



Return on Investment in Systems of Care for Children With Behavioral Health Challenges: A Look at Wraparound

By Beth Stroul

The landscape for the organization and financing of behavioral health services for children and adolescents is rapidly shifting in the United States as a result of state and local budgetary pressures, large-scale Medicaid redesign initiatives in states, and opportunities and challenges posed by national health reform. In this context, information on the “return on investment” (ROI) from particular approaches is critical for informing policy and resource decisions. ROI can be assessed by comparing the benefit of an investment (or return) with the cost of the investment. Within the current environment of dramatic changes, policymakers need this type of information to guide their decisions on behavioral health services for children, youth, and young adults and their families.

ROI in Systems of Care

For nearly 25 years, the federal Substance Abuse and Mental Health Services Administration (SAMHSA) has invested resources in the development of systems of care for children with behavioral health challenges and their families. A recent analysis explored the growing body of evidence indicating that the system of care approach provides an excellent ROI (Stroul, B. Pires, A., Boyce, S., Krivelyova, A., & Walrath, C., 2014). ROI that can be quantified in terms of cost savings both currently and in the future. In most cases, cost savings are derived from reduced use of inpatient psychiatric hospitalization, emergency rooms, residential treatment, and other group care, even when expenditures increase for home- and community-based care and care coordination. Cost savings are also derived from decreased involvement in the

Wraparound Evaluation Highlights

Clark County, WA

- Youth in juvenile justice system receiving wraparound had 58% fewer days of detention, 57% fewer days served, and lower recidivism rates than a comparison group.
- Estimated that if the approach prevented a lifetime of criminal behavior for just one youth, cost savings would pay for the program's expenses for all 164 youth served in 1 year.

Los Angeles, CA

- Youth in wraparound group had fewer out-of-home placements and fewer mean days in out-of-home placements than a matched comparison group.
- Post-graduation costs were approximately 60% lower than costs for the comparison group.

Maine

- Net reduction in Medicaid spending of 29%, even though the use of home- and community-based services increased.
- Decrease was due to a 43% decline in inpatient costs and a 29% decline in residential treatment expenses.

Mental Health Services Program for Youth, Massachusetts

- Youth receiving wraparound had 74% lower inpatient expenses and 32% lower emergency room expenses than a comparison group.
- Overall expenditures for the wraparound group were about half of the expenditures for the comparison group.



juvenile justice system, fewer school failures, and improved family stability, among other positive outcomes.

ROI in the Wraparound Approach

Wraparound is a process using team-based service planning and care coordination designed to provide individualized, coordinated, family-driven care. The approach is used to meet the complex needs of youth who are involved with multiple child-serving systems, typically those with serious behavioral health conditions and who may be at risk of placement in residential and inpatient treatment settings. Wraparound is one of the primary approaches for operationalizing systems of care at the child and family level. Although wraparound does not constitute a system of care in and of itself, the approach is an essential element of practice that embodies the system of care philosophy.

An increasingly strong evidence base supports the use of wraparound (Bruns & Suter, 2010; Suter & Bruns, 2009). Studies have found that when wraparound is implemented with fidelity, outcomes suggest improved quality of services, positive child and family outcomes, and reduced costs. Key findings include the following:

- A matched comparison study of youth in child welfare custody compared youth receiving wraparound with a group that received mental health services as usual. The study found that after 18 months, 82% of youth who received wraparound moved to less restrictive, less costly environments, compared with about 38% of the comparison group (Bruns, Rast, Walker, Peterson, & Bosworth, 2006; Rast, Bruns, Brown, Peterson, & Mears, 2007).
- A matched comparison study in Los Angeles County found that youth in the wraparound group experienced significantly fewer out-of-home placements (mean = 0.91, compared with 2.15 for the comparison group) and fewer total mean days in out-of-home placements (193 days, compared with 290). During a 12-month follow-up period, 77% of the wraparound graduates were placed in less restrictive settings, while 70% of comparison group children were placed in more restrictive environments. Mean post-graduation costs for the wraparound group were found to be about 60% lower than costs for the comparison group (Rauso et al., 2009).
- A study compared youth in juvenile justice receiving wraparound in a Clark County, Washington, system of care (Connections) with a group that received conventional mental health services. Youth in the wraparound group had fewer episodes and days in detention—58% fewer episodes (4.4 versus 7.5) and 57% fewer days served (59 versus 102 days). The study also found reduced recidivism among youth in the system of care; youth in the comparison group were 2.8 times more likely to commit an offense and were 3 times more likely to commit a felony offense. There were immediate savings to the community resulting from fewer days in detention and less crime



and related costs (Pullman et al., 2006). The authors noted that chronic offending is an enormous expense to society. An estimate of the lifetime costs of a career criminal was between \$1.3 and \$1.5 million. They concluded that the long-term benefits of the wraparound approach outweigh the costs. Further, they noted that, hypothetically, if the Connections program prevented a lifetime of criminal behavior for just one youth, the cost savings would pay for the program's expenses for all 164 youth who were served during the program's first year.

- Wraparound Milwaukee data document that from 1996 to 2012, the use of psychiatric hospitalization was dramatically reduced for Milwaukee County youth, from an average of 5,000 days annually to less than 200 (a 96% decline) days per year. Similarly, placements in residential treatment centers declined from 375 in 1996 to approximately 90 in 2012 (an 87% decline). The average total all-inclusive cost per child per month for 2012 was approximately \$3,200 for the 1,536 children and adolescents served. Unlike costs from many other systems of care, this *includes* the cost of residential and inpatient treatment because Wraparound Milwaukee is at risk for and pays for those services. Since its inception, Wraparound Milwaukee has reduced costs by more than 50% (from over \$8,000 per child per month to about \$3,450 per child per month on average), primarily by reducing the use of residential treatment and psychiatric hospitalization (Kamradt, 2013).
- New Jersey estimated that it saved over \$40 million in inpatient psychiatric expenditures over a 3-year period from 2007 to 2010 by implementing the system of care approach statewide with a wraparound process for service planning and care coordination (Hancock, 2010).
- A study of Wraparound Maine showed a reduction in net Medicaid spending of 28%, even as use of home- and community-based services increased, due to a 43% reduction in inpatient and a 29% reduction in residential treatment expenses. Overall annual expenditures declined from an average of \$58,404 per youth to \$41,873 per youth per year (Yoe et al., 2011).
- A study in Pennsylvania showed a 25% reduction in behavioral health costs in the first 6 months of services with the system of care approach (Pennsylvania System of Care Partnership 2012a, 2012b).
- A study of youth served through the Mental Health Services Program for Youth in Massachusetts found that youth receiving wraparound used lower intensity services and had substantially lower claims expense, particularly for inpatient hospitalization and ER use—74% lower inpatient expenses and 32% lower ER expenses (Grimes et al., 2011).

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References

- Bruns, E. J., Rast, J., Walker, J., Peterson, C., & Bosworth, J. (2006). Spreadsheets, service providers, and the statehouse: Using data and the wraparound process to reform systems for children and families. *American Journal of Community Psychology, 38*, 201–212.
- Bruns, E. J., & Suter, J. C. (2010). Summary of the wraparound evidence base. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative.
- Grimes, K. E., Schulz, M. F., Cohen, S. A., Mullin, B. O., Lehar, S. E., & Tien, S. (2011). Pursuing cost-effectiveness in mental health service delivery for youth with complex needs. *Journal of Mental Health Policy and Economics, 14*, 73–86.
- Hancock, B. (2010, June). New Jersey system of care: Financing overview [Webinar]. In *Financing options for care management entities* [CHIPRA Quality Demonstration Webinars]. Hamilton, NJ: Center for Health Care Strategies.
- Kamradt, B. (2013, July). *Data on service utilization and costs*. Milwaukee, WI: Wraparound Milwaukee.
- Pennsylvania System of Care Partnership. (2012a, January). Erie County high fidelity wraparound services study. Harrisburg, PA: Author.
- Pennsylvania System of Care Partnership. (2012b, December). The Mercer Report. Joint planning teams (JPT) 12 month cost-effectiveness analysis. Harrisburg, PA: Author.
- Pullmann, M. D., Kerbs, J., Koroloff, N., Veach-White, E., Gaylor, R., & Sieler, D. (2006). Juvenile offenders with mental health needs: Reducing recidivism using wraparound. *Crime and Delinquency, 52*(3), 375–397. doi:10.1177/0011128705278632
- Rast, J., Bruns, E. J., Brown, E. C., Peterson, C. R., & Mears, S. L. (2007). *Impact of the wraparound process in a child welfare system: Results of a matched comparison study*. Unpublished program evaluation.
- Rauso, M., Ly, T. M., Lee, M. H., & Jarosz, C. J. (2009). Improving outcomes for foster care youth with complex emotional and behavioral needs: A comparison of outcomes for wraparound vs. residential care in Los Angeles County. *Emotional & Behavioral Disorders in Youth, 9*, 63–68, 74–75.
- Stroul, B., Pires, S., Boyce, S., Krivelyova, A., & Walrath, C. (2014). Return on investment in systems of care for children with behavioral health challenges. Washington, DC: Georgetown University Center for Child and Human Development, National Technical Assistance Center for Children's Mental Health.
- Suter, J., & Bruns, E. (2009). Effectiveness of the wraparound process for children with emotional and behavioral disorders: A meta-analysis. *Clinical Child and Family Psychology Review, 12*, 336–351.
- Yoe, J. T., Ryan, F. N., & Bruns, E. J. (2011). Mental health service use and expenditures among youth before and after enrollment into Wraparound Maine: A descriptive study. *Emotional and Behavioral Disorders in Youth, 11*(3), 61–66.