

Outcomes, Innovations & Best Practices

A Publication of



Volume 2, Issue 1

Fall 2000

Project MATCH: The Integration of Services for Seriously Emotionally Disturbed Children

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There are seven principles important to consider in the design of a system of care for children with serious emotional disturbances:

- The system of care should have mechanisms that allow families to maintain the child in the home.
- The system should be available to the family on a long-term basis.
- There should be integration of services provided by the multiple agencies involved with the child and family.
- The integrated system should be a “one-stop”, seamless system of care.
- The services provided to the children and their families should be individualized.
- Families should be actively involved in the treatment of their child.
- The services should be culturally appropriate.

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Two Approaches to Managed Care and Case Management: Impact on Cost of Services

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For a number of years, *case management* and *managed care* have been integral components of the system of care for individuals with a serious mental illness in Pima County. While both have been a part of the system of care, the method by which they have been delivered has changed over time. This longitudinal analysis describes the cost implications under two distinctly different models of case management and managed care.

Model Between 1992-1995: For a predetermined case rate, the RBHA, Arizona Center for Clinical Management (ACCM), was responsible for ensuring a comprehensive, accessible system for all eligible members. Under the ACCM model, the RBHA directly provided case management and outpatient psychiatric services and contracted with community-based organizations, on a fee-for-service basis, for all other services. Over a three-year time span the system accumulated a significant deficit. One of the underlying issues behind the deficit was that financial incentives for the RBHA were not in line with those of the community providers. The providers received no benefit if the RBHA controlled costs. In many cases, what was good for the RBHA was not good for the providers, and vice versa.

Providers were reimbursed on a fee-for-service basis, and as such, had an incentive to produce billable services. Providers had no immediate incentive to find equal or more effective, but less costly, alternatives of care for the member. Thus, while the RBHA might have believed it would benefit a member to be transferred to a less restrictive setting, the agency that was providing the more restrictive level service had no incentive to have the member “stepped down.” As a matter of fact, the provider often had a disincentive, because having the

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member moved to a less restrictive setting could mean the loss of revenue. The non-alignment of incentives became a factor that impacted the entire system of care.

The system of care also suffered from a phenomenon similar to what has been referred to in political science literature as “*The Tragedy of the Commons*.” *The Tragedy of the Commons* initially described the quandary of 14th century English farmers who shared a plot of common land and resources. It was the responsibility of each farmer to never take more from the common area than they put back. Violation of this basic rule would ultimately destroy the common land and, in a snowballing effect, destroy the value of the land of each of the farmers. While the logic is simple and straightforward, individual farmers would often take more from the common area than they should. Other farmers would then, out of (what they thought was) self-preservation, begin to take more from the common area. Ultimately, and ironically, as each farmer sought to ensure his own survival, the actions each took served to destroy both the common area and their individual investment. Similarly, under the ACCM system of care, as providers recognized that the RBHA was not managing resources effectively, and self-preservation became a legitimate goal, the system as a whole became only weaker.

Further, conflicts between ACCM case managers and provider clinicians became commonplace, with members and families often caught in the middle. By 1995, it was clear that the system of care required significant reorganization.

Model for the System of Care between 1995-Present: In 1995, the RBHA contract was awarded to the Community Partnership of Southern Arizona (CPSA). Under CPSA, provider networks are assigned caseloads, receive a predetermined case rate and have full responsibility for ensuring the availability of a comprehensive continuum of care, including case management and psychiatric services. The primary responsibilities of CPSA include planning, contract oversight, membership services, utilization management and quality management.

It was hypothesized in 1995 that two primary factors would lead to a system of care that would be better able to control costs:

- Through risk and performance-based contracting, there would be an alignment of incentives between the RBHA and provider. This alignment would drive the system to work in a single rather than conflicted direction.

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The Nurtured Heart Model for Dealing with Challenging Children

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Center for the Difficult Child

An approach to treatment, referred to as *The Nurtured Heart* model, has been practiced at Tucson’s Center for the Difficult Child (CDC) since 1994. It relies on a strategic family systems approach and is designed specifically for the most challenging children. The goal is to provide these children with patterns of successful experiences and interactions with family members, teachers and peers, and to shift the child to directing his or her energy intensity in positive ways.

The professional literature is replete with descriptions of therapeutic approaches that are successful with children of mild to moderate disorders. These approaches, while successful with children of mild to moderate disorders, can often backfire when applied to children with more challenging disorders. Thus, for children with diagnoses of Attention Deficit/Hyperactivity Disorder (ADHD) and Oppositional-Defiant Disorder, with problems of aggression, compliance, impulsiveness, distractibility, and a preponderance of school related issues, these other approaches often fail. They fail with challenging children because the approaches inadvertently reinforce negative behaviors by providing more attention, involvement and animation when things are going wrong. Challenging children can begin to perceive greater incentive for negative behaviors and comparatively little incentive to make successful choices. Often, the harder adults try applying these methods, the worse the situation becomes, despite the best of intentions.

The Nurtured Heart model focuses on teaching adults how to reinforce the child’s experiences of success without inadvertently rewarding the child’s negativity and experiences of failure. Training a family in the Nurtured Heart model requires 10 total hours of training over a four-week period. The sessions, which can be taught either individually or in multi-family groups, focus on teaching the family how to frame situations that are guaranteed to result in success, and then how to extend and support the success. In some ways the approach is similar to successive approximations. Within the rubric of learning through successive approximations an individual learns a simple task, is reinforced, moves to the next more difficult stage, etc., until a complete behavior is learned. However, in contrast to those methods that merely “catch the child being good” the Nurtured Heart approach gives parents and teachers the tools and strategies to actually “create” experiences of success. Highlighting the successes both when things

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- Moving case management to the provider level would both eliminate duplicative and costly services, and eliminate costly conflicts between the RBHA case managers and provider clinicians.

This longitudinal study examines costs across four time periods. The first is the last year of ACCM, 1994-95. There are also three time periods under CPSA, 1995-1996, 1997-1998 and 1998-1999.

Methods

Sample A 60-person sample was selected from individuals who were enrolled in the system for the entire period of April 1994 through April 1995. The population was classified into three Per Member Per Year (PMPY) cost groups: Low (N=15, \$1,200 to \$3,000 PMPY), Middle (N=15, \$4,000 to \$20,000 PMPY), and High (N=30, \$30,000 to \$105,000 PMPY). (The high cost group was over sampled because in most systems of care over 80% percent of the resources are utilized by fewer than 15% percent of the population.)

Results

Two aspects of cost were assessed:

- Changes in total PMPY costs for the three cost groups
- Changes in the distribution of costs across the three groups

In order to control for inflation, the costs of all four time periods are based on 1999 costs and assume an inflation rate of 4%. There was attrition of seven individuals from the original sample (High Cost=3, Middle Cost=2 and Low Cost=2). In order to have a comparable sample across all four time periods, data for those individuals are not included in the analysis.

As can be seen in Table 1 on page 4:

- Total Cost for the Low Cost sample went up from Baseline to Time Period 2 (T2), increased an additional 20% from T2 to T3 and then decreased, with Total Cost at T4 being somewhat less than T2.
- PMPY cost for the Middle Cost sample decreased 33% from baseline to T2 and then nearly doubled from T2 to T3. Finally, costs at T4 were approximately 10% higher than baseline.
- For the High Cost group, the PMPY cost reduction was quite dramatic, dropping over 40% from

Baseline to T2 and then dropping an additional 40% from T2 to T3. At T4 there was an increase but PMPY costs at T4 were still more than 50% less than baseline.

There were also changes in the distribution of costs, particularly for the High Cost sample, where expenditures for inpatient care went from 20% of the total PMPY costs to 6%. The percent of cost attributed to medication nearly doubled for all three cost groups. Overall medication went from 10% of total costs at baseline to 24% of total costs at T4.

Given the PMPY changes for the three cost samples and their representative size in the population, the findings suggest a slight reduction in inflation adjusted cost over the past five years. The major impact of the system change, however, was in the *redistribution* of costs, with Low Cost members receiving more resources.

Implications for Behavioral Health Services

The change in the method by which case management was delivered, and the move to at-risk, performance-based contracting appears to have had a significant impact on the cost of providing services to individuals with a serious mental illness. In addition to a slight cost savings from Baseline to T4, there was a redistribution of resources. Resources moved from higher cost individuals to lower cost. As this shift took place, there was also an important redistribution of services with a move toward care in less restrictive settings.

Anecdotal information suggests that the risk-based contracting affected attitudes and contributed significantly to redistribution of costs. As provider agencies were assigned complete responsibility and went from revenue centers to cost centers, decision-making changed. Efforts to find alternatives to hospitalization increased, as did efforts to provide services in the least restrictive environments. Also, as hypothesized, the change in the system of care also had a positive impact on reducing conflict between the RBHA and provider community.

Because this was an uncontrolled study, other factors might have had an impact (positive or negative) on the PMPY costs. One of the most important alternative factors was the availability and cost of newer antipsychotic medications. The newer, more expensive medications were just becoming available in 1994-95, and the dramatic increase in medication costs across all three cost groups was likely a function of changing standards of care and easier access to the new medications, as opposed to systems changes.

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Because of their efficacy, the newer medications might have also played a role in reduction of the need for more restrictive treatment.

In addition to the sample in this study, where costs could be tracked to very specific services, there are data that suggest the shifting of resources from higher cost to lower cost members across the entire system of care. As can be seen in Figure 1, where cumulative costs are plotted against the most costly 25% of the population receiving services, more resources were used by fewer members under the ACCM model than the CPSA model. For example, whereas nearly 70% of the total resources were used by the highest costing 10% of the ACCM members, the 10% highest costing CPSA members used only 45% of the resources. Likewise, while 20% of the members in the ACCM model used 88% of the resources, the 20% highest

costing members used only 64% of the resources under the CPSA model.

Broskowski (Annual Meeting of the Arizona Association of Behavioral Health Programs, July 1997) suggests that because of their relative size in the population and potential for variation, Middle Cost members carry the most financial risk to providers in an at-risk system of care. The data supports that notion. While there was a redistribution of costs between the High and Low Cost members, costs for the Middle Cost members were volatile and all but erased any overall reduction. Over the next generation of the CPSA system of care, focus on the needs and costs of the Middle Cost member will be more important.

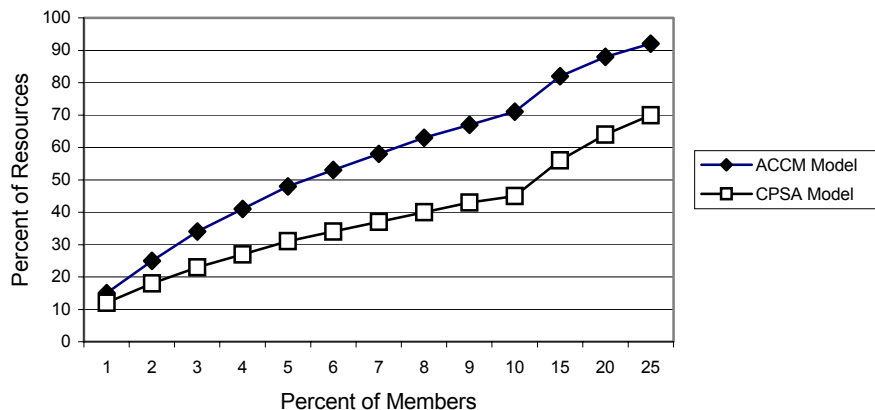
In an upcoming issue of *Outcomes, Innovations & Best Practices*, we will report on *member satisfaction and quality of life* data between Baseline and T4. For more information contact Dr. Michael Berren at Miber@cpsa-rbha.org.



Table 1 Average PMPY Cost of Services for Four Time Periods

Cost Group	Time	Type of Service and Average PMPY Costs			
		Inpatnt.	Meds	All Other	Total
Low	Baseline	-	666	2,094	2,760
	T2	863	958	3,124	4,945
	T3	263	1,470	3,622	5,355
	T4	-	1,664	2,536	4,200
Middle	Baseline	1,600	1,159	12,241	15,000
	T2	894	1,049	7,832	9,775
	T3	4,433	1,449	13,018	18,900
	T4	1,265	2,412	13,323	17,000
High	Baseline	12,160	1,961	49,479	63,600
	T2	4,632	1,490	30,678	36,800
	T3	1,925	1,749	21,526	25,200
	T4	1,750	3,100	26,150	31,000

Figure 1 Percent of Resources Utilized by Highest Cost Members



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Unfortunately, the above seven principles are ordinarily not incorporated into traditional systems of care. With that understanding, the Arizona Department of Health Services/Division of Behavioral Health Services (ADHS/BHS), in cooperation with CPSA, applied for and was awarded a five-year SAMHSA grant to investigate the impact of a system that does revolve around the seven principles. The project, referred to as Project MATCH (Multi-Agency Team for Children), is one of 42 national sites and will allow for the study of coordinated systems of care to meet the clinical needs of Seriously Emotionally Disturbed (SED) children and their families.

Key participating community partners in Project MATCH include the Department of Economic Security/Child Protective Services, Department of Economic Security/Division of Developmental Disabilities, Arizona Department of Juvenile Corrections, Arizona Office of the Courts, Arizona Department of Education, CPSA's At-Risk Providers and enrolled parents and families.

Project MATCH will create up to three care coordination teams during the five-year project. Each team will be able to serve up to 90 children and their families. The three teams will consist of cross-trained staff from each of the partner agencies. Project MATCH is designed to provide services to the most difficult of children. In order to be eligible for services a child must meet four criteria:

- The child must have a primary DSM-IV diagnosis (excluding V codes);
- The child must have received behavioral health services for one year or, based on diagnosis, will require services for one year;
- The child must be involved with two or more state agencies; and
- The child must have impaired functioning.

Additional facets of Project MATCH include:

Given the fact that the children enrolling in Project MATCH have numerous special needs, the staff focus will be to ensure:

- Family-centered treatment planning;
- Provision of wraparound services;
- Expansion of the existing service delivery system;
- Enhanced involvement of parents in every aspect

of the Project ; and

- Enhanced knowledge and availability of culturally diverse services.

An important aspect of Project MATCH is that it has a strong evaluation component. The evaluation, subcontracted with the University of Arizona, is designed to address questions about the impact of integrated services, including:

- Functioning;
- Utilization of crisis services, residential services and hospitalization; and
- Family Satisfaction.

As indicated, family involvement is a cornerstone of Project Match. As such, families are involved in planning, identification of service gaps, interviewing job applicants, training, identifying cultural issues that might affect treatment, policy development and evaluation. A parent/family mentor program is being developed which will train and assign mentors to each enrolled family. Their role will be to assist and support enrolled families. The project has hired a parent coordinator who will train and supervise the mentors. The coordinator is actively working with other parent organizations in the community, including MIKID, to coordinate and build on existing resources. The parent advisory council reports directly to the Steering Committee which is providing community direction and oversight.

The first team is located on the Southern Arizona Mental Health Campus. SED Children/Adolescents and their families have been seen since September 2000.

For additional information, please contact Becky Thomas, Children's Network Manager/Project Director for Project MATCH, at 318-6950 ext. 2859.



Do you have outcome data or an approach to service delivery that you would like to share with over 800 readers of *Outcomes, Innovations & Best Practices*?

If so, please contact Dr. Michael Berren at:
Miber@cpsa-rbha.org
(520) 318-6915 or (800) 959-1063

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go right as well as when “things are not going wrong” strengthens the effect. Storytelling and metaphor are used to enhance the concepts and strategies.

Since the approach was first introduced at CDC in 1994, a number of formal and less formal studies have been conducted and several positive outcomes have emerged.

Recidivism:

The Pre-adolescent Diversion Project (PADP) of Tucson’s Child and Family Resources has a target population of first-time offending youth and their families. The parenting component of the program is based on the Nurtured Heart model. It is a 16-hour program conducted over four weeks.

Published findings from the 1999 *Year in Review* study, conducted by Pima County Juvenile Court, indicate that first offenders referred to other Juvenile Court programs have a 32% rate of recidivism compared to a rate of 18% for those youth who have completed PADP with their families. Further, while youths who re-offend generally do so at escalating rates of intensity, committing more

serious crimes and more often, graduates of PADP who did re-offend committed fewer crimes and lesser offenses.

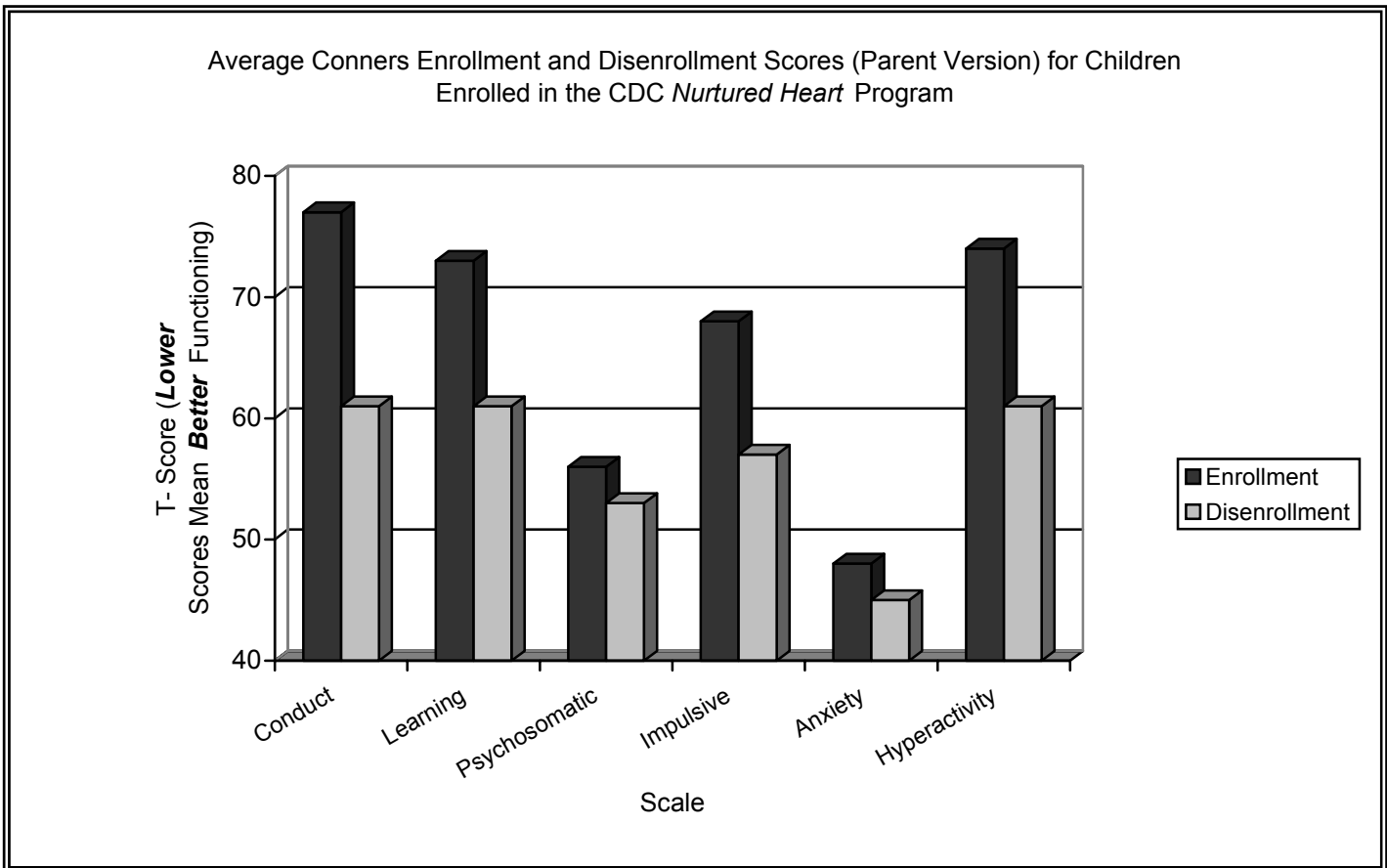
Reduced need for medication: While not based on a controlled study, some data does suggest that the Nurtured Heart model may reduce the need for medications to control behavior.

National data indicate that of all children going to a primary care physician or a child psychiatrist for an initial assessment with the kinds of symptoms that the children referred to CDC have, 75% are prescribed medications at the time of the evaluation. Based on that data, one might assume that approximately 75% of the children referred to CDC would be put on medications following evaluation.

In fact, however, during a 10-month period in 1998, of 160 children referred to CDC, only eight needed to be referred for psychiatric evaluations and only four of those eight were actually prescribed medications. Further, nine of 51 on medications were successfully transitioned off medications during this time frame.

Overall improvements: A separate on-going analysis

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involves pre and post treatment administration of the Connor's Parent Rating Scale with all CDC children. Preliminary analysis of the data indicates positive results in terms of efficacy of treatment. As can be seen in Figure 1 on page 6, all scales of the Connors show improvement, and five of the six scales show considerable improvement.

Utilization of high-level services: Since 1994, only eight children out of the over 800 served have required a higher level of intervention than outpatient treatment. Given the severity of symptoms of CDC children at intake, and the number of children discharged from a hospital just prior to referral, the relatively few who require a higher level of intervention, such as out-of-home placement, is in and of itself a positive outcome.

Re-opening of cases: Of 808 CDC children served from November 1994 through October 1998, only 28 have needed to have their cases re-opened, and in most of those instances, subsequent treatment was very brief. The most common reason for reopening a case was because families needed some inspiration or clarification on how to get back on track with the approach.

An independent evaluation of the effect of the Nurtured Heart model comes from a recent doctoral dissertation (Ward, 1997). Some of the more salient findings include:

- The Nurtured Heart model was equally effective in a large group format ;
- It was not necessary for both parents to participate in the training in order to achieve beneficial results;
- Using a number of scales (Devereaux Scale of Mental Disorders, Parent Stress Index, Parenting Sense of Competence Scale, Beck Depression Inventory, Forehand Satisfaction Survey) families receiving the Nurtured Heart training demonstrated more improvement in the child's behavior (conduct, anxiety, acute problems, and overall symptom severity), parental well-being and satisfaction following treatment compared with a comparison group.

The positive results were demonstrated across a variety of diagnostic categories, including Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, Conduct Disorder, and Depressive Disorders.

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What Comes First, the Chicken or the Egg?

Are services to individuals improved as a consequence of the implementation of evidence based practices...or are evidence based practices developed in order to meet the needs of individuals?

CPSA, with cooperation of advocacy groups, and support from St. Luke's Charitable Health Trust, is in the process of creating a guidebook for families. The guidebook is designed to help families ensure that their family member receives the best services available. An underlying assumption of the project is that systems of care can improve through the cumulative improvement of services to informed individuals.

If you would like more information about this project contact Yolanda Claxton at (520) 325-4268 or (800) 959-1063.

In order to ensure that *Outcomes, Innovations & Best Practices* is a community based effort, we have put together an impressive Editorial Advisory Board. The advisory board plays an important role in reviewing submissions and providing input concerning the focus of future issues.

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The model is now being used in a variety of treatment and educational venues, Project Headstart and several Tucson elementary schools. For additional information you can contact Howard Glasser glasser@azstarnet.com, or visit the Nurtured Heart Website www.difficultchild.com. The approach is fully described in the book *Transforming the Difficult Child* by Howard Glasser, MA and Jennifer Easley, MA.

Reference

Ward, SL (1997) Glasser's Patient Training Model: Effects on Child and Parent Functioning. Unpublished Doctoral Dissertation, University of Arizona, Tucson.



Do you know a family member or an individual with a mental illness who might have a story they would like to share?

(It might be worth \$75.00 to them.)

The Community Partnership of Southern Arizona, in cooperation with AAMI, NAMISA, NAMISEA and The Mental Health Association of Arizona are in the process of editing a book (tentatively titled, *Instead of Waiting for the Other Shoe to Fall*) that will contain a compilation of stories of inspiration and courage demonstrated by those who have a family member who has a serious mental illness. In a format somewhat similar to the "Chicken Soup for the Soul" series, the book will include:

- Stories of tribulation and triumph;
- Fond memories; and
- Advice or words of wisdom.

Hopefully, through the pain that families have endured, the joy that they have experienced, the courage that they have demonstrated, and the wisdom they have gained, other families can receive inspiration in the journey that they are traveling.

If you know someone interested in making a submission, it should be approximately two typed pages. If the submission is selected for inclusion in the book we will pay \$75.00.

For more information please contact:

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In The Next Issue of *Outcomes, Innovations & Best Practices*

Quality of Life: We hear a great deal about *Quality of Life* as an outcome measure. In the next issue of *Outcomes, Innovations & Best Practices*, Michelle Stewart of Community Rehabilitation at the University of Arizona will review the literature that addresses the quality of life issue. In her review, Michelle will discuss instruments, methodologies and evaluation implications.

Variables Related to High Cost: With funding from CPSA, Dr. Teri Badger and Dr. Alan Gelenberg, both of the University of Arizona College of Medicine, have been collecting and analyzing data aimed at identifying the variables associated with being a high cost user of services. In the next issue of *Outcomes, Innovations & Best Practices*, they will present preliminary data and discuss implications for improved care to the high cost population.