



DECREASING THE COST OF MENTAL HEALTH SERVICES AND IMPROVING OUTCOMES THROUGH A SYSTEM OF CARE

Findings

- A 63% overall cost reduction occurs after children are in the system of care for 1-1/2 years.
- Children are able to be served in the community and remain at home with their caregivers.
- Children's functioning remains stable or improves.
- Children function better in school.

Cost Reduction

After the children were in the study for 6 months, overall there was a 13% decrease from 6 months prior to System of Care enrollment. After they were enrolled for 1 year, overall there was a 32% decrease in cost from 6 months prior to enrollment. After they were enrolled for 1-1/2 years, overall there was a 63% decrease in cost from 6 months prior to enrollment.

Placements

All of the children except 2 were able to remain out of the hospital for 1 year. The two that were hospitalized after 1-1/2 years were short term (8-9 days). None of the children were removed from their home, nor did any have to go into long term Residential care.

Level of Functioning

The children were assessed using the Child and Adolescent Functional Assessment Scale (CAFAS). This was done initially and then every 6 months afterwards. Overall, after 1-1/2 years in each group the average CAFAS score improved.

Behaviors in School

The children in the study are at a high risk of being expelled or suspended from school due to their behaviors. None of the children were expelled once enrolled. After being in the System of Care for 1-1/2 years only 4 out of 19 children had school suspensions. None of these children were suspended more than 1 time.

Background

In October 1999, the state of West Virginia received a 5-year System of Care grant from the federal Comprehensive Community Mental Health Services for Children and Their Families Program (SAMHSA). The application focused on the 12 southwestern counties of the state which comprise the West Virginia Department of Health and Human Resources, Bureau for Children & Families Region II (WV-DHHR II) and include the counties of Boone, Cabell, Clay, Jackson, Kanawha, Lincoln, Logan, Mason, Mingo, Putnam, Roane and Wayne. The intention of this grant was to coordinate and integrate the Region II service system, also known as the Region II System of Care, to better serve children with severe emotional and behavioral challenges and their families. Through these efforts, the Region II System of Care, in collaboration with the West Virginia Department of Health and Human Resources, Office of Behavioral Health and Health Facilities, established the Mountain State Family Alliance (MSFA) as West Virginia's Region II System of Care.

Purpose of the Cost Study

The purpose of the cost study is to demonstrate that through a community based system of care, children can remain at home and receive services in the community, therefore decreasing the overall cost of the child's care.

Sample of Children

The sample of children for the study was taken from the active cases remaining in the outcome study. All the children who remained in the outcome study were asked if they would like to participate in the study. Although this is not a true random sample, the cases were not hand picked for review and the randomness comes through refusal or acceptance to participate in the study. The children also must have at least 1-1/2 year's worth of financial data from the state, since being enrolled in the System of Care. These children are considered a representative sample of children from the total number of children enrolled in the System of Care.

The active outcome cases were chosen for the following reasons:

1. These children not only are still active in the outcome study but also the system of care
2. Children in the outcome study have information not only related to cost but to demographics, satisfaction, functioning, etc.
3. The ease of obtaining the consents.

Sample Size

There are 168 active outcome cases currently. The sample size will not be this large due to refusals, inability to contact family, lack of data, and those who decide to drop out of both the System of Care and the outcome study. Also, once it was decided that at least 1-1/2 year's worth of financial data was needed, then several children had to be eliminated from the study. **In this report the sample size is 20 but is considered to be a representative sample.**

Data Collection

Data was collected from several sources; the West Virginia Bureau for Medical Services, Bureau for Children and Families, the KIDS Database for MSFA, and ORC-Macro National Evaluation team. The West Virginia Bureau for Medical Services was able to provide information on mental health facilities and services that had been paid for 6 month prior to the child entering the System of Care and

then thereafter. The Kids Database provided information related to flex funds, involvement with respite and intensive care coordination (ICC), and demographic information. The information from ORC-Macro related to demographics, satisfaction, functioning and other outcome measures.

Limits to data

Cost studies are very difficult to conduct due to the lack of integration of data within each state. This cost study has utilized the best data available. This data is limited but we believe it does show a decrease in mental health cost as children participate in a system of care. In, addition improved outcomes are also shown.

The data include the following:

1. Medicaid payment for mental health facilities (This includes psychiatric hospitalizations and residential treatment)
2. Medicaid payment for mental health services
3. MSFA flex funds utilized by child
4. Demographic information
5. Clinical Outcomes for child and family
6. Bureau for Children & Families residential board & care costs

The data do not include the following:

1. Data related to private insurance or private pay
2. Data related to expenditure by the Board of Education (Unless through school-based mental health services)
3. Data related to expenditures by Juvenile Justice
4. Data related to certain expenditures through Bureau for Children & Families
5. Medication cost
6. MSFA funds for Intensive Case management
7. MSFA funds for Respite services
8. Physical Health Cost

Who are the children in this study?

The children in the study are children with a serious emotional disorder. They are involved with at least two systems (mental health, social services, juvenile justice, education, etc.). The children in the cost study sample are representative of the Region II System of Care population.

The children were divided into three groups depending on the cost of mental health services they received 6 months prior to the project. The groups were as follows:

Groups	Cost for Mental Health Services Prior to System of Care 6 months)	Description of Children
Group 1 (8 Children)	0\$-\$1000	Three types of children fall in this range. One is the child who has never received mental health services in the past; two, the child who has just started receiving services and three, the child who has received mental health services but now needs a lesser intensity of care (maintenance).
Group 2 (6 Children)	\$1001-\$5000	These children have been receiving mental health services for a while and some have even needed more intense services.
Group 3 (6 Children)	Over \$5001	The children in this group require intensive services, with some requiring hospitalization or residential treatment.

County

The children represent half of the counties from Region II; Boone, Cabell, Kanawha, Lincoln, Mason and Putnam.

Gender/Age/Race

In the sample, 12 of the children are males and 8 are females. In the sample 14 of the children were ages 11-18 years and 6 were ages 5-10 years old. A higher percentage of children reported their race as being bi-racial than would be expected in this sample. Sixteen (**16**) out of 20 children were Caucasian, 3 were Bi-racial and 1 was African American. This is considered to be an overall representation of the System of Care population.

Diagnosis and Behaviors

- The majority of children, **14 out of 20**, have more than 1 diagnosis.
- The most common diagnosis is Attention Deficit Hyperactivity Disorder (ADHD), with **14 out of 20** having this diagnosis.

- **Out of the 20 children, 4** were diagnosed with Borderline Intellectual Functioning, Mild Mental Retardation or a developmental disorder.

Child History

- In the sample, 7 out of 20 of the children had been hospitalized at least once in their life.
- Even though this is a small sample, **2 out of these 20 children had attempted suicide.**
- The families reported that **4 out of 20** of the children had been physically abused. None reported sexual abuse.
- None of the children were reported as having substance abuse problems.
- **2 out of 20** reportedly had run away from home without their caregiver knowing where they were.
- **16 out of 20** children received some type of special education.
- **Only 2 out of 20** children were reported as having any criminal activity. There was no evidence of any of these children being convicted of a crime or being on probation.

Family History

It is important when looking at the children in the study to understand the family dynamics. The biological family is defined as any one related to the child by blood, such as, parents, grandparents, siblings, etc.

- In the child's biological family mental illness was prevalent. **9 out of 20** of the families reported mental illness.
- **5 out of 20** in the sample reported substance abuse issues in the biological family
- **11 out of 20** of the children in the sample had been exposed to domestic violence in the family.
- **5 out of 20** of the families reported a biological family member had a felony charge.
- The largest number (**7**) of the children are in the custody of two parents.
- **13 out of 20** of the families make less than \$ 20,000 a year. The poverty level according to CMHS 2004 guidelines indicate anyone having an income of \$18,500 or less was living in poverty. **12 out of the 20** families reported making less than \$15,000 a year.
- The education level for each group varies. Overall, **14 out of 20** of the caregivers had graduated from high school. Out of the ones who had graduated from high school, **2 out of 14** had associate degrees and one out of 14 had a Bachelor's degree. There were **6 out of 20** of the parents that did not graduate from high school.

Services

The children below received similar services before the System of Care, which included, medication management, case management, assessments, individual therapy and family therapy. In Group 2, some children received crisis intervention. In Group 3, some received crisis stabilization, hospitalization, residential treatment and foster care services. The amount of services and the combination received affected the cost prior to the System of Care. Services after the child entered the project remained the same but included flexibly funded services and supports, intensive care coordination and respite for some children, although the cost for these services are not included in this study. All other services may have been utilized at any given time during the 1-1/2 year period that was reviewed.

Clinical Outcomes

Although cost is an important consideration when implementing or sustaining a program, the clinical outcomes of these efforts are valuable, and a cost component cannot be connected to it.

Level of Functioning

The children were assessed using the Child and Adolescent Functional Assessment Scale (CAFAS). This was done initially and then every 6 months afterwards. Overall, after 1-1/2 years in each group the average CAFAS score improved or remained stable.

Placements

All of the children except **2** were able to remain out of the hospital for 1-1/2 years. The two that were hospitalized were short term (8-9 days).

Behaviors in School

Only **1 out of 20** children had been expelled from school before entering the System of Care. None of the children were expelled once starting the System of Care. School suspensions overall were experienced by **6 out of 20** of the children before the System of Care. After being in the System of Care for 1-1/2 years **4 out of 19** children had school suspensions.

Academics

15 out of 20 of the students had a "C" or better at the time of entering the project, and **18 out of 20** after 1-1/2 years of being in the project had a "C" or better.

Group	CAFAS Scores
Group 1 (8 Children)	Average Initially= 90 (Moderate Impairment) Average after 1 1/2 years=70 (Moderate Impairment)
Group 2 (6 Children)	Average Initially= 120 (Marked Impairment) Average after 1 1/2 years=120 (Marked Impairment)
Group 3 (6 Children)	Average Initially= 130 (Marked Impairment) Average after 1 1/2 years=130 (Marked Impairment)

Recommendations

Based on the findings of this study, the following recommendations have been made.

- Continue to support a system of care that focuses on working with all the people who are involved in the child's life. As the data show, these children are involved in special education, health and sometimes CPS along with mental health. By having the system of care partners work together, a child can be maintained at home and be able to stabilize or decrease to a lower cost level.
- Continue to support a system of care that focuses on family involvement and the needs of the entire family. Support for the family is vital to the success of the child. As the data show, many of the families have mental illness in the family in addition to the identified child. The families also are living in poverty. Support for these families again can assist them in being able to cope with the child's problems at home, rather than the child spiraling into a more expensive type of care, such as foster care, residential or hospitalization.
- Continue to support a system of care that focuses on community supports. By developing community services, such as respite and intensive case management, children are able to remain at home and the need to be treated out of the community decreases as does the cost to treat this child.



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