# Chapter Nine

## Developing Effective Financing Strategies

### *Symposium*

# *Findings: Promising Managed Care Approaches to Care Management and Clinical Decision Making*

*Chair*
**Beth Stroul**

*Authors*
**Mary I. Armstrong**
**Sheila A. Pires et al.**

*Discussant*
**Ginny M. Wood**

## *Symposium Introduction*

**Mary I. Armstrong**

From 1995 through 2004, the Health Care Reform Tracking Project (HCRTP) tracked the development of publicly financed managed care systems and their impact on children and adolescents with behavioral health problems and their families. The project also assessed the impact of managed care on the systems of care that had been set up to serve these youth and their families. The HCRTP was conducted jointly by the Research and Training Center for Children's Mental Health at the University of South Florida, the Human Service Collaborative of Washington, D.C., and the National Technical Assistance Center for Children's Mental Health at Georgetown University. The HCRTP was co-funded by the National Institute on Disability and Rehabilitation Research in the U.S. Department of Education and the Substance Abuse and Mental Health Services Administration of the U.S. Department of Health and Human Services. Supplemental funding was provided by the Administration for Children and Families of the U.S. Department of Health and Human Services, the David and Lucile Packard Foundation, and the Center for Health Care Strategies, Inc.

The mixed method design of the Tracking Project included periodic surveys of all states, in-depth impact analyses involving site visits to a selected sample of states with experience in public sector managed care, and the identification and dissemination of promising approaches and features of managed care systems. Throughout these activities, the Tracking Project explored and compared the differential effects of *carve out designs*, defined as managed care arrangements in which behavioral health services are financed and administered separately from physical health services, and *integrated designs*, defined as arrangements in which the financing and administration of physical and behavioral health services are integrated.

***Promising Approaches.*** Comprehensive discussion regarding the HCRTP's principle findings can be found in the *Series on Promising Approaches*[1]. The *Series* is comprised of a number of thematic issue papers, each describing promising strategies or approaches related to a specific aspect of managed care systems as they affect children with behavioral health disorders. The papers highlight strategies, approaches and features within publicly financed managed care systems that hold promise for effective service delivery for children and adolescents with behavioral health treatment needs and their families, particularly for children with serious and complex disorders. The *Series* draws on the findings of the HCRTP to date, highlighting relevant issues and approaches to addressing them, that have surfaced through the HCRTP's all-state surveys and in-depth impact analyses in a smaller sample of 18 states. The papers are intended as technical assistance resources for states and communities as they refine their managed care systems to better serve children and families.

The summaries below illustrate the HCRTP's approach to identifying promising approaches within managed care environments; specifically, they describe recent findings from study of care management models within these environments, and exploration of clinical decision making guidelines by states and/or management entities.

---

[1] *The Series on Promising Approaches is available at http://rtckids.fmhi.usf.edu/rtcpubs/hctrking/pubs/promising_approaches/*

## *Promising Approaches in Care Management Systems*

**Mary I. Armstrong**

### Introduction

This study examined the use of care management models by states and/or management entities within states that are operating within a managed care environment. In particular, the study targeted a representative sample of states and/or managed care entities that are using intensive care management approaches for the provision of services to children and adolescents with serious behavioral health disorders and their families. Through semi-structured interviews with key state and managed care informants, and case managers and their supervisors, the study explored the types of care management models that are being used, strategies for the successful development and implementation of a care management approach, and the challenges and successes in sustainability of a promising approach.

### Method

As noted, promising care management approaches within managed care systems were identified throughout the Tracking Project through the all state surveys and impact analyses. These recommendations were verified through telephone interviews with potential sites and recommendations from national experts. The sample includes the following sites: the Massachusetts Behavioral Health Partnership, Magellan Health Services/Tenn Care, Value Options/Arizona Department of Health Services, Wraparound Milwaukee, and the Dawn Project in Marion County, Indinapolis.

Further descriptive information on their care management approaches was obtained through three methods:

1. A site visit to Tennessee involving semi-structured interviews with key stakeholders in various communities;
2. Telephone interviews with key stakeholders in Arizona, Massachusetts, Milwaukee, and Indianapolis; and
3. Reviews of documents on all of the identified approaches.

### Results

A number of organizational and practice parameters were useful in describing and comparing the case management interventions. Burns, Gwaltney and Bishop (1995) articulated a set of organizational parameters for case management models: the case manager-to-client ratio, the frequency of contact between case manager and clients, and the duration of the service. Practice parameters of case management include the variables of focus of services, availability of service, the site where services are offered, and the amount and nature of client direction offered in the care coordination model (Willenbring, Ridgely, Stinchfield, & Rose, 1991). Table 1 describes these parameters for each care management approach in the study.

Caseload size and number of contact hours per month are proxies for the intensity of the care management model. As shown in Table 1, the caseload size ranges from a high of 15 children to a low of 6, with most models serving between 8-10 children. At least two models (Continuous Treatment Teams and Wraparound Milwaukee) specify the amount of contact that is expected by the care manager with the family each month. Regarding the length of stay, most models do not specify an upper limit. Rather, the length of stay is flexible and based on the needs of the individual child and family. Fourteen to 15 months is the average length of stay for Child and Family Teams in Maricopa County and the Dawn project.

All the models clearly state that the focus of care is the child within the context of the family, and that services are available 24 hours a day, 7 days a week. Regarding the degree of client direction, four of the five models appear to be in the forefront of offering family driven care, defined as care where families

**Table 1**
**Comparison of Case Management Parameters by Models**

| *Care Management Model* | *Caseload Size* | *# Contacts* | *Duration* | *Focus* | *24/7* | *Site* | *Client Direction* |
|---|---|---|---|---|---|---|---|
| Child and Family Teams | 12-15 | | 14-15 months | Child and Family | Yes | Community | Family directed |
| Coordinated Family Focused Care | 10 Served by 2 people | Flexible | Flexible | Child and Family | Yes | Community | Family directed |
| Continuous Treatment Teams | 6 | 12 contacts / month | Flexible | Child and Family | Yes | Community and Office | Family and team directed |
| Wraparound Milwaukee | 9 | 15-16 hours / month | Flexible | Child and Family | Yes | Community | Family directed |
| Dawn | 8-9 | 14 hours / month | 14-15 months | Child and Family | Yes | Community | Family directed |

have a decision making role in the treatment of their children. "Family driven" has been described as: "…choosing supports, services, and providers; setting goals; designing and implementing programs; monitoring outcomes; and determining effectiveness of all efforts to promote the mental health of children and youth" (U.S. Department of Health and Human Services, 2005 p.16). Finally, all models are guided by the principle of community-based services, with most services being offered in the home and community.

## Policy and Practice Recommendations

Some interviewees across sites noted the need to begin with the development of a shared vision and set of principles, before the operational planning for care management. The visioning process can result in an agreed upon conceptual framework, such as a resilience model for children with serious emotional problems. The framework can then serve as the basis for the case management model. For example, the use of a strengths-based approach is very useful with families because it emphasizes what they are already doing well. Another suggestion was to emphasize the importance of communication and teamwork in the implementation of an intensive case management model.

There are several recommendations related to the organizational and program requirements that must be developed for a new care management program. Evans & Armstrong (2002) note that the care management model needs to be well specified, with clearly defined job descriptions. A related decision concerns who will provide the care management. Wraparound Milwaukee and ValueOptions decided to contract out the care coordination process to a variety of community agencies. An advantage of this approach is the ability to include culturally diverse and indigenous community agencies. However, the providers must agree and be able to make arrangements so that care coordinators and family partners have flexible hours and working arrangements.

The planning process for implementation of a new care management model should be comprehensive, laying out a set of sequential steps that need to take place at all levels of the system, including the managed care entity, the state agencies responsible for behavioral health managed care, providers, and families and advocates. Interviewees emphasized the need for a massive re-training effort, both of existing staff who will be re-assigned to the new care management approach, and of the system partners who serve these youth, including child welfare, juvenile justice, and education. In Arizona, child-serving system partners are regularly invited to attend Child and Family Team process training and coaching activities. The sequencing of training also is important; for example, supervisors, clinicians, and out-of-home providers need to be targeted early in the training plan.

Sequencing is also important in the recruitment, training, and hiring of direct service providers, such as respite caregivers and behavioral health aides, so that these resources are readily available as the needs are identified in service plans. The process of developing new service modalities is ongoing; in Milwaukee, for example, the provider network of community agencies currently offers families a choice of 80 different services.

Interviewees from several sites noted the challenge of recruitment and retention of care managers and family partners. One goal of Wraparound Milwaukee, for example, is to recruit care coordinators who are more mature and experienced in children's services. Their perception is that a new care coordinator's lack of experience can be an impediment in forming strong and trusting relationships with families.

Another challenge is to develop policies and procedures that monitor fidelity to the new care management process, and the related need for fiscal resources for training, coaching, and other quality assurance, quality improvement, and evaluation mechanisms. Some interviewees noted that the level of fidelity of the care management model varies across providers. Several sites emphasized the need for a standardized set of quality improvement supervision tools, and practice fidelity methods, including youth and family interviews with families and youth being served by the care management teams.

In the area of financing, one recommendation is for states to apply for a Psychiatric Rehabilitation waiver for Medicaid services. In comparison with the Targeted Case Management option, the waiver provides more flexibility to offer creative service modalities, and to offer services in school and in communities.

## References

Burns, B. J., Gwaltney, E. A., & Bishop, G. K. (1995). Case management research: Issues and directions. In B. J. Friesen & J. Poertner (Eds.), *From case management to service coordination for children with emotional, behavioral, or mental disorders: Building on family strengths* (pp. 353-372). Baltimore: Paul H. Brookes Publishing.

Evans, M. E., & Armstrong, M. I. (2002). What is case management? In B. J. Burns & K. Hoagwood (Eds.), *Community treatment for youth: Evidence-based interventions for severe emotional and behavioral disorders* (pp. 39-68). New York: Oxford University Press.

Stroul, B. A., & Friedman, R. M. (1986). *A system of care for severely emotionally disturbed children and youth*. Washington, D. C.: Georgetown University, CASSP Technical Assistance Center.

US Department of Health and Human Services. (2005). *Technical assistance resource guide for the comprehensive community mental health for children and their families program*. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

Willenbring, M., Ridgely, M. S., Stinchfield, R., & Rose, M. (1991). *Application of case management in alcohol and drug dependence: Matching techniques and populations*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, Homeless Demonstration and Evaluation Branch.

# *Promising Approaches on Clinical Decision Making Guidelines for Child/Adolescent Behavioral Health Care in Public Sector Managed Care Systems*

**Sheila A. Pires & Katherine Grimes**

## Introduction

This study examined the use of clinical decision making guidelines by states and/or management entities within states that are operating within a managed care environment. In particular, the study targeted a representative sample of states and/or managed care entities (MCE) within states that are using formal clinical decision making protocols to guide decisions about the services and supports provided to children and adolescents with behavioral health disorders and their families. Through semi-structured interviews with key state and MCE informants, the study explored the types of clinical decision making guidelines that are being used, state and MCE reasons for use of formal protocols, their experience with the various guidelines being used, and the strengths and challenges of particular approaches. The study also examined such factors as the impact of using formal protocols in such areas as quality, consistency, and cost of care, and access to care. In addition, reflecting the emphasis on an individualized approach to care in the President's New Freedom Mental Health Commission report and the children's system of care movement, the study examined approaches to using formal protocols within an individualized approach to care. The ultimate purpose of the study is to provide a useful technical assistance resource for states and MCEs as they implement and refine clinical decision making approaches for this population of children and families.

## Method

The Health Care Reform Tracking Project's periodic surveys of all states and site visits to selected states have led to the identification of promising approaches, that is, features of managed care design and implementation that seem to be associated with better service delivery for this population, particularly for children with serious disorders. Included among the areas targeted by the Tracking Project for identification of promising approaches was that of clinical decision making guidelines or protocols. In other words, state surveys and telephone interviews have asked key informants in states whether clinical protocols were being used within states specifically for children's behavioral health decision making. The surveys and interviews yielded a number of promising approaches in this area. Further information was gathered—through telephone interviews with national experts, interviews with the states in question and analysis of documentation—to determine whether a given identified approach would remain in the sample. As a result of this process, nine states and five local management entities were included in the sample. The states included are: Arizona, Delaware, Hawaii, Michigan, New Jersey, North Carolina, Pennsylvania, Tennessee, and Texas. The five local management entities included are: Clinton Eaton Ingham in Lansing, Michigan; the Dawn Project in Marion County, Indiana; the Mental Health Services Program for Youth operating in several local areas in Massachusetts; Philadelphia Behavioral Health System; and Wraparound Milwaukee. Semi-structured telephone interviews were conducted with key state and MCE informants in each of the states and localities included in the sample. In addition, documentation and relevant websites were reviewed.

## Results & Discussion

The study describes the clinical guidelines that a sampling of states and MCEs are using for children's behavioral health service delivery within a managed care environment. Some of these guidelines draw on national instruments, such as the Child and Adolescent Functional Assessment Scale (Hodges, 2000); some are "homegrown," that is, developed by states themselves; and some are hybrids, that is, adaptations of existing, formalized protocols. In a few instances, no formalized protocols are used but rather a highly individualized approach to care is used that itself has become "formalized."

The study explored the length of time states or MCEs have been using particular guidelines and adaptations made over time. It examines the reasons states are using particular guidelines, such as to improve consistency or quality of service provision. The study identifies how states are using protocols, for example, in initial decision making for eligibility criteria and medical necessity determination, for ongoing decision making, for treatment monitoring and the like. The study explores the impact of the guidelines on access to care, and on such aspects as quality and consistency.

The study described the extent and nature of states' efforts to incorporate use of clinical decision making protocols systemically, efforts to train providers, clinicians, families and other key stakeholders about clinical protocols, and supervision and monitoring of the use of protocols. The study identified a number of challenges to the use of clinical protocols, including lack of acceptance by clinicians of the face validity of protocols, conflict regarding consistency versus individualized planning, and the cultural sensitivity of some instruments.

The study also examined how various protocols take into account individual characteristics of children and families, in particular, language, ethnicity, severity and co-morbidity. It explored how guidelines support family and youth involvement, interagency involvement, and an individualized, strengths-based approach to care. The study also examined the "politics" of using guidelines and what happens when guidelines call for services that are not available.

The study provided an opportunity for a sample of states and local management entities to reflect on their experience using particular clinical decision making approaches and protocols, to identify the strengths and challenges of their approaches, and the refinements they have made based on their experience. Their reflections provide useful lessons learned for other states and MCEs who are considering use of clinical care guidelines within managed care environments.

## Reference

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

## *Symposium Discussion*

**Ginny M. Wood**

Above, the presentation on care management models illustrated how families raising children with serious emotional disturbances are "standing at the center of the service delivery system supporting and assisting other families to drive the care and services they need for their families." This new role for families reduces the stigmatizing myths about the inadequacy of parents. New roles in themselves are not enough. For public mental health managed care systems to actualize the values of employing parents in the behavioral health system, families and formally trained researchers need to team up to examine the sites where families are employed more thoroughly, to document it, to talk about it with policy makers, service providers, families and others involved in providing services and supports to children and families and to develop, promote and support a commonly accepted definition of family-driven care.

Stroul and Grimes' discussion on clinical guidelines clearly described the variety of tools used by states to guide the decision making process. What was missing from the findings was how family members raising children with behavioral health challenges were engaged in the development process. Without family comfort and buy-in, children and youth do not understand the need or how this information will improve their quality of life at home, in schools and in the community. Further research is needed to understand how families are informed and involved at the state and community levels in the process of developing clinical decision making protocols. If mental health care is going to be consumer and family driven then providers must embrace the concept of sharing decision making authority and take the initiative to change practice from provider-driven to family-driven.

## CONTRIBUTING AUTHORS

**Mary I. Armstrong, Ph.D.**
*Director, Division of State and Local Support, Department of Child and Family Studies, Louis de la Parte Florida Mental Health Institute, University of South Florida, 13301 Bruce B. Downs Boulevard, Tampa, FL 33612, 813-974-4601, fax: 813-974-7376, e-mail: armstron@fmhi.usf.edu*

**Katherine Grimes, M.D.**
*Medical Director, Massachusetts Mental Health Services Program for Youth, Neighborhood Health Plan, 253 Summer Street, Boston MA 02210-1120, 617-204-1402, fax: 617-503-2426, e-mail: katherine_grimes@hms.harvard.edu*

**Sheila A. Pires, M.P.A.**
*Partner, Human Service Collaborative, 1728 Wisconsin Avenue, NW, Suite 224, Washington, DC 20007, 202-333-1892, fax: 202-333-8217, e-mail: sapires@aol.com*

**Beth Stroul, M.Ed.**
*Vice President, Management and Training Innovations, Inc., 11197 Longwood Drive, Suite 100, Reston, VA 20194, 703-689-0950, fax: 703/689-0951, e-mail: bethstroul@aol.com*

**Ginny M. Wood**
*President, Family Support Systems, Inc., 20487 N. 94th Avenue, Peoria, AZ 85382, 623-825-1744, fax: 623-825-7130, e-mail: gmwood@att.net*

## Symposium

# Financing Issues in Systems of Care for Children's Mental Health

***Chair***
**Jennifer Taub**

***Authors***
**Kathleen Biebel et al.**
**Suzanne Fields et al.**
**Jennifer Taub et al.**

***Discussant***
**Brian T. Yates**

## *Introduction to Symposium*

**Jennifer Taub**

Although our field has made inroads in promoting Child and Adolescent Service System Program and systems of care principles into the children's mental health services arena, there has been little focus to date by the research community on the important issues of financing for the creation and maintenance of such services. Federal Substance Abuse and Mental Health Services Administration grants have been instrumental in the establishment of systems of care and the many creative and innovative services associated with these systems, such as wraparound services and respite care. Yet once such funding ends, communities have differing levels of success in sustaining their systems of care. Biebel and Katz-Leavy's summary examines communities that have used creative financing mechanisms to sustain their systems of care programs and services beyond a period of grant funding. Few programs have been initiated and sustained in the absence of federal funding initiatives. The other two summaries look at one such program, Coordinated Family Focused Care, a pilot wraparound program in five communities that was created by a combination of public monies in Massachusetts, and is not dependent on federal funding. The discussion by Taub and O'Garr examines the role of flexible funding in this program in the provision of respite services. The summary by Fields, Gyurina, and Strauss, from the perspective of a managed care entity working on the Medicaid carve out, looks at the cost differentials between children who graduate from this program, and those who leave prior to graduating. While each discussion examines a different aspect of financing in system of care services for children, taken together they help to shed light on some of the financing issues affecting system of care programs. It is hoped these summaries will aid in understanding how to maintain such programs over the long term without dependence on time-limited grants.

## *Sustaining Systems of Care: Maximizing Medicaid for Children with Serious Emotional Disturbance*

**Kathleen Biebel & Judith Katz-Leavy**

### Importance and Purpose of Work

The President's New Freedom Commission on Mental Health (2003) suggests that the mental health problems among children and adolescents constitute a public health crisis for the nation. Five to nine percent of children aged nine to 17 have a serious emotional disturbance which causes "extreme functional impairment" (Friedman, Katz-Leavy, Manderscheid, & Sondheimer, 1998). Studies show significant numbers of children and adolescents in need of treatment do not receive behavioral health services (Bazelon Center, 1999). When children's mental health services are unavailable, unaffordable, or inappropriate, many young people end up caught in the child protection or juvenile justice systems. Exposure to greater numbers of risk factors places children and adolescents at higher risk of adverse outcomes including school failure, difficulty with social relationships, unplanned pregnancies, out-of-home placements and family disruptions.

Children enrolled in Medicaid have significant rates of mental disorder and relatively high rates of service utilization (Bazelon Center, 1999). Many services most helpful to children with serious emotional disturbance could be reimbursed by Medicaid but rarely are. Medicaid generally can include a broad array of services including psychiatric hospitalization under age 21, case management and EPSDT. Many of these services are federally mandated: inpatient hospital care, residential treatment, or group homes; clinical services by (or supervised by) a physician; outpatient hospital services; physician services and services of other licensed professionals. Others are clearly permitted through a number of different Medicaid options, such as the Rehabilitation Option and the Clinic Option, and the Home and Community-Based Waiver. These may include, in addition to those services mentioned above, crisis services; intensive in-home services; day treatment; substance abuse counseling; social and daily living skills training; case management; behavioral aide services and other intensive community-based care. In some cases, Medicaid options and waivers may also be used to cover services for family members of the identified child, as they relate to the well-being of the family.

Many of the more intensive community-based services, which families report as most helpful to them, are not traditionally covered by states in their Medicaid State Plans (Bazelon, 1999). For example, wraparound has been identified as a successful and effective strategy for children with serious mental and emotional disorders and has been implemented throughout the country through demonstration projects and statewide initiatives. Even so, the availability of Medicaid-funded community-based wraparound services varies among states. Accordingly, where a child lives can have a significant impact on the types of services to which she or he has access. And while most Medicaid programming for children is fairly traditional and based on a medical model, some states have been innovative in their organization, financing, and range of community services offered. Examples of innovations in Medicaid-funded programming include team meetings in Kansas, Minnesota and Nebraska, family support services in Kentucky, Pennsylvania and Maine, and home-based services in Michigan (Bazelon, 1999). These states have introduced more clear and precise definitions of what services are available to children, a change which helps providers and families alike. “Medicaid can be used—but often is not—to finance the services that are most effective for children with serious emotional disorders.” (Bazelon, 1999, p.61)

Data from the National Evaluation of the Comprehensive Community Mental Health Services for Children and their Families Program (also known as the Children’s Mental Health Services Initiative) indicate that grantee sites are billing Medicaid for services provided to between 70-80% of the children and youth in their systems of care (ORC Macro, 2002). However, it is not known which services specifically are being billed to Medicaid, under what authorities of the states’ Medicaid Plan they are covered, or how such practices could best be brought to scale in other sites and/or states.

The goal of the current study is to identify and describe innovative and exemplary uses of Medicaid to fund wraparound services across the Children’s Mental Health Services Initiative grantee sites and to assess these practices in the context of the state’s Medicaid Plan. These findings will identify how grantee site administrators and providers have been innovative and exemplary in using Medicaid to fund system-of-care services for children with serious emotional disturbance and their families. Findings will suggest strategies useful to state-level systems administrators and grantee site program directors for developing sustainability plans.

## Methods

This study was conducted in two phases. In Phase I primary quantitative data were collected and analyzed to identify grantee sites interested in participating in the study. In Phase II primary qualitative data were collected through case studies to identify key factors and strategies related to the use of Medicaid to fund system-of-care community-based services.

In Phase I, Principal Investigators and Project Directors for active and graduated grantee sites ($N = 92$) were surveyed regarding their use of Medicaid. Survey items were reviewed by experts in the field, including children’s mental health providers, administrators, researchers, and family members for feedback on validity and ease of administration prior to its distribution. The survey contained 11 items and asked about grantee sites’ use of Medicaid Options (e.g., Rehabilitation Option, Intensive Case Management Option), Eligibility Waivers (e.g., Katie Beckett Option/TEFRA), Children’s Health Insurance Program (CHIP), EPSDT, and other Waivers (e.g., Home and Community-based Waivers, 1915(b) Waiver, and 1115 Federal Demonstration Programs), financing mechanisms, and availability of specialized managed behavioral health care systems. Grantee sites that self-identified as innovative in securing and using Medicaid funds were asked if they were interested in participating in the study. Response rate for the survey was 59%. Demographic information regarding the race/ethnicity of populations served and population characteristics (e.g., urban, rural, suburban) by grantee sites were extracted from a secondary analysis of the National Evaluation data. A National Advisory Group of experts in the fields of Medicaid, children's mental health services, State Medicaid Plans, family-driven services and systems of care were convened to provide guidance throughout the study.

In Phase II, six grantee sites were selected for case study from sites that self-identified as innovative in using Medicaid, nominated themselves for participation in the study, and were recommended for participation by the National Advisory Group. Selected sites represented a range of Medicaid Options and Waivers, financing mechanisms, and demographics of population served. In the Fall of 2004, study investigators visited each grantee site for two days and administered a semi-structured interview guide to capture data on relevant dimensions suggested in the literature and in consultation with grantee sites and the National Advisory Group. Investigators interviewed grantee site Principal Investigators and/or Program Directors, grantee site finance administrators, state/county Medicaid mental health liaisons, state/county CHIP mental health liaisons, family members, partner agencies, and provider agencies. Interview questions were tailored to specific respondents. Qualitative data were content-analyzed after coding for themes derived from the interview guide.

## Results

Preliminary analyses of the qualitative case study data suggest grantee sites use a variety of strategies to maximize Medicaid reimbursement opportunities. Some strategies, listed below, were identified by all or most grantee sites while others were unique to specific sites:

- Build relationships with key stakeholders to think strategically about using Medicaid;
- Develop infrastructures, e.g., an information technology system, to facilitate interactions with Medicaid;
- Educate community providers on how to bill Medicaid through technical assistance and trainings;
- Establish and maintain eligibility for all incoming children and their families;
- Blend/braid funds whenever possible to maximize State Medicaid match to access the full federally-funded portion;
- Establish household-of-one designation to facilitate access to Medicaid for out-of-home children based on the child's, not family's, income;
- Amend State Medicaid Plan language to include wraparound services; and
- Seek expert consultation to educate key stakeholders on system-of-care services and Medicaid.

## Conclusions

These preliminary findings are the first step in understanding how the federal Children's Mental Health Services Initiative grantee sites use Medicaid to pay for services that have not traditionally been reimbursed through this funding mechanism. This knowledge will be useful to other grantee sites and systems of care programs as they strive to achieve sustainability, and provide services to children and families in need for as long as necessary. Ultimately, the study will produce programmatic and policy relevant material for the sites and states.

## Cost and Service Utilization for Families Enrolled in a Managed Care Wraparound Program

**Suzanne Fields, Carol Gyurina, Stephen Magnus & John Straus**

### Introduction

Coordinated Family Focused Care (CFFC) is a pilot initiative in Massachusetts undertaken to better coordinate the care of children and adolescents who are at risk of hospitalization or residential placement because of their serious emotional disturbances (SED). The CFFC initiative is sponsored by five human services agencies: the Department of Mental Health, the Department of Social Services, the Department of Youth Services, the Division of Medical Assistance, and the Department of Education. The Massachusetts Behavioral Health Partnership, which manages Medicaid mental health benefits in the Commonwealth, is administering the CFFC program.

This study explores the relationship of graduation vs. withdrawal from the program with cost, service utilization patterns, length of stay, and functional status. Findings from the study will aid policymakers, providers, managed care organizations and other payers as they develop and monitor similar services.

### Methods

Study participants were selected from all members who had enrolled in the CFFC program between July, 2003, and September, 2004, and who had been discharged from the program—either through graduation or withdrawal—prior to October 27, 2004. Only families who consented to participate in the program evaluation were included in this analysis. For the demographic and clinical analysis, 120 participants were included. For the cost analysis, 72 participants were included; members who were discharged from the program after July 27, 2004 were excluded in order to allow time for the claims in the post period to be processed. Members included in the sample were from all five CFFC program sites.

Of the 120 study participants, 69% were male; 12% were between three and six years of age, 50% between seven and twelve years, and 38% between 13 and 18 years. For those for whom ethnicity data had been collected, 18% were African American, 36% were Latino, 16% were multi-ethnic and 30% were White.

Study data included both behavioral health claims and clinical data collected by the program staff at intake and at quarterly intervals thereafter. Psychological instruments included a bio-psychosocial assessment form and the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges 2000a), or the Pre-School and Early Childhood Assessment Scale (PECFAS; Hodges 2000b). Analysis used the initial score at intake and the last score prior to discharge.

### Results

Demographic variables, as well as variables relating to family history and family structure, were analyzed for differences between the groups that graduated and those that withdrew from the program. Members were considered to have graduated if they met the goals that the clinical team set for the family at the beginning of the program. Families who left the program without having met these goals were considered to have withdrawn. Withdrawals occurred for a variety of reasons: 40% of the families said they were no longer interested in participating; 33% had their child permanently placed out of the home; 10% moved out of the region served by the program; 6% lost their insurance coverage; and 27% cited other reasons.

Chi Square tests were used to evaluate statistical significance for differences between the groups. Variables under analysis included: age category, gender, ethnicity, language spoken in the home, self-reported family history of mental illness and substance abuse, primary caregiver's relationship to the child (biological, adoptive, kin, foster parent) and marital status.

There were no statistically significant differences in demographics between the graduates and withdrawals, although a non-significant difference was found for English spoken in the home, with 85% of graduates speaking English in the home and 72% of withdrawals speaking English in the home ($p = .108$). There were no statistically significant differences between the groups in terms of biological family history of mental illness, or biological family history of substance abuse. Seventy-eight percent of the graduates and 77% of the withdrawals reported a family history of mental illness, and 58% of graduates and 51% of withdrawals reported a family history of substance abuse.

### Functioning

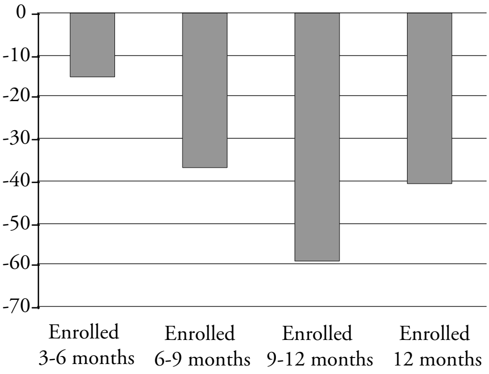
At enrollment in the program, there was no difference in functional scores between those who graduated and those who withdrew, with the mean CAFAS/PECFAS scores for graduates at 144, and for withdrawals at 143. At discharge, the difference between these groups was statistically significant according to the *t*-test ($p = .012$), with the mean CAFAS/PECFAS for those who graduated at 98, and for withdrawals at 118. In addition, the difference in CAFAS/PECFAS scores from the time of enrollment to the time of discharge was statistically significant ($p < .0001$). Both graduates and withdrawals experienced significant improvements in functioning as measured by the CAFAS/PECFAS over the course of the program.

Both groups were combined to analyze the change in CAFAS/PECFAS scores by length of stay in the program. All participants, regardless of how they disenrolled, were split into four cohorts: (1) disenrolled after 3-6 months, (2) disenrolled after 6-9 months, (3) disenrolled after 9-12 months and (4) disenrolled after 12 months or more in the program. The mean change in CAFAS score between enrollment date and disenrollment date was measured, and significance was tested across the four groups using ANOVA. Members who were missing CAFAS data were excluded, so the *N* for this analysis was 98 vs. 120. The difference in the changes in CAFAS by length of time was statistically significant ($p = .006$). Those who were enrolled in the program for 9-12 months had the largest gains in functional improvement (see Figure 1).

### Cost

For each participant in the cost analysis ($N = 72$, as noted in Methods), average monthly behavioral health care costs paid through MBHP were calculated for three time periods: (1) the three months prior to enrollment, (2) the time the member was enrolled (which varied from one month to more than one year), (3) and the three months after discharge from the program. Cost data are based on MBHP paid claims, and a mean monthly cost was calculated for each service category: inpatient, diversionary, emergency, outpatient, and CFFC costs.

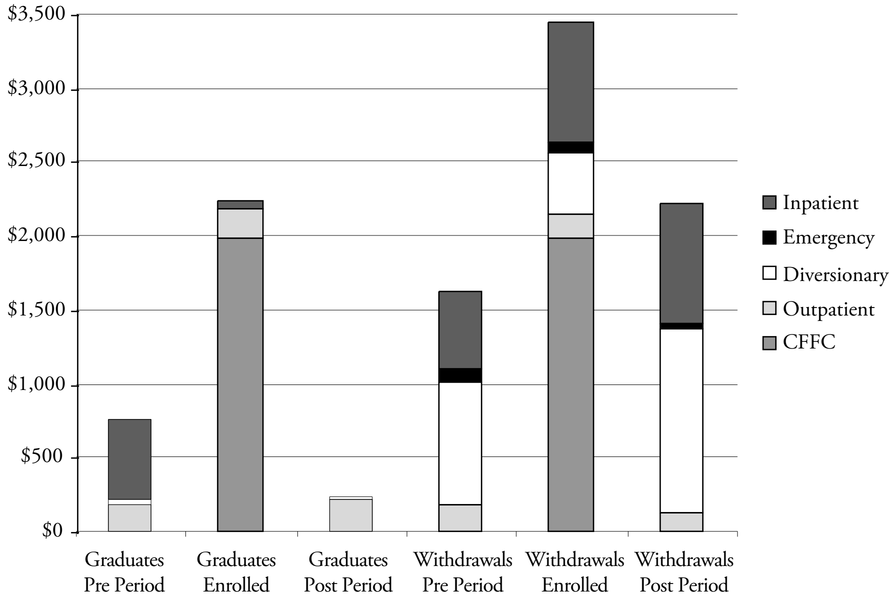
**Figure 1**
**Change in CAFAS**
**Negative Represents Improvement**



The costs represent what MBHP paid to providers for services, not necessarily the costs incurred by providers. These costs do not represent flexible fund expenditures that are part of the program model, and do not include services paid by other sources, such as long term residential care, special education services, or services provided by the state's child welfare or mental health departments.In the three months prior to program enrollment, differences were found in average monthly costs, with graduates costing $755 and withdrawals costing $1624. While not statistically significant, these differences will continue to be monitored. However, in the three months post discharge, a significant difference in average monthly costs was found using *t*-tests ($p = .002$); those who graduated from the program had an average monthly cost of $239, while those who withdrew had an average monthly cost of $2,220. Higher levels of care, both inpatient services and diversionary services, account for the difference in overall costs between the groups in the during-CFFC, and the post-CFFC periods (see Figure 2).

Analysis of the change in costs between pre- and post-periods by length of stay was done by splitting the total population into four cohorts by length of time in the program, and measuring which time period had the greatest reduction in overall costs. ANOVA analysis showed no statistically significant differences in cost changes by length of time in the program.

**Figure 2**
**Monthly Costs by Service Level**
**Graduates and Withdrawals**



## Discussion

Children who graduated and withdrew from the program were similar in functioning, costs, and service utilization patterns prior to enrollment in the program. Both groups experienced improvements in functioning, with graduates, as anticipated, demonstrating greater improvement. Graduates demonstrated lower overall costs during and after the program, primarily due to differences in the utilization of inpatient and diversionary services.

The relationship of length of enrollment in the program with both functioning and behavioral health costs requires further study. The largest changes in costs occurred for children enrolled in the program six-nine months, and the largest changes in functioning occurred in the 9-12 month group. Even if families do not complete a program, the data point to improvements in a child's functioning and lower costs for those who remain in the program for at least six months. Further study is needed in order to understand whether these are long-term changes (i.e., ones that are sustainable over time), if there is a minimum period in time for the program to have some impact, and if there is a point in time at which a longer stay does not offer much benefit.

While the rates of self-reported biological mental illness and substance abuse history in the two groups does not appear to have any association with whether or not a family completed the program, these rates were surprisingly high for both groups. It was expected that self-reported rates would be lower than found, and they are often lower than actual rates. Again further study is needed to understand whether these findings do represent an under-reporting of the needs of these families.

In summary, this study is preliminary, as it is based on a small sample. It is expected that when data are available on 400-plus children, including cost and service data for 12 months post-enrollment, the findings will be more conclusive. The present study, however, does identify larger systems questions for Massachusetts and other payers of wraparound models as they strive to maintain highly individualized programming while managing costs and length of program enrollment.

## References

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

Hodges, K. (2000b) *The Pre-School and Early Childhood Functional Assessment Scale.* Ypsilanti, MI: Eastern Michigan University.

## *Use of Flexible Funds for Respite Services in a Managed Care Wraparound Program*

**Jennifer Taub & Joseph O'Garr**

## Introduction

There have been few studies to date that have examined the roles of flexible funding and respite care in services for children with SED. Respite care has been defined as "temporary care given to a disabled individual for the purpose of providing an interval of relief to the individual's primary caregiver(s)" (Cohen, 1982, p. 8). In this unique service, the caregiver, rather than the patient, is intended to be the direct beneficiary. This service arose from the recognition that most, if not all, families can benefit from support and relief when caring for a disabled family member.

Most research examining factors associated with respite care have focused on children with developmental disabilities and their caregivers. A review of this small body of research concluded that the use of respite care is associated with reduced parental stress in a majority of the participating families with developmentally disabled children (Chan & Sigafoos, 2001; Mullins, 2002; Rimmerman, 1989).

While high need for respite services for families with children with SED has been identified (Trupin, Forsyth-Stephens, & Low, 1991), few studies have examined the factors related to respite use among children with SED. In a descriptive study involving children experiencing psychiatric crises, Boothroyd and colleagues (1998) examined respite care as part of a more comprehensive demonstration and research project directed at decreasing the rate of psychiatric admission. Significant differences were found between respite care user and nonuser groups in a number of categories. In general, they found that the children in the respite care user group tended to be younger and have a higher number of functional impairments. Parents of children in this group also reported less availability of social supports and more difficulty managing their child's behavior.

Only one study has examined the efficacy of respite care in the SED population. In comparison to those on a waitlist, Bruns & Burchard (2000) found that families receiving respite had significant reductions of personal strain on the caregiver and fewer incidents of out-of-home placement, with a dose-response relationship.

While not specifically targeting respite care, one study to date examined factors related to flexible funds spending in a comprehensive services program for children with SED. This study concluded that a history of psychiatric hospitalization, but not other functioning and symptom factors, predicted flexible funds spending for this population (Jenson, Turner, Amero, Johnson, & Werrbach, 2002).

The present study seeks to examine factors related to the use of flexible funds for respite care in a comprehensive case management program for children with SED. Specifically, we sought to determine clinical and demographic factors related to cost and utilization of respite services.

## Method

For the purpose of this study, analysis was conducted using the data from the evaluation of the Coordinated Family Focused Care (CFFC) program in Massachusetts. CFFC utilizes strengths-focused wraparound services for children with SED who are at risk for out-of-home placement. Each family in CFFC is set up with a team consisting of a master's level care manager (CM) and a family partner (FP) who has been a caregiver of a child with SED. The CM and FP help the family identify additional team members. These team members include people who have a stake in seeing the family succeed: family members, service providers, and members of the family's natural and community support networks. The families involved with CFFC experience high levels of caregiver stress (see Taub & Lewis, this volume). The Massachusetts Behavioral Health Partnership (MBHP), which manages Medicaid mental health benefits in the Commonwealth, is managing the CFFC program. The evaluation of this program, which is funded by the Center for Health Care strategies, includes data on flexible funds use and costs, and quarterly collection of data on child functioning and parental stress.

***Participants.*** All participants in this study were enrolled in the evaluation of the CFFC program. Eligibility requirements for enrollment in CFFC include: Medicaid recipient, 3-18 years old (inclusive), at risk for residential or more restrictive placement, attainment of a score of 100 or higher indicating clinically significant impairment in functioning on the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges & Wong, 1996), residence in one of the CFFC designated communities and presence of a serious emotional disturbance.

***Procedures.*** Consent for participation in the study is obtained by the child's care manager 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. The evaluation study consists of administration of a number of standardized measures completed with the care providers, as well as through phone interviews with University of Massachusetts researchers. For this study, data were accessed for 214 children enrolled in CFFC for at least six months, who were also part of the ongoing evaluation.

***Measures.*** Data on costs of flexible funds use for respite care were culled from a flexible funds database complied by MBHP as part of program management. Monthly data on the client level is submitted by each provider for each client enrolled in CFFC. Categories include in-home respite and community services and out-of-home respite. These data provide overall usage and associated costs of these services across the program. These data are sent electronically from MBHP to the University of Massachusetts for analysis.

Additional data for this study include demographic and diagnostic data collected at intake by program staff, the CAFAS (Hodges, 1996) is administered quarterly (at Intake into the program, and every three months thereafter) as a measure of child functioning, and the 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.

## Results

To understand the amount spent for different types of respite utilized by children in the program, flexible funds claims data were analyzed to identify totals and per child spending rates for each category.

Results indicate that 49% of all flexible funds are spent on in-home respite and community supports, which are largely spent on respite services categorized as respite, mentoring, or "specialized babysitting." Only 2% of flexible funds were spent on out-of-home respite, and this service was utilized by a small number of program participants. At six months in services, 60% of children had experienced respite services in the program, with a median cost of $600 (*SD* $1550) per child. By 12 months, 78% of children had received some respite care, at a median cost of $1435 (*SD* $3030) per child. There was a great deal of variation in costs, as evidenced by the large standard deviations in per child expenditures (see Table 1 for details).

To understand the relationship between the use of respite care and child functioning, a series of multiple regressions were performed. For each program timepoint (6, 9 and 12 months), total respite dollars were entered as the dependent variable, and gender, diagnosis, functioning, and psychological symptoms were entered in stepwise equations.

Results indicated significant relationships between respite spending and intake scores on the Somatic Complaints subscale of the YOQ at 6 months. At 9 and 12, months, there were significant relationships between respite spending intake scores on Somatic Complaints, and a diagnosis of Post Traumatic Stress Disorder. The specific respite dollar amounts associated with each variable can be seen in Table 2.

**Table 1**
**Overall Respite Spending at 6, 9 and 12 Months in Services**

| | *6 Months* | | *9 Months* | | *12 months* | |
|---|---|---|---|---|---|---|
| | *All* | *Respite only* | *All* | *Respite only* | *All* | *Respite only* |
| *N* | 212 | 127 (60%) | 162 | 114 (70%) | 91 | 71 (78%) |
| Mean | $605.20 | $1,010.26 | $1,096.94 | $1,558.81 | $1,784.90 | $2,287.69 |
| Median | $139.50 | $600.00 | $571.50 | $1,029.50 | $1,043.00 | $1,435.00 |
| Std. Deviation | $1,017.64 | $1,149.68 | $1,636.27 | $1,757.36 | $2,836.97 | $3,030.06 |
| Minimum | $0.00 | $3.00 | $0.00 | $10.00 | $0.00 | $10.00 |
| Maximum | $7,197.00 | $7,197.00 | $11,374.00 | $11,374.00 | $18,621.00 | $18,621.00 |

**Table 2**
**Stepwise Multiple Regressions with Flex Fund Respite Spending as the Dependent Variable**

| *Months in the program* | *N* | *R* | *$R^2$* | *Adjusted $R^2$* | *Std. Error of the Estimate* | *F* | *Predictors in the Model* | *$* |
|---|---|---|---|---|---|---|---|---|
| **6** | 144 | .300(a) | .090 | .084 | 1101.833 | 14.231* | Somatic YOQ | $61 |
| **9** | 124 | .350(b) | .123 | .108 | 1679.770 | 19.618* | Somatic YOQ | $88 |
| | | | | | | | PTSD | $768 |
| **12** | 77 | .540(b) | .291 | .272 | 2583.452 | 28.245* | Somatic YOQ | $217 |
| | | | | | | | PTSD | $2025 |

*$p < .0001$

## Discussion

Little research to date has examined of the role of respite services as part of treatment programs for children with SED. This oft-requested service is increasingly becoming a part of comprehensive community-based care paid for through creative funding mechanisms such as Medicaid waivers and blended funding. This study is among the first to examine specific client variables associated with respite utilization among children with SED, and findings suggest direction for further inquiry.

Our results indicate a number of diagnostic variables associated with respite spending. As respite care is designed to give parents a "break" from the stresses associated with caring for a child with SED, we expected to see respite use associated with externalizing behaviors and conduct problems. Contrary to our initial hypothesis, externalizing behaviors were *not* associated with increased respite spending. (In fact, a diagnosis of Attention Deficit/Hyperactive Disorder was associated with less respite spending). Instead, a pattern emerged where clinical symptoms associated with trauma were related to respite use. These are also the types of clinical symptoms often associated with inpatient care. Our analyses did not find a relationship between hospitalizations while in the program and respite use. We were unable to determine whether respite use is associated with prevention of hospitalizations. Future research efforts will seek to examine pre-intake claims to help understand how respite utilization fits into a larger service plan, and how it may be related to other service use in this population.

## References

Boothroyd, R. A., Kuppinger, A. D, Evans, M. E., Armstrong, M. I., & Radigan, M. (1998). Understanding respite care use by families of children receiving short-term, in-home psychiatric services. *Journal of Child and Family Studies, 7*(3), 353-376.

Bruns, E. J., & Burchard, J. D. (2000) Impact of respite care services for families with children experiencing emotional and behavioral problems. *Children's Services: Social Policy, Research, and Practice, 3*(1), 39-61.

Chan, J. B., & Sigafoos, J. (2001). Does respite care reduce parental stress in families with developmentally disabled children. *Child & Youth Care Forum, 30*(5), 253-263.

Cohen, S. (1982). Supporting families through respite care. *Rehabilitations Literature*, *43*(1-2), 7-11.

Hodges, K., & Wong, M. M. (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.

Jenson, C. E., Turner, W., Amero, S., Johnson, A., & Werrbach, G. (2002). Predicting resource utilization by children with serious emotional disturbance and their families. *Journal of Child & Family Studies, 11*(3), 361-371.

Mullins, L. L. (2002). The influence of respite care on psychological distress in parents of children with developmental disabilities: A longitudinal study. *Children's Services: Social Policy, Research, and Practice, 5*(2), 123-138.

Rimmerman, A. (1989). Provision of respite care for children with developmental disabilities: Changes in maternal coping and stress over time. *Mental Retardation, 27*(2), 99-103.

Trupin, E. W., Forsyth-Stephens, A., & Low, B.P. (1991). Service needs of severely disturbed children. *American Journal of Public Health, 81*, 975-980.

Wells, M. G., Burlingame, G. M., & Lambert, M. J. (1999). Youth Outcome Questionnaire (YOQ). 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.

## Symposium Discussion: Very Important Research; Very Difficult to Do

**Brian T. Yates**

What I had hoped to hear from these presentations was (a) what actually works when providing mental health services to children, (b) how much those effective services cost, and (c) whether and how quickly those services pay for themselves in terms of reduced use of behavioral health care and corresponding reductions in costs. The papers presented in this symposium show that we're getting there, but a bit slowly and in a manner that allows for a variety of alternative interpretations of findings.

Very briefly, the first presentation provided self-reports from programs of what they considered to be the most effective ways of achieving the outcome of maximizing income from those programs (and, presumably, for participating families). It could be useful to validate these self-reports with data on the actual income received. It also could be useful to request reports of costs of these different strategies, in terms of the value of professionals' time, participants' time, and delay of receipt of benefits—and risk of subsequent "checking by Medicaid."

The second presentation provides much of the foundation for a cost-benefit analysis of managed care and wraparound programs. I question, however, whether we can consider the withdrawn group to be a completely valid comparison group. This study might benefit from propensity scaling analyses to compensate statistically for possible differences between the two groups. Also, this is an "as treated" analysis: intent-to-treat analyses also could be performed and might increase generalizability of findings. Finally, for a full cost-benefit analysis in future research, costs of treating withdrawn as well as graduated children need to be summed before contrasting these to potential savings in reduced utilization of services after participation in CFFC.

This analysis shares with many presentations on cost-savings outcomes the surprisingly common omission of the costs of the program that is hoped to reduce costs of other services. Instead, only the potential cost-savings benefit, and not what is expected to obtain these benefits, was reported. This prevents a complete cost-benefit analysis.

The third study describes how therapists and families allocated funds that were available in amounts and for purposes that were largely at the discretion of the therapists and families. How these funds were spent, and the specific decision-making procedures developed by therapists to distribute these monies could be important to study, and could provide insights into program operations once additional data are available. Algorithms for distribution of these funds to families may be difficult to make explicit or to routinize, but case examples go a long way toward helping others understand how this component of the CFFC wraparound services works.

Future research on financing and financial implications of providing mental health services to children and families can examine the potential cost-benefit of such services by routinely reporting costs as well as benefits, It is important to measure these costs and benefits with similar completeness, so that a bias is not introduced for or against finding that the monetary benefits resulting of our services reliably exceed the costs of providing those services.

## CONTRIBUTING AUTHORS

**Kathleen Biebel, Ph.D.**
*Center for Mental Health Services Research, Department of Psychiatry, University of Massachusetts Medical School, 305 Belmont St., Room 8C-29, Worcester, MA 01604, 508-856-8717, e-mail: kathleen.biebel@umassmed.edu*

**Suzanne Fields, M.S.W., L.I.C.S.W.**
*Massachusetts Behavioral Health Partnership, 286 Congress Street, Boston, MA 02210, 617-355-1916, e-mail: suzanne.fields@valueoptions.com*

**Carol Gyurina**
*Massachusetts Behavioral Health Partnership, 286 Congress Street, Boston, MA 02210, 617-790-4141, e-mail: Carol.gyurina@valueoptions.com*

**Judith Katz-Leavy, M.Ed.**
*Child and Family Mental Health, Washington, DC 20008*

**Stephen Magnus, Ph.D.**
*Massachusetts Behavioral Health Partnership, 286 Congress Street, Boston, MA 02210, e-mail: Stephen.Magnus@valueoptions.com*

**Joseph O'Garr, M.D.**
*Department of Psychiatry, University of Massachusetts Medical School, 55 Lake Ave N., Worcester, MA 01655, e-mail: joseph.ogarr@umassmed.edu*

**John Straus, M.D.**
*Massachusetts Behavioral Health Partnership, 286 Congress Street, Boston, MA 02210, e-mail: John.Straus@valueoptions.com*

**Jennifer Taub, Ph.D.**
*Center for Mental Health Services Research, Department of Psychiatry, University of Massachusetts Medical School, 305 Belmont St., Room 8C-29, Worcester, MA 01604, 508-856-3522, e-mail: jennifer.taub@umassmed.edu*

**Brian T. Yates, Ph.D.**
*Department of Psychology, American University, 4400 Massachusetts Ave., N.W., Washington, DC 20016-8062, 202-885-1727, e-mail: byates@american.edu*

# *Challenges in Measuring Level-of-Restrictiveness for Analyses of Cost Effectiveness*

**Katherine E. Grimes**
**Sara L. Nechasek**
**Brian Mullin**

*Acknowledgments: We are indebted to the Psychiatric Research and Academic Center, Cambridge Health Alliance, for valuable support for this presentation.*

## Introduction

One of the assumptions that guides service delivery within systems of care is that youth should be maintained in the least restrictive setting possible, consistent with the Child and Adolescent Service System Program (CASSP) principles (Stroul & Friedman, 1986). Because of the importance of this concept in terms of quality in children's mental health, it holds promise as a possible performance measurement indicator. However, systems of care vary a great deal in how level-of-restrictiveness is measured. The term generally connotes something about the physical setting of a service, something about the cost of a service and something about the intensity of supervision, but has no standard definition. Change in level of restrictiveness of care is also challenging to compare across programs, since it might refer to change within a period of program participation, change before and after participation or even change compared to an earlier episode of care. Measurement of out-of-home placements, another potentially valuable quality indicator, is similarly complicated by a lack of consistency in definition (American Academy of Child and Adolescent Psychiatry [AACAP], 2004). "Out of home" might or might not mean "out of community;" permanent foster home might or might not be considered out of home. There is also variation in whether hospital use, arguably a restrictive setting and certainly a service level frequently included in outcome reporting for systems of care, is counted when tallying twenty-four hour settings or out-of-home data. The variable use of these terms creates challenges in creating a performance measurement standard for restrictiveness and for interpreting program clinical efficacy. There are further complexities regarding cost-effectiveness, in that not all service or placement categories are available within every system of care, and separate community-based programs carry different kinds of financial accountability for services used. Given the interest in establishing an evidence base for systems of care, it would appear valuable to begin to try and standardize measurement of restrictiveness for the purposes of evaluation.

Some methodologies have been used by other systems of care to examine level of restrictiveness. Hamilton Choices Mosaic Project, a system of care established in 2002 in Cincinnati Ohio, reports changes in placement to the same or less restrictive settings and any out-of-home placement days paid by the program which include: residential treatment, foster home, group home, supported living and paid independent living (Hamilton Choices, 2004). Community Kids, a Substance Abuse and Mental Health Services Administration-funded system of care site in Montgomery County, Maryland, measures changes in living environments in comparison to intake. Results show that 88% of youth remained stable or moved to a less restrictive setting and 12% moved to a more restrictive setting (AACAP, 2004). Wraparound Milwaukee tracks average daily census for residential treatment center care and juvenile correctional commitments (AACAP, 2004).

This paper describes how the Mental Health Services Program for Youth (MHSPY) uses its report on level of restrictiveness to inform analyses of overall program cost effectiveness. MHSPY is a non-profit, public-private system of care for children ages 3 to 18 with serious mental illness in Massachusetts; MHSPY blends funding from multiple state agency purchasers, including Medicaid, to finance the delivery of integrated health care (Pires, 2002). Measurement of clinical and cost outcomes for enrolled children in MHSPY includes a report on hospital use and out-of-home placements which displays service use both within and outside of the MHSPY program benefit. The creation and refinement of this report led its authors to greater appreciation for the advantages of defining standard terminology and measurements for this concept within the field.

## Method

Pre-enrollment interviews of parents and caregivers are conducted by the MHSPY Clinical Enrollment and Evaluation Manager during which information regarding prior hospitalizations or out-of-home placements is collected. In addition, all available clinical records, discharge summaries and other reports from the referring agency (child welfare, mental health, juvenile justice, and/or special education) are reviewed for supplementary information. While in the program, level of restrictiveness for each child for every day of enrollment is entered into an electronic database on a weekly basis by the MHSPY Clinical Site Supervisors based on information provided by the Care Managers. Regular reports are created which include number of days within the week, if any, when the child is not residing at home, location and type of service (i.e. hospital, acute residential) and funding source. Days at home are reported as a percentage of total days enrolled for each MHSPY site, as well as for the MHSPY program overall. Days not spent at home are grouped by service categories, then combined into two distinct summaries: the first represents all out of home settings/service types paid for within the MHSPY benefit, and the second represents any out of home placements paid for outside of the MHSPY benefit. MHSPY also captures data on the location of all children at disenrollment which is documented by the clinical Care Manager at the time of disenrollment.

## Results

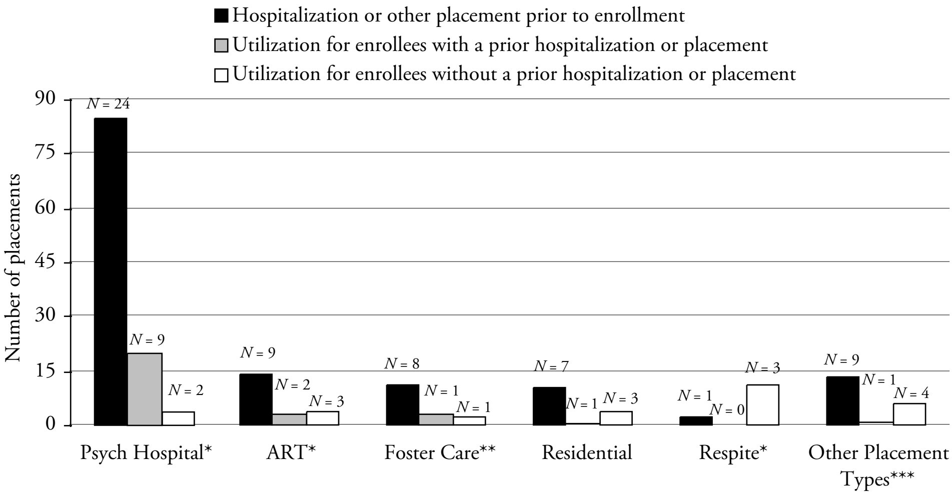
Regarding the specific outcome of maintaining children at home and in least restrictive settings, MHSPY found that sixty-one percent (61%) of members enrolled from July 2003 to December 2004 had at least one hospitalization or out-of-home placement prior to enrollment. Forty-six percent (46%) had two or more hospitalizations and/or out-of-home placements prior to enrollment. Despite these high rates of prior hospitalizations and out-of-home placements, a comparison of these children prior to and during enrollment shows a decrease in hospital use and every other category of prior utilization (refer to Figure 1). The improvement is most dramatic for members with four or more hospitalizations or prior placements: 14 children had 68 hospitalizations prior to enrollment, five of those children had no hospitalizations during enrollment and nine of those children each had one hospitalization during enrollment in MHSPY. Psychiatric hospitalization was the most frequent non-home setting experienced by MHSPY members prior to enrollment; 83% of those with any type of out-of-home episode had at least one psychiatric hospitalization before entering MHSPY.

Analysis of program days spent at home also demonstrates MHSPY enrolled youth are being maintained at high rates in the least restrictive setting possible. Findings indicate eighty-six percent (86%) of program days were spent at home in calendar year 2004 (see Figure 2). Three and a half percent (3.5%) of the total program days were spent in out-of-home settings paid for by MHSPY, which included acute residential treatment facilities, out of home respite, and inpatient psychiatric hospitals. The remaining 10.5% were for placements determined by the purchasers to fall outside of the MHSPY benefit; these included foster care, residential care, group home, detention/juvenile justice facility, secure treatment, and pre-independent living. Significantly, the majority (57%) of days in this latter category were spent in foster care, the least expensive out-of-home setting and also the one with the lowest level of restrictiveness. MHSPY also reports the location of the child at the end of enrollment. Data on 112 children through December 2004 indicated that the majority, 73%, were being maintained at home at the time of disenrollment.

## Discussion

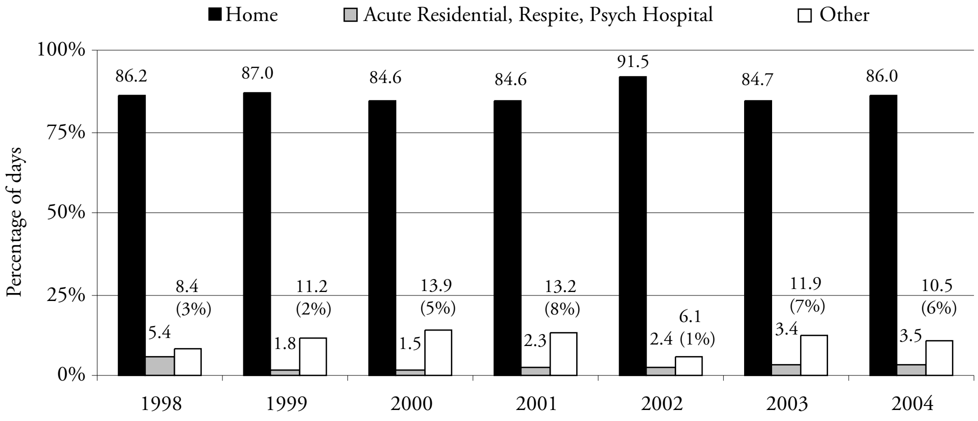
Information on restrictiveness of settings used by children and adolescents in the MHSPY program is reported at six month intervals and longitudinally as part of internal and external clinical quality improvement activities. Aggregate and site-based data are used by purchasers and stakeholders to track utilization and financial trends within the program. Trends and variations in overall service distribution are used in evaluating cost-effectiveness and to identify areas for improvement. In struggling to create

**Figure 1**
**MHSPY Comparison of Hospitalization and Out of Home Placement Prior to and During Enrollment**
**July 2003 – December 2004**
***N* = 48**



*Notes.*
* Denotes services inside the MHSPY benefit.
** Foster Care includes both regular and therapeutic foster care.
*** Other placement types: Black includes assessment, crisis stabilization, detention/DYS facility, group home, shelter. Grey includes group home. White includes assessment and group home.

**Figure 2**
**MHSPY Level of Restrictiveness**
**for March 1998 – December 2004**
**(*N* = 175)**



*Notes.*
"Other" includes foster care, residential, group home, detention/juvenile justice facility, assessment, secure treatment, and boot camp. All of these are paid outside of the MHSPY benefit.
Percentage of children within "Other" who are in foster care is identified in parentheses ( ).
Foster care is the least restrictive setting outside of home (and the least expensive).

broadly relevant reports, the concept of "days out of home" has proven to be a generally accessible measure that stakeholders with different mandates (education, mental health, physical health, legal and social services) can all understand. Clinicians and policy makers find data on hospitalizations and other placements prior to and during enrollment to be informative in tracking clinical results.

These uses of restrictiveness data all work within the MHSPY program. But, there are challenges in comparing findings across systems of care at this stage of definition, given the lack of a standard measures for level of restrictiveness. Most programs would not label a hospital day a "placement," yet it is an intensive, restrictive out of home setting from the child and family perspective. Another question about how to define "least restrictive" is demonstrated by the categorization of foster care placements. Foster care placements are home and community-based non-institutional settings, very much less restrictive than a hospital, and arguably should be counted as "days at home" on restrictiveness only. However, foster care represents an out-of-home placement paid for by the child welfare agency; even if the foster home is intended to be a long-term setting for the child. Placement definitions and categorical groupings have implications for cost analyses as well as for clinical program evaluation. More consistent methodologies for performance measurement regarding least restrictive settings would facilitate cost comparisons and clinical quality improvement efforts across both systems of care and usual care.

## References

AACAP (2004). *Kids are the future: Advancing systems of care for America's children.* Presented by AACAP Workgroup on Community-based Systems of Care. Washington, DC

Hamilton Choices Mosaic Project (2004). *Contract performance indicators report.* Cincinnati, Ohio. Available at: www.kidswrap.org,

Pires, S.A. (2002). *Health Care Reform Tracking Project (HCTRP): Promising approaches for behavioral health services to children and adolescents and their families in managed care systems: Managed care design and financing*. Tampa, FL: Research and Training Center for Children's Mental Health, Department of Child & Family Studies, Louis de la Parte Florida Mental Health Institute, University of South Florida. F.M.H.I. Publication #211-1.

Stroul, B. & Friedman, R. (1986) *A system of care for children and youth with severe emotional disturbance.* Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

## CONTRIBUTING AUTHORS

**Katherine E. Grimes, M.D., M.P.H.**
*MHSPY Principal Investigator, Psychiatric Research and Academic Center, Cambridge Health Alliance, 1493 Cambridge Street Cambridge, MA 02139, 617-204-1402, fax: 617-772-5515, e-mail: Katherine_Grimes@hms.harvard.edu*

**Sara L. Nechasek, M.M.**
*MHSPY Program Administrator, Mental Health Services Program for Youth, Neighborhood Health Plan, 253 Summer Street Boston, MA 02210, 617-772-5689, fax: 617-772-5515, e-mail: Sara_Nechasek@nhp.org*

**Brian Mullin**
*MHSPY Senior Analyst, Mental Health Services Program for Youth, Neighborhood Health Plan, 253 Summer Street, Boston, MA 02210, 617-772-5682, fax: 617-772-5515, e-mail: Brian_Mullin@nhp.org*

# *The Financial Impact of Decreased Residential Treatment Utilization in a Newly Managed System of Care*

**James M. Papp**

## Introduction

In November 2002, Hamilton Choices, LLC (Choices) began the management of an integrated system of care (SOC) in Hamilton County, Ohio. Using a wraparound (Burns & Goldman, 1999) approach and a case rate reimbursement system, the Mosaic Project (Mosaic) is a replication of the Dawn Project (Pires, 2002) with both projects built on the same system of care framework as Wraparound Milwaukee (Kamradt, Gilbertson, & Lynn, 2005). Mosaic serves at-risk youth and families in the greater Cincinnati, Ohio area by providing intensive care coordination through the use of child and family teams (CFTs). These teams "develop individualized treatment plans and ensure that needed services are obtained, organized, and directed toward common goals." (Wright, Kooreman, & Anderson, 2005, p. 61). A capitated funding system is in place and a managed care model is used.

In a recent study, Foster & Conner (2005) reported on the merits of SOCs and cited cost reductions in juvenile justice and child welfare expenses for youth served. Although these reductions in other child serving systems failed to completely offset the increased cost of mental health services in the SOC site studied, further analyses revealed other positive outcomes for youth in the SOC compared to the matched site (Foster & Conner, 2005). The SOC initiative managed by Choices includes a business model with managed care concepts such as capitated funding and financial risk. These practices, once absent from the industry, have found their way into child serving systems over the years bringing with them a broad array of challenges (Broskowski, 1997, 1998). Although questions have been raised as to the impact these financial decisions have on quality of care and outcomes (Wholey & Burns, 2000), Wright, Kooreman, & Anderson's (2005) study of the Dawn Project "suggest(s) that a managed care approach can be used effectively without compromising clinical care" (p. 72). This paper uses descriptive statistics to explore both sides of this debate by examining the cost implications associated with the achievement of a clinically efficacious outcome (decreased utilization of residential treatment or RT).

### Background

As part of a three-year contract, Choices has agreed to assume all costs associated with providing care for a maximum of 256 case rate and 16 fee for service (FFS) youth at any one time. Care Coordinators manage caseloads of eight to ten youth and facilitate monthly CFT meetings.

In accordance with contract requirements, Choices tracks a variety of effectiveness, efficiency, and satisfaction outcomes for the Mosaic Project. Reporting includes measures of clinical functioning as measured by The Child and Adolescent Functioning Assessment Scales (Hodges, 2000) and the Ohio Youth Problem, Functioning, and Satisfaction Scales (Ogles, Melendez, Davis, & Lunnen, 2001) along with service utilization and expenditure data (Papp, 2003, 2004). Of particular interest to funders is the utilization of highly restrictive levels of care and with that the cost associated with this resource-intensive service. A review of the literature has revealed positive results in these areas of stakeholder interest. In their study of the Dawn Project, Kooreman, Wright, & Anderson (2005) reported longitudinal reductions in the use of residential treatment and hospitalizations. Similar results have been found in other system of care initiatives with Kamradt et. al., (2005) reporting reductions in residential treatment utilization and average monthly cost over time. Because Mosaic works primarily with youth at risk for out of home placement or with youth already placed out- of-home, many times in highly restrictive settings, the project is expected to evidence similar decreases in this utilization over time (Figure 1). It is also known that RT utilization is the primary cost driver for the project. Given this fact, along with the downward trend seen in Figure 1, the question was raised as to the financial impact of this decreased utilization.

### Definitions

*Enrollment Days (E Days).* The E Day metric is used to determine monthly project reimbursement. Each day that a case rate enrollee is in open case status during a calendar month is equal to one E Day. Monthly E Days for all enrollees are multiplied by a predetermined dollar amount (case rate) to generate monthly operating funds.

*Case Rate Youth.* Choices is financially at risk for all costs related to the care of case rate youth and is reimbursed for each day of case rate enrollment.

*Fee For Service (FFS) Youth.* Youth in this reimbursement category must meet specific clinical and service expenditure criteria. The FFS category emerged as the result of an actuarial analysis contracted by the funding group. In this analysis it was discovered that three demographic attributes (age, placement at enrollment, and placement out of county) were highly predictive of future service utilization and cost. Using this information, it was hypothesized that the proposed case rate amount would be unable to support the youth who met these criteria and that it would be unwise to include them along with the case rate enrollees as part of one large risk pool. As a result, Choices is not financially at risk for this group and is reimbursed at 100% for all monthly service expenditures.

## Methods

*Service Expenditure Data.* Analyses use service expenditures paid by the project for any youth with case activity during the period November 1, 2002 – August 31, 2004. Date of service is used to equate costs to a particular project month. Services paid by Medicaid are not included in the analyses.

Data on the type, amount, and cost of utilized services for persons in the project is obtained from Choices' management information system. The Clinical Manager (Clinical Data Solutions, LLC, 1998) is used to record all service related activity ranging from electronic progress notes and treatment plans to types of services authorized, the number of units authorized, and their cost.

*Percent E Days in Residential Treatment.* Using paid service expenditure data, the numerator is the number of paid residential treatment days in a project month and the denominator is the total number of E Days for all persons served that same month. As the denominator varies monthly based on the number of youth served and their total days, the following is given to provide greater context to the data points in figure 1. E Days: Mean = 7,550; Min. = 6,567; Max. = 7,987; *SD* = 377.62 and unduplicated youth: Mean = 256.64; Min. = 231; Max. = 275; *SD* = 12.22. Figure 1 displays the percentage of monthly E Days that were spent in a residential treatment level of care. A decrease in this percentage over time should be viewed as favorable.

*Cost Per Enrollment Day – All Youth.* Service expenditures for the period under analysis were assigned to the corresponding project month. The numerator is the total monthly project service expenditures and the denominator is the total number of monthly E Days. The same set of E Days summarized previously were also used in this calculation.

*Cost Per Enrollment Day – Case Rate Youth.* The method is the same used for all youth; however, only case rate expenditures and E Days are included in the analysis. As the denominator varies monthly based on the number of case rate youth served and their total days, the following is given to provide greater context to the data points in Figure 3. E Days: Mean = 6,969; Min. = 6,143; Max. = 7,553; *SD* = 479.22. As Choices is financially at risk for this group, the management of case rate youth has tremendous implications for project operations.

*Cost Per Enrollment Day – Fee For Service Youth.* The method is the same used for the other two groups; however, only FFS expenditures and E Days are included in the analysis. As the denominator varies monthly based on the number of FFS youth served and their total days, the following is given to provide greater context to the data points in Figure 4. E Days: Mean = 452; Min = 420; Max = 478; *SD* = 22.61.

Although the agency is not financially at risk for this group, the question was raised as to whether or not the project could impact cost with a group whose historic utilization pattern has been cost intensive and relatively static in nature.

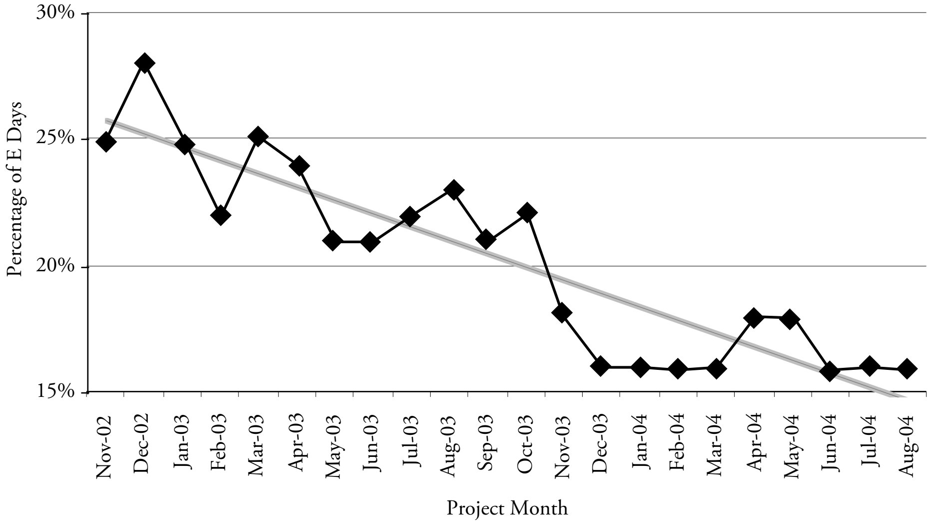
## Results

### Analysis of Decreased Residential Treatment Utilization

As shown in Figure 1, Mosaic has demonstrated the ability to decrease its utilization of the system's most restrictive and highest service expenditure category. As utilization of the service decreased over time, the percent of monthly days decreased and with that cost followed. As the percent of E Days has decreased over time, a positive effect has been seen in both the clinical status for enrolled youth as well as the overall financial picture for the project (Papp, 2004).

**Figure 1**

**Percent E Days in Residential Treatment – All Youth**



### Analysis of Cost per E Day by Billing Category

*All Youth.* As seen in Figure 2, over the twenty-two month span, the project has shown the ability to decrease cost per E Day for all youth served during that period. Due to the unavailability of expenditure data for a comparison group that did not get the Choices treatment variable, it is difficult to make claims of direct cost savings. However, when actual cost for the period ($7.1 million) is compared to projected cost ($8.3 million), calculated by multiplying monthly E Days by the $140 constant, a substantial difference of $1.2 million is found.

*Case Rate Youth.* Figure 3 shows the same positive downward trend over time with a decrease of $24.00 per E Day between the first month of operations and the comparison month (August 2004).

*Fee for Services Youth (FFS).* Figure 4 displays the most dramatic decrease over time at $87.00 per E Day. Unlike Figures 2 & 3 in which a consistent downward trend was seen as early as the first quarter, several months elapsed before a significant impact was seen with this group. As the project neared its one year anniversary, cost per E Day for this group began to decline dramatically. It is believed that a number of factors contributed to this, namely the maturation and refinement of the wraparound service delivery model as well as the growth of the local system of care and with that a broader array of service options and lower cost or no cost supports available to persons served.

**Figure 2**
**Cost per Enrollment Day – All Youth**

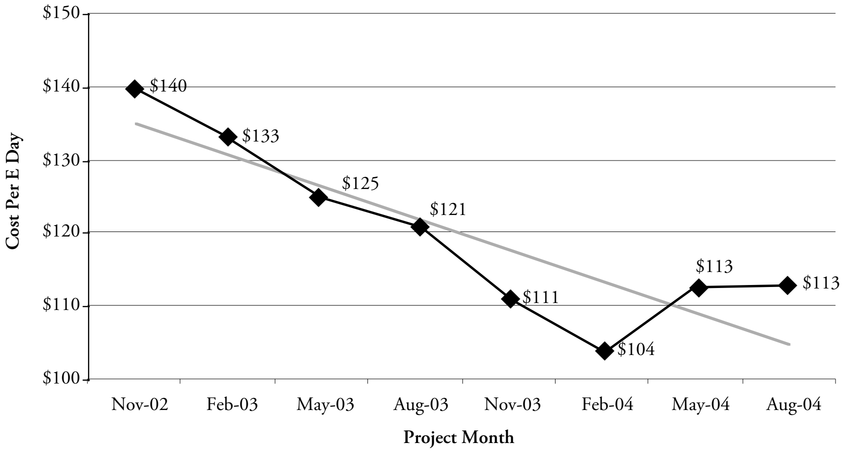


**Figure 3**
**Cost per Enrollment Day Case Rate Clients – Case Rate Youth**

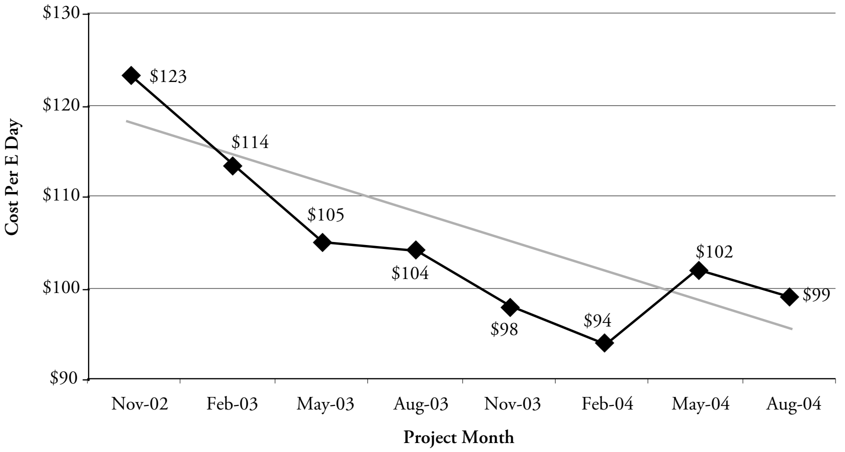
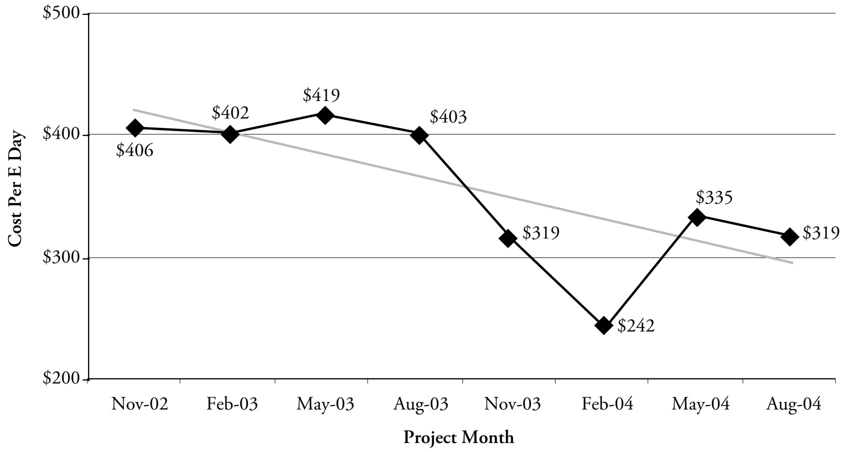


**Figure 4**
**Cost per Enrollment Day – FFS Youth**



## Discussion

Findings from this paper suggest that the Mosaic Project administered and managed by Hamilton Choices, LLC, has been able to demonstrate positive downward trends in its utilization of highly restrictive residential services. As residential services are Mosaic's highest cost category, it is believed that this decrease has been the primary causal factor in the reduction of monthly service expenditures and cost within the case rate and FFS billing categories.

The dramatic decrease seen with the FFS population is worthy of particular mention. Many factors are at work here including increased youth and family capacity, adjustments to service packages, and transitions from years of residential treatment living to placements within the county and, in the best cases, home. As a result of these clinical and financial positive outcomes, Mosaic has remained significantly under budget for the FFS group. This, in combination with other positive clinical and financial outcomes, has helped secure a contract extension through October of 2007.

## Conclusion

The analyses in this paper grew from the need to better understand how specific service utilization financially impacted the project. From earlier evaluative efforts focused mainly on clinical effectiveness, the project has demonstrated substantial progress in this area (Papp, 2003, 2004). The analyses for this paper, though simple in design, use the metric for project reimbursement (E Days) to better understand cost at a macro level. By drilling deeper into these data sets a number of possibilities emerge for practice application. These include the identification of particular cases that may benefit from additional supervision or other types of management intervention as well as a clearer understanding of specific attributes that predict future utilization and cost. With this added information and application perhaps the ongoing challenge of balancing both the clinical and financial aspects of the work will be a task borne with a lesser burden.

## References

Broskowski, A. (1997). The role of risk-sharing arrangements. In L. Scallet, C. Branch, & E. Steel (Eds.), *Managed care: Challenges for children and family services*. Baltimore, MD: The Annie Casey Foundation.

Broskowski, A. (1998). *Managed care technical assistance series: Estimating and managing risks for the utilization and cost of mental health and substance abuse services in a managed care environment* (DHHS Publication No. 98-3240). Washington, DC: U.S. Government Printing Office.

Burns, B., & Goldman, S. (Eds.). (1999). Promising Practices in wraparound for children with serious emotional disturbance and their families. *Systems of care: Promising practices in children's mental health, 1998 series, Volume IV.* Washington, DC: Center for Effective Collaboration and Practice, American Institutes for Research.

Foster, E. M., & Connor, T. (2005). Public Costs of Better Mental Health Services for Children and Adolescents. *Psychiatric Services 56*(1), 50-55.

Hodges, K. (2000). *Child and Adolescent Functional Assessment Scale*. Ypsilanti, MI: Eastern Michigan University, Department of Psychology.

Kamradt, B., Gilbertson, A., & Lynn, N. (2005) Wraparound Milwaukee, In M. H. Epstein, K. Kutash, & A. J. Duchnowski (Eds.*) Outcomes for children and youth with emotional and behavioral disorders and their families: Programs and evaluation best practices, 2$^{nd}$ ed.* (pp. 307-328). Austin: Pro-Ed.

Kooreman, H., Wright, E. R., & Anderson, J. A. (2005). Change in Restrictiveness of Placements Over Time. *Sixth Annual Briefing of the Dawn Project Evaluation Study*. Indianapolis, IN: Choices, Inc. Available online: https://choicesteam.org/content/choices/documents/RE/Complete%20Briefing%20Report_Final.pdf

Ogles, B. A., Melendez, G., Davis, D., & Lunnen, K. M. (2001). The Ohio Scales: Practical Outcomes Assessment. *Journal of Child and Family Studies, 10*, (2), 199-212.

Papp, J. M. (2003). *Hamilton Choices Mosaic Project Contract Performance Indicators Annual Report*. Cincinnati, OH: Hamilton Choices, LLC.

Papp, J. M. (2004). *Hamilton Choices Mosaic Project Contract Performance Indicators Report*. Cincinnati, OH: Hamilton Choices, LLC.

Pires, S. A., (2002) *Health care reform tracking project (HCRPT): Promising approaches for behavioral health services to children and adolescents and their families in managed care systems-1: Managed care design & financing.* Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, Department of Child and Family Studies, Division of State and Local Support (FMHI Publication #211-1).

Wholey, D. R. & Burns, L. R. (2000). Tides of change: The evolution of managed care in the United States. (pp. 217-237). In C. Bird, P. Conrad, & A.M. Fremont (Eds.), *Handbook of medical sociology*, Engelwood Cliffs, NJ: Prentice-Hall.

Wright, E. R., Kooreman, H., & Anderson, J. A. (2005). Predicting success in a system of care. In C. Newman, C. Liberton, K. Kutash, & R. M. Friedman (Eds.), *The 17th Annual Proceedings, A System of Care for Children's Mental Health: Expanding the Research Base*. (pp. 61-65). Tampa, FL: University of South Florida, The Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health.

## CONTRIBUTING AUTHOR

**James M. Papp, M.S.W.**
*Evaluation Consultant, Hamilton Choices, LLC, 644 Linn Street, Suite 900, Cincinnati, OH 45203, 513-765-5500, email: jpapp@hamiltonchoices.org*