* = 84.45 at enrollment and *M* = 75.0 at discharge).

Youth referred by juvenile justice into Intensive Dawn were more likely to have successfully completed their treatment goals than youth from juvenile justice in Early Intervention Dawn. Specifically, 54% of youth referred by juvenile justice into Intensive Dawn successfully completed their goals, compared to 38% of youth in Early Intervention Dawn.

Comparison of Child Welfare and Juvenile Justice

The results of this study also identified several differences based on referral sources across the two levels of the Dawn Project. Most notably, the level of functional improvement as measured by the CAFAS was much greater for youth referred by child welfare than for youth referred by juvenile justice. Similarly, the percent of youth who successfully completed their treatment goals was higher for the child welfare population (approximately 70% for both Early Intervention and Intensive Dawn) than for the juvenile justice population (38% for Early Intervention Dawn and 54% for Intensive Dawn).

Conclusion

The results of this study highlight the need for and value of providing early intervention services to youth with serious emotional disorders. Both child welfare and juvenile justice youth enrolled in Early Intervention Dawn had shorter lengths of stay (7.4 months for child welfare youth and 6.8 months for juvenile justice youth) than youth enrolled in Intensive Dawn (14.6 months for both child welfare and juveniles justice referrals). These shorter lengths of stay, in addition to the lower cost of care for early intervention services, result in significant cost savings for the community. The fact that the proportion of the case rate used for non-placement services did not differ between Early Intervention and Intensive Dawn suggests that youth served at the two levels had similar needs and that by intervening early, the high cost of out-of-home care (e.g., residential placements, foster care and group homes) can be avoided.

This study also highlights differences between youth referred by child welfare and juvenile justice. For example, juvenile justice referrals had higher CAFAS scores (indicating a lower level of functioning) at the time of referral than child welfare referrals. The average length of stay in Early Intervention Dawn

was shorter for juvenile youth than for youth referred by child welfare. Child welfare referrals into both Early Intervention and Intensive Dawn were more likely to demonstrate clinically significant improvement in their functioning than were juvenile justice referrals. Youth referred by child welfare also were more likely to have successfully completed their treatment goals than were juvenile justice youth. The reasons for these differences need to be explored in order to more effectively serve youth referred from diverse child-serving agencies. Additionally, the level of functional change and successful completion achieved by both child welfare and juvenile justice youth need to be considered in the context of other service options for these populations to determine whether systems of care are the most effective way to meet their unique needs.

Although more work needs to be done to understand the different experiences that youth referred by child welfare and juvenile justice had in the system of care examined here, the identification of these differences is important to other system of care communities working with one or more child-serving systems. The unique mandates of the systems, as well as the distinct populations that they serve, are important issues that must be addressed as systems of care work to improve the quality of their services. In addition, understanding when youth should be referred to systems of care is critical to creating cost savings for communities. If youth with serious emotional disorders can be identified and served before they require out-of-home services, communities can reduce the overall cost of care for these youth and redistribute resources toward community-based care.

References

Hodges, K. (1996). *Child and Adolescent Functional Assessment Scale*. Ypsilanti, MI: Department of Psychology, Eastern Michigan University.

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Strengths, Psychological and Functional Adjustment over Time in a Multi-site Wraparound Initiative

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Introduction

The Coordinated Family Focused Care (CFFC) pilot initiative has been undertaken in order to better coordinate the care of youth in Massachusetts who are at risk of hospitalization or residential placement because of their serious emotional disturbance (SED); 40% have had a hospitalization and/or stay in residential treatment at the time of intake into CFFC. There are five sites across the state, each serving a maximum of 50 children at any given time. This wraparound program builds on family strengths and available support systems to help children remain in or return to the community.

CFFC has been designed to be consistent with the National Institute of Mental Health's Children and Adolescent Support Services Programs principles, which require services to be child-centered, family-focused, community-based, multi-system, culturally competent, and provided in the least restrictive environment. Wherever possible, services are being provided by staff who are of the same ethnicity as the families. Services are also provided in the family's native language whenever possible. Each child enrolled has a two-staff team assigned to them, which consist of the Care Manager (a Master's level clinician) and a Family Partner (an individual who has been a primary caregiver for a child with serious emotional disturbance).

Unique features of the CFFC program include blended funding from public agencies in Massachusetts: the Departments of Mental Health, Social Services, Youth Services, Education and Medicaid. The Medicaid mental health carveout, Massachusetts Behavioral Health Partnership (MBHP), is managing the CFFC program. While one of the five CFFC sites (Worcester Communities of Care) has been a recipient of a Substance Abuse and Mental Health Services Administration system of care grant, the program currently operates entirely on state monies. Through a grant from the Center for Health Care Strategies, the University of Massachusetts Medical School (UMass) is studying program outcomes. For this paper, we are reporting on some of the broad interim findings of this evaluation.

Method

All data are from the CFFC evaluation. Consent for participation in the study is obtained by program staff upon intake into services. The risks and benefits are explained, and a consent form is signed that has been approved by the University of Massachusetts Medical School Institutional Review Board. To date, 93% of families who have been invited have consented to participate in the evaluation; 7% have declined.

Participants

For this study, data were accessed for 159 children who enrolled in CFFC for at least six months, who were also part of the ongoing evaluation.

Measures

Standardized measures are collected via standardized checklists and inventories, by program staff at intake at set intervals throughout program enrollment. Additional demographic information as well as updates on treatment progress are collected by care managers. All data are submitted electronically by MBHP to UMass.

Child functioning. The Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1996) is collected quarterly (at intake into the program, and every three months thereafter).

Child psychological symptoms. Youth Outcome Questionnaire (YOQ; Wells, Burlingame, & Lambert, 1999) is completed by the primary caregiver at intake, three months, six months and 12 months to assess psychological symptoms.

Child strengths. The Behavioral and Emotional Rating Scale (BERS; Epstein, 1999) is collected at intake, six and 12 months into treatment to assess caregiver's perceptions of child strengths. The amount and type of peer relationships, adult relationships, and being bullied are also collected at intake and six months.

Results

Results of repeated measures analyses indicated statistically significant changes over time in the expected directions in all areas assessed. On the CAFAS, mean scores went from 143 at intake to 102 by nine months (see Table 1, Within Subjects Repeated measures: df = 137; F = 177.094; p < .0001). All subscales also had statistically significant change. While all children had CAFAS scores at or above 100 at intake, 77% did at three months, 60% did at six months, and 55% did at nine months. By six months, about three-quarters of the sample had drops of 20 points or more on the CAFAS. Additional analyses indicated that the presence of an Attention Deficit-Hyperactive Disorder diagnosis is associated with greater rates of positive change on the CAFAS, and that a history of sexual abuse, a caregiver history of substance abuse, and the presence of a Depressive Disorder and a Post-Traumatic Stress Disorder diagnosis (girls only) is associated with less positive change on the CAFAS.

On the YOQ, mean scores went from 101.6 at intake to 92.9 by six months (Within Subjects Repeated measures df = 121; F = 13.092; p <. 0001). All subscales also had statistically significant change. At intake, 53% of the sample were at or above the mean for an inpatient sample, and 27% were at or below the mean for an outpatient sample. By six months, 42% were at or above the mean for an inpatient sample, and 40% were at or below the mean for an outpatient sample.

Table 1
Results Of Within Subjects Repeated Measures

	Intake	*3 months*	*6 months*	*9 months*	*Within Subjects repeated measures*
CAFAS (*N* = 138)	142.9	123.1	108.7	101.7	*F* = 177.094 *p* < .0001
YOQ (*N* = 122)	101.6	93.5	92.9	n/a	*F* = 13.092 *p* < .0001
BERS (*N* = 159)	98.7 (51%ile)	n/a	104.5 (58%ile)	n/a	*F* = 12.716 *p* < .0001

On the BERS, the mean scores for the overall strength quotient saw significant increases, from an average percentile score (when compared with other children with SED) of 51% to 58% at six months (Within Subjects Repeated measures df = 158; F = 12.716 p < .0001). Significant improvements were seen in the areas of interpersonal strengths, family involvement, and intrapersonal strengths, which assesses a child's outlook on his-or her- self. Additional paired sample *t*-test analyses from intake to six months indicated significant increases in parent reported positive friendships, the number and strength of the child's connections with adults and formal supports, and decreases in being bullied (all p < .05).

In order to determine which psychological and strengths factors may be associated with CAFAS change from intake to six months, a stepwise multiple regression was performed with CAFAS change as the dependent variable and CAFAS intake score entered on the first step to control for intake scores. Results indicated that intake CAFAS scores account for 19% of the variance (higher scores at intake equal greater change), and a combination of interpersonal functioning variables accounted for an additional 13% of the variance: intake YOQ Interpersonal Relations Subscale Score, intake YOQ Social Problems Subscale, and the change on BERS Intrapersonal Strengths from intake-six months (see Table 2).

Table 2
Stepwise Multiple Regression with CAFAS Change
Intake–6 Months as the Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-27.258	10.586		-2.575	.011
CAFAS Intake	.590	.079	.559	7.437	.000
YOQ Interpersonal Relations Subscale	-.873	.428	-.182	-2.039	.043
BERS Intrapersonal Strengths Change:					
Intake 6mo	-2.246	.647	-.237	-3.472	.001
YOQ Social Problems Subscale	-1.149	.529	-.198	-2.173	.031

$R = .582(d)$, $R^2 = .338$, Adjusted $R^2 = .320$, Std. Error of the Estimate = 26.01

Discussion

The CFFC program has chosen to focus on children with very high levels of psychiatric impairment and functioning, in an effort to serve children with SED in community settings rather than out of home settings, whenever possible. This is a group of children who are at high risk of residential placement; indeed, the high scores on standardized measures at intake (similar to inpatient samples), and high incidence of an inpatient/residential history at intake, indicate the level of severity of this group of children. Given the severity of this population, the results from this evaluation study are encouraging.

These results are not very dissimilar from many of the programs which are part of the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program (Holden, Friedman, & Santiago, 2001; Manteuffel, Stephens, & Santiago, 2002), which found greater improvements in the areas of functional impairment than in core psychological symptoms. Much as adults with serious mental illness must learn to manage and live with the symptoms of a disorder that may wax and wane, but never fully "go away," so must families learn to manage and cope with the symptoms of SED. By building on strengths, where meaningful improvements were found in many areas, the program appears to be helping children function better in community settings, despite the high levels of psychological impairment endorsed by their caregivers.

A statistically meaningful change was seen over time on all of the standardized measures. While statistically significant, were these changes also clinically meaningful? For the CAFAS, the answer is yes. While the mean nine-month score of 102 is still within a range requiring significant supports, the average drop of over 30 points is both statistically and clinically meaningful. Further, over three-quarters of the sample (77%) had drops in the CAFAS of over 20 points by nine months in the program, and there was a change in the overall group from 0% to 45% of children having CAFAS scores of 90 or below.

The YOQ results are somewhat less clear. While a statistically significant decrease was seen in the YOQ, this was mainly in the first three months of the program, and the mean score was still about midway between the inpatient and outpatient means for this measure. Between intake and six months, 11% of the sample moved from above to below the inpatient mean, and 13% moved from above to below the outpatient mean.

There were also similar changes in the measures of strengths and positive peer relationships. In many areas there were statistically significant changes, yet it is difficult to determine at what point these changes are meaningfully different in the lives of an individual child or family. At the same time, improvements in so many areas, from family strengths, to adults supports, to decreases in being bullies, are very encouraging.

Results from the regression help to pull these results together into a coherent picture. While it is true that children who come in with higher CAFAS scores show the greatest change (perhaps indicating a regression to the mean), there are other factors related to the reductions seen in the CAFAS scores from

intake to six months in services. There is a clear relationship between interpersonal functioning factors, and changes in the CAFAS scores. Improvements in the BERS interpersonal strengths score are clearly and significantly related to improvements in the CAFAS scores. A child's intake scores in the areas of interpersonal and social problems are also predictive of CAFAS change. While the causal directions are not entirely clear, it is likely that, through bolstering of interpersonal competencies and strengths, the program is able to also improve functioning in a number of areas.

References

Epstein, M. H. (1999). Development and validation of a scale to assess the emotional and behavioral strengths of children and adolescents. *Remedial & Special Education, 20*(5), 258-263.

Hodges, K. (1996). Psychometric characteristics of a multidimensional measure to assess impairment: The Child and Adolescent Functional Assessment Scale. *Journal of Child & Family Studies, 5*(4), 445-467.

Holden, E. W., Friedman, R., & Santiago, R. S. (2001). Special issue: The national evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program. *Journal of Emotional and Behavioral Disorders, 9,* 1-80.

Manteuffel, B., Stephens, R. L., & Santiago, R. (2002). Overview of the national evaluation of the comprehensive community mental health services for children and their families program and summary of current findings. *Children's Services: Social Policy, Research, and Practice, 5*(1), 3-20.

Wells, M. G., Burlingame, G. M., & Lambert, M. J. (1999). Youth Outcome Questionnaire (Y-OQ). In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (2nd ed.) (pp. 497-534). Mahwah, NJ: Lawrence Erlbaum Associates.

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Continuous Quality Improvement: Using a Service-Learning, Peer-Mentoring Approach to Ensure System of Care and Wraparound Fidelity

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Introduction

Children's Future Hillsborough (CFH) is a collaborative consortium of fifteen agencies and programs in Hillsborough County, Florida that provides: (a) childcare and preschools for children with issues of poverty, neglect, disability, and pre-natal drug/alcohol addictions, and for typically developing children; (b) children's mental health care and case management services; (c) early childhood enrichment programs; (d) developmental screening; (e) Occupational Therapy, Physical Therapy, and Speech Therapy; (f) a doula (pre-natal support and education) program; and (g) respite services for parents of young children with disabilities. When the CFH consortium was formed in 2004, funders and management set as a requirement that the activities of agencies reflect adherence to system of care values and principles (Stroul & Friedman, 1986). The challenge for CFH was to implement this mandate among a large and diverse staff. CFH management used a Continuous Quality Improvement (CQI) process as a building block to coordinate and assess their efforts to promote system-of-care principles. This process is now wrapping up its initial year; it combines system-of-care and wraparound fidelity measures with a peer mentoring and coaching process and engages staff members in living out the concepts of wraparound in their day-to-day interactions with families and children.

This summary describes the development, key components, lessons learned, and evaluation plans for the CQI process. We discuss how the CQI program has supported efforts to build a common mission, vision, and values between partners; communicate clear expectations of collaborative partners; focus on partner strengths; and strengthen staff development and training—all in a cost effective manner.

Method

The CQI process has six components, which will be described in detail below. These include

1. Training and supervising peer review leaders
2. Piloting the CQI process
3. Training and supervising peer reviewers
4. Conducting the reviews
5. Giving coaching feedback to reviewees
6. Conducting ongoing training for CFH staff

Health Communication Practicum. CFH management identified three staff members to serve as Peer Review Leaders. These leaders participated in a graduate level "Health Communication Practicum" course in the Communication department at the University of South Florida. CFH's staff members joined with two other university graduate students and a staff member from another case management agency to learn system-of-care principles and coaching and mentoring skills from many human service fields including children's mental health, nursing, social work, and public health. Putting together traditional graduate students with students from the community was an intentional decision made to provide students with a diversity of experiences, backgrounds, and disciplines.

The course objectives were to:

1. acquaint students with the concepts and practical applications of SOC principles;
2. teach students how to observe communication and interactions between providers and families to assess fidelity to SOC principles;
3. teach students how to provide peer coaching, evaluation, and feedback to providers; and
4. teach students how to apply the key concepts of systems of care to a variety of health care settings.

The course followed a coaching model in which the instructor coached the students to, in turn, coach agency providers on how to coach families in reaching their goals through feedback that is strengths-based and dialogic.

Piloting the CQI process in the Health Communication Practicum. The course had a lecture/discussion component and a field-based component. CFH's agencies acted as some of the course field sites, and other community agencies acted as other field sites, in which students conducted case fieldwork (observation and interviewing) and provided feedback and coaching to individual case managers. This process led to refinement of the CQI process and protocols.

Training and Supervising Peer Reviewers. Once the course was completed and the Peer Review Leaders were thus trained, we began training and supervising identified staff members to become peer reviewers. Their training was on system-of-care principles, on using the specific fidelity instruments, and on how to give effective coaching and feedback to peers that models the desired principles.

The Review Process. The review process consists of a case methodology in which a peer reviewer dyad, for one specific child and family case, conducts interviews with the primary caregiver, the case manager, and one other service provider. Peer review dyads also observe a planning team meeting; and review the family's planning documents (if applicable).

For our review protocol, we used customized versions of the System of Care Practice Review (SOCPR; Hernandez, Gomez, Lipien, Greenbaum, Armstrong, et al., 2001), and the Team Meeting Observation (TMO: Epstein, Jayanthi, McKelvey, Frankenberry, Hardy, et al., 1998; Epstein, Nordness, Kutash, Duchnowski, Schrepf, et al., 2003). Six different versions of the protocol were developed—one for each type of CFH agency.

Coaching. Under the supervision of their Peer Leaders, the reviewers gave coaching and feedback to staff members. Coaching—in the context of CFH's CQI process—can be thought of as using self-directed learning to assist peers to enhance their effectiveness (Blackman-Sheppard, 2004; Crane, 2002; Wilson, 2004). The challenge of coaching is to support and empower individuals to see new ways of behaving (Crane, 2002; Hawkins, 2004). The positive orientation of coaching helps people focus on their past successes and find ways to use the skills they already have to achieve new goals and reach new directions (Hawkins, 2004). The coaching model used in the CQI program uses learning questions rather than directive statements to lead people to find their own solutions and suggestions (Crane, 2002).

Unlike the punitive feedback many people are used to, this approach is constructive and effective, and models the system-of-care principles the process is promoting. During the course, the coaching process was closely supervised by the instructor and other students who participated in role-playing and small group supervision exercises. During the rest of the CQI process, the Review Team Leaders provided the same role-playing and supervision for the coaching.

Training Sessions. In the final step in the process, the information obtained was compiled and turned into a collaborative-wide training program by Louis de la Parte Florida Mental Health Institute staff that addressed the problem areas identified in the reviews.

Results & Lessons Learned

Participants in the Health Communication Practicum class kept a journal of field notes during their experiences at the review sites. We also conducted interactive interviews and discussion sessions with participants during the CQI process. Changes and revisions in the protocol and the process itself were made as a result of this feedback. A more empirical evaluation effort is currently underway that consists of a feedback survey conducted among CFH staff, managers, and CQI participants.

Strengths

From the outset, we hoped that the CQI process would build *sense of team* among member agencies to create a unified, common vision among the diverse group of organizations that make up the consortium. Although the process was more complicated than anticipated, it was very successful in building a foundation of unity for the consortium.

Compared to the costs of conducting program evaluation using outside researchers or consultants, this process was a cost-effective alternative, as it was designed to utilize agency staff and train them to carry on the project in-house by Year 2.

Using the CQI as a tool to frame system-of-care principles in practice was a key to the success of the program. This process gave an important structure to the system of care expectations that helped set a culture for the new consortium. Intensive up-front planning went a long way to help the program succeed. Selection of CQI team leadership was crucial. The staff members selected as leaders were internally driven and motivated individuals, so that even though they were not leaders in the organizations, they were respected and modeled the persistence that was necessary for the process.

One of the strongest benefits of the CQI process has been in the accelerated learning gained by the reviewers themselves. This outcome was expected, but its intensity surpassed expectations. Another positive facet of this learning process was the confidence gained by the reviewers in their own abilities. In addition, the reviewers expressed an appreciation for the system of care principles and for their jobs and agencies, another expected but very strongly encouraging outcome.

This process has taught us how to engage and get buy-in from fifteen different agencies, many of whom do different things and have different target populations. Some of the agencies had a great deal of experience utilizing system of care principles but some had none. This process refined and modeled expectations, and operationalized the principles in ways that could be understood and employed in a wide array of types of agencies.

Challenges

This process has not been without its challenges. Probably the most frustrating obstacles were communication and scheduling. Reviewers expressed frustration with being unable to coordinate the reviews, both with co-reviewers and with the staff members being reviewed. We originally created reviewer dyads from different agencies in order to use this process to build bridges across agencies and to provide the staff members being reviewed with a diversity of experiences by the reviewers. However, we have now determined that pairing people from the same agency greatly helps overcome the communication and scheduling difficulties.

There was some initial reviewee reluctance; not surprising given that the process—on the surface—probably seemed evaluative. To alleviate this, the reviewers were very vigilant in their coaching to make sure that the feedback they were giving was being positively perceived, and to make sure that they were modeling the wraparound and client-centered principles from the course. Overall, the feedback and coaching was well-received and helpful.

Finally, it is admittedly difficult to add new peer reviewer duties to staff members' existing caseloads and responsibilities. It is important to build money into budgets to compensate reviewers and leaders for their additional duties and time, as well as to recognize and acknowledge the new skill-set acquired as a result of the CQI process. The process is intensive; each review averages eight hours. We addressed staff time concerns by reducing the number of reviews done in the initial year, and articulating the "pay-off" for each agency to participate. Streamlining the process will be a priority for next year.

Conclusions

The CQI program proved to be a valuable course of action within the collaboration-building process. It was apparent that early on in the collaborative process, a decision must be made as to how committed partners are to elements of a common practice. Once the commitment has been made, coaching and modeling the desired behaviors and measuring progress toward the common practice appear to be approaches worthy of the acknowledged investment. The process takes work, but it's worth it. Factors that promoted success for the CQI process included: (a) selecting and training the right people to be Peer Review Leaders; (b) the importance of up-front planning yet flexibility when things did not go according to plans; (c) tailoring the instrument to each agency; and (d) driving the process through the roadblocks. The process has been associated with positive practice-level outcomes, such as building a skill-set for the reviewers, building linkages and relationships across partner agencies, and increasing skills and performance of agency staff members. Participants report that the CQI process has helped build uniformity, consistency, common practices, and a belief among agency staff that "we are part of something greater than ourselves." As communities face challenges to maintaining and sustaining program fidelity, it is important to find cost effective ways to continue training, coaching, and supporting staff members in doing so. Children's Future Hillsborough's CQI process is a success story in the making.

References

Blackman-Sheppard, G. (2004). Executive coaching. *Industrial and Commercial Training, 36*(1), 20, 5-8.

Crane, T. (2002). *The heart of coaching: Using transformational coaching to create a high-performance culture* (2nd ed.). San Diego: FTA Press.

Epstein, M. H., Jayanthi, M., McKelvey, J., Frankenberry, E., Hardy, R., Dennis, K., & Dennis, K. (1998). Reliability of the wraparound observation form: An instrument to measure the wraparound process. *Journal of Child and Family Studies, 7*(2), 161-170.

Epstein, M. H., Nordness, P., Kutash, K., Duchnowski, A., Schrepf, S., Benner, G., et al. (2003). Assessing the wraparound process during family planning meetings. *Journal of Behavioral Health Services and Research, 30*, 352-362.

Hawkins, L. (2004). Solutions coaching? No problem! Part 2. *Industrial and Commercial Training, 36*(1), 20-24.

Hernandez, M., Gomez., A., Lipien, L., Greenbaum, P. E., Armstrong, K. H., & Gonzalez, P. (2001). Use of the System-of-Care Practice Review in the national evaluation: Evaluating the fidelity of practice to system-of-care principles. *Journal of Emotional and Behavioral Disorders, 9*(1), 43-52.

Wilson, C. (2004). Coaching and coach training in the workplace. *Industrial and Commercial Training, 36*(3), 96-98.

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