



Building Consensus on Residential Measures

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*Recommendations
for Outcome and
Performance
Measures*

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Building Consensus on Residential Measures

Executive Summary

To improve long-term outcomes for children and adolescents (hereafter referred to as youth), and their families, who experience residential interventions, SAMHSA and the Building Bridges Initiative (BBI) aim to promote consensus on outcome and performance measures for residential programs for youth and families. This work on outcome measurement is an outgrowth of two previous projects that provide a youth and family centered framework for residential outcome and performance measures: the Building Bridges Initiative (BBI) Performance Guidelines and Indicators Matrix¹ and Outcomes Tip Sheet². This paper:

- Reviews current and prior efforts in the field,
- Summarizes various instruments that have been tested,
- Identifies several measurement strategies for child and family serving systems and residential programs to implement,
- Presents a proposed core set of measures, and
- Outlines steps to be taken in a consensus-building process for review of the measures.

Among providers, families and youth who worked on the Building Bridges Outcome Tip Sheet, there is general agreement on the positive outcomes that help youth to fulfill their potential: 1) living with family in a safe, stable and supportive environment in their community, 2) having the ability to undertake key activities of daily living (such as self-care, recreation, school and work activities), 3) engaging in meaningful activities with supportive relationships and social networks, and 4) maintaining good physical and emotional health. For youth and families who experience a residential intervention, long-term outcomes depend on multiple factors, often including the successful partnerships between youth, families, advocates, residential and community programs (including schools), and natural support systems. There are a number of leading residential providers across the country who have taken responsibility for measuring youth and family outcomes during and after residential interventions; there are also several association-led or government-led efforts to collect outcome data across groups of residential providers. These initiatives have established a foundation for a more comprehensive effort to build consensus on measures that could be used more widely and consistently. Widespread adoption of long term outcome measures will require simultaneous effort by providers and government oversight agencies.

The analysis of outcomes and performance measures may vary depending on whether they are being examined at the provider, payer, or system level. Data from claims and other administrative data (e.g. enrollment forms, service plans, etc.) must be sorted at different levels and qualitative data will use different measures and respondents. The challenges for analyzing residential outcomes across payers or at the system level include: a lack of uniformity in reporting requirements by states, accreditation entities and other payers; varying data collection methodologies and goals; varying clinical goals, interventions and populations of focus; and sometimes, a lack of resources, and inconsistent access to

¹ Available at the Building Bridges website <http://www.buildingbridges4youth.org/sites/default/files/Building%20Bridges%20Matrix%20Final%20for%20web.pdf> (accessed 3/18/2013)

² Available at the Building Bridges website (<http://www.buildingbridges4youth.org/sites/default/files/Outcomes%20Tipsheet%20-%20Final.pdf> accessed 11/16/2012).

relevant data from other child and family serving systems. To track outcomes and respond to these challenges more universally, the recommendations in this paper focus on the use of follow-up surveys, functional tools and experience of care surveys by providers, and more consistent use of administrative and claims data by payers and oversight agencies.

Individual providers are the primary sources for data on youth and family functional outcomes, and functional assessment tools should have proven utility and psychometrics. Documenting reduced symptoms and improvements in functioning while a youth is receiving residential interventions is necessary, but not sufficient. A major gap in the residential service field has been the lack of follow-up by residential providers, payers and community agencies after discharge. Sustained positive outcomes are a shared responsibility of the residential provider, community partners and the payers. Besides being a good business practice, follow-up is necessary to assess how youth and families are doing post-discharge and what they may need in the way of additional community services and supports. The bridge between components of a residential and community-based system of services and supports, including schools, is essential, and it is incumbent on residential providers to ensure that the support is available to families and youth after returning to their communities. Routine follow-up protocols will allow residential providers to assess and improve their own performance. Further, residential providers should collect data on youth and families' experience of care, in order to ensure that youth and families have an opportunity for feedback as well as an important voice in quality improvement efforts. Providers can and should develop methods to follow-up on the services they provide.

Public and private payers generally have better data on access, utilization and cost as a result of their claims records. They should be encouraged or even required to share aggregate information on access, utilization and cost publicly to allow reporting on system level outcomes and performance. Unlike Medicaid, which requires encounter based reporting, many state mental health and many child welfare and juvenile justice systems do not have the kinds of fee for service claims systems that would allow them to profile utilization across providers and payers. As a result, evaluation and planning efforts in these state systems have often had to develop secondary reporting methods from providers, case managers, families and others. These efforts are less reliable and more costly to maintain, and often are not able to adequately document the scope and costs of services that youth receive before, during and after the residential intervention. Such efforts demonstrate the need for agreement on a more consistent set of outcome reporting requirements to standardize approaches and minimize the burden on providers. Payers and delivery systems should also take steps to collect placement, utilization, and performance data from other child-serving systems, particularly data from child-welfare, juvenile justice and educational treatment and support services.

This paper is designed to build a common foundation and spark a dialogue about outcome measures for residential interventions. It does this by reviewing best practices, identifying common principles and proposing the establishment of a core set of measures in the following areas:

- 1) Performance Measures
 - a. **System Performance Measures:** e.g. Access/Penetration, Utilization and Cost.
 - b. **Provider Performance Measures:** e.g. Practice, Living Environment

- 2) Youth/Family Outcomes
 - a. **Post-Discharge Follow-up:** Residential programs conduct post-discharge surveys with the caregiver, community behavioral health provider(s), and youth if age-appropriate, using a set of core questions.

- b. **Validated Level of Functioning Tools:** Residential programs use at least one validated level of functioning tool.
- c. **Experience of Care:** Residential programs choose some means of assessing both youth and family experiences of care.

Consistent outcome measurement across residential providers will benefit youth and families, providers and payers by increasing transparency, accountability and information needed to improve the quality of residential interventions.

I. Introduction

This work on outcome measurement is an outgrowth of the Building Bridges (BBI) Performance Guidelines and Indicators Matrix³ and the BBI Outcomes Tip Sheet.⁴ Both documents provide a youth and family centered framework for residential outcome and performance measures of practices before, during and after residential intervention which support improving long term, family driven and youth guided outcomes. This paper documents a review of the use of outcome and performance measures in residential programs, presents a proposed core set of measures, and outlines steps to be taken in a consensus-building process for review of the measures.

Outcome measurement is a complex process that must address different priorities of multiple stakeholders. Many sources of information must be woven together at the program level to develop a full picture of the experience of youth and families, their functional improvements and achievements, as well as their status at different points in time following discharge. Collecting long term outcomes can be time consuming for providers, but it is essential to ensure quality. A parallel effort is needed at the payer level. Administrative and claims data (e.g. enrollment forms, service plans, etc.) are frequently available to payers through their payment systems allowing them to generate system level performance measures on length of stay, readmission rates, hospitalization rates and other areas of focus. These measures are not the same as outcomes, but they are essential for the oversight of a transparent, efficient and effective delivery system.

Collecting long term positive outcomes can be time consuming for providers, but it is essential to improve quality. A parallel effort is needed at the payer level.

The BBI Outcomes Workgroup concluded that there are several long term, positive goals for all youth and families and that these goals should be used to organize outcomes research:

- 1) living in a safe, stable and supportive environment,
- 2) having the ability to undertake key activities of daily living (such as self-care, recreation, work and school activities),
- 3) engaging in meaningful activities with supportive relationships and social networks, and
- 4) maintaining good physical and behavioral health.

For the BBI community, obtaining meaningful information about progress in these domains must also be balanced with an outcomes approach that is feasible and actionable. Residential providers and payers must begin to take the steps outlined in this paper to routinely collect performance and follow-up data to improve the quality of services and increase their accountability for care.

II. Background and General Principles

For decades researchers and others have called for more systematic efforts to review outcomes of residential interventions. Numerous studies cite the methodological challenges and the modest findings

³ Available at the Building Bridges website <http://www.buildingbridges4youth.org/sites/default/files/Building%20Bridges%20Matrix%20Final%20for%20web.pdf> (accessed 3/18/2013)

⁴ Available at the Building Bridges website <http://buildingbridges4youth.org/sites/default/files/Outcomes%20Tipsheet%20-%20Final.pdf> (accessed 3/18/2013)

of most of the research⁵, while more recent reviews reported mixed findings and mixed results on the maintenance of positive outcomes at follow up⁶. In more recent research comparing residential to intensive family support services⁷, there were also mixed findings on differences between the two groups and similar difficulties in maintaining the gains after discharge. To achieve long-term positive outcomes, a consistent and system-wide focus by payers and providers will be required.

A number of providers, associations and states have recognized the need for measurement, and have started to measure outcomes as a routine part of their management and administration. Two notable examples are the following:

- Damar Services, participating in Indiana's Reform Initiative, tracks the following key performance measures and outcomes: Number of Days Out of Home, receipt of Treatment in [youth's] own Home/Community, Recidivism (up to 5 years post discharge), Number of Closed Cases, and Cost.
- Every year, Boys Town in Nebraska conducts over 4000 short, follow-up telephone interviews about the outcomes and satisfaction of youth from its programs. These interviews are a routine part of business and they supplement more extensive longitudinal outcome studies that range from a few months to even 16 years post-discharge⁸.

Some individual programs have led the way by tracking long term follow-up data, and also offering aftercare to support community reintegration. For example, Children's Village⁹ in New York offers 12 months of triaged post-discharge care and support in the community (such as group work, employment or school support, Multi-systemic Therapy). Damar Services in Indiana states "If a youth requires re-admission post 'discharge' it is free."¹⁰ These efforts, among others, provide a foundation for making national residential measures a reality. They set a high standard, and now is the time to use that work to achieve greater consensus.

This project reviewed information from initial interviews with stakeholders and sixteen prior and ongoing efforts across the country to collect and disseminate outcome and performance measures in residential programs and children's behavioral health (described more fully in Appendix A). These were initiatives by provider associations, states, accrediting groups, payers and national efforts. These efforts encompass both provider and systemic efforts to measures outcomes, and included:

- *Providers and associations - Evaluate Outcomes Now*, which began through the former Indiana Association of Residential Child Care Agencies (IARCCA), an association of children and family services in Indiana; National Association for Children's Behavioral Health (NACBH)'s Results-

⁵ Frensch, K. M., & Cameron, G. (2002). Treatment of choice or a last resort? A review of residential mental health placements for children and youth. *Child & Youth Care Forum*, 31(5), 313-345. Hair, H. J. (2005). Outcomes for children and adolescents after residential treatment: A review of research from 1993 to 2003. *Journal of Child and Family Studies*, 14(4), 551-575.

⁶ Bettmann, J. E. & Jaspersen, R.A. (2009). Adolescents in residential and inpatient treatment: A review of the outcome literature. *Child & youth care forum*, 38(4), 161-183.

⁷ Preyde, M., Adams, G., Cameron, G., & Frensch, K. (2009). Outcomes of children participating in mental health residential and intensive family services: Preliminary findings. *Residential Treatment for Children & Youth*, 26(1), 1-20. Preyde, M., Frensch, K., Cameron, G., Hazineh, L., & Riosa, P. B. (2011). Mental health outcomes of children and youth accessing residential programs or a home-based alternative. *Social Work in Mental Health*, 9(1), 1-21.

⁸ 2/7/2013 interview with Ron Thompson, Director of Boys Town National Research Institute, and Jerry Davis, Vice President of National Advocacy & Public Policy, Boys Town. For research studies, see Boys Town bibliography at <http://www.boystown.org/research/applied-research-bibliography> (accessed 12/5/2013).

⁹ See "Keep Your Eyes on the Prize: Defining and Tracking what is important in residential care" by Jody Levison-Johnson & Jeremy C. Kohomban with Gary Blau, Beth Caldwell, Richard Dougherty & Rosa Warder in Teaching-Family Association Newsletter, Issue 1, Vol. 38, Spring 2012.

¹⁰ Presentation by Jim Dalton at the MA Interagency Residential Provider forum, 10/29/2010, accessed at <http://www.mass.gov/eohhs/docs/eohhs/chapter257/youth-intermediate-5.pdf>.

Based Treatment Initiative; AACRC, the American Association of Children’s Residential Centers, and the Council on Accreditation Standards for public and private residential services, Children’s Array of Psychiatric Programs (CHARPP) initiative;

- *States* - (California Residentially-Based Services, North Carolina’s Treatment Outcomes and Program Performance System; Washington State’s Joint Legislative Audit and Review Committee, Review of Performance Data Indicators and Outcomes Measurement for Mental Health Systems;¹¹
- *National efforts* - The Administration on Children and Family’s (ACF) National Survey of Child and Adolescent Well-being, the evaluation of the Center for Medicare and Medicaid Services (CMS) Psychiatric Residential Treatment Facility Waiver, National Outcome Measures of Center for Mental Health Services at SAMHSA, Joint Commission’s Hospital-based Inpatient Psychiatric Services, Medicaid proposed Core Measures for children and adults;
- *Other payers* – Magellan Behavioral Health of Pennsylvania reports on Intensive Residential Treatment Facility Program in Pennsylvania; and
- *Benchmarking efforts* - Medicaid Managed Behavioral Health Care Benchmarking Project, the Children’s Mental Health Benchmarking Project, supported by the Annie E. Casey Foundation,¹² and The Alliance for Children and Families’ National Benchmarking Initiative.

These measures were reviewed in detail and are summarized at a high level in the table below. To sort through the different measures, it was important to organize them into some meaningful groups. For discussion purposes, the measures cluster into four levels of measurement with nine topics or areas of measurement under them:

- System level measures (Access/Penetration, Utilization and Cost) generally requiring access to administrative and claims data from multiple providers
- Provider measures (Practice, Living Environment) of the activities and nature of the provider organization that look at key practices and can be supplemented by other licensing and credentialing data
- Youth/Family Outcome Indicators (Level of Functioning, Behavioral and Physical Health, Employment/Education/Other Responsibilities, Family and Community) are measures that require the administration of some sort of assessment instrument, data collection from youth, families or data extraction from the clinical or electronic health record
- Youth/Family Experience of Care measures include youth and family opinions from surveys or interviews concerning their care.

Within these four general levels, Table 1 illustrates how the 9 Key Topics nest within the four levels and the four SAMHSA Domains used in the BBI Outcomes Tip Sheet¹³.

- **Home** - A safe, stable, supportive living environment
- **Purpose** - Meaningful daily activities, such as a job, school, volunteerism, and the independence, income and resources to participate in society
- **Community** - Relationships and social networks that provide support, friendship, love

¹¹ Prepared by DMA Health Strategies

¹² DMA Health Strategies was contracted by SAMSHA and the Annie E. Casey Foundation to conduct these studies.

¹³ These domains originated in SAMHSA’s “Definition and Guiding Principles of Recovery”, and they were the result of a two-year public process. The descriptions were slightly modified for the Outcomes Tip Sheet

- **Health** - Sustained basic physical and behavioral health, and overcoming or managing health challenges

Table 1: Key Topics in Residential Measurement Initiatives

Level	Topic	Description and central focus of measures	Crosswalk to SAMHSA Domains ¹⁴
System/ Payer	1. Access / Penetration	Rates of access to services expressed as a percentage of the population that <ul style="list-style-type: none"> • Utilizes residential and non-residential services (Primary Care, Behavioral Health, and community support services) • Community treatment or support attendance rates within a certain time after referral (sometimes called engagement) 	Health
	2. Utilization	Rates and percentages for use of residential and other services <ul style="list-style-type: none"> • During and after residential • Days of residential interventions • Nights in any out-of-home care 	Other
	3. Cost	Cost of care <ul style="list-style-type: none"> • Expenditures per enrollee or per thousand 	Other
Provider	4. Practice	Key practices relevant for youth with behavioral health conditions <ul style="list-style-type: none"> • Restraint and seclusion • Transition/planning • Use of promising, best, evidence-informed and evidence-based practices, including youth and family peer support • Youth and family engagement/involvement/voice and choice • Youth and family rights • Follow-up after mental health hospitalization Medication usage, delivery and adherence <ul style="list-style-type: none"> • Timely and accurate administration; errors • Adherence • Polypharmacy • Side-effects • Medication management • Follow-up after prescribing of behavioral health related medication 	Other
	5. Living Environment	Factors in the immediate environment <ul style="list-style-type: none"> • Restrictiveness • Housing stability • Placement stability • Placement with kin or close friends • Permanency • Safety 	Home

¹⁴ Note that some of the system-level measures did not fit the SAMHSA domains and are categorized as “Other”.

Level	Topic	Description and central focus of measures	Crosswalk to SAMHSA Domains ¹⁴
Youth/ Family Functioning	6. Behavioral Health and Physical Health	Behavioral health factors <ul style="list-style-type: none"> Clinical assessment and level of functioning Caregiver strengths/risks Symptom severity/reduction/management Youth daily living skills General physical health measures <ul style="list-style-type: none"> Weight and nutrition, Body Mass Index (BMI) screening Management of chronic conditions Assessment of potential physical effects of behavioral health medications Dental care 	Health
	7. Employment, Education and Other Responsibilities	<ul style="list-style-type: none"> School placement, attendance, achievement Employment Volunteer activities 	Purpose
	8. Family and Community	Measures of social supports and community engagement <ul style="list-style-type: none"> Community/neighborhood strengths/weaknesses Justice involvement Social relations Parental rights 	Home/ Community
Experience of Care	9. Experience of Care during Residential	Opinions about the care and the supports received and satisfaction with services, transitions and outcomes; reports of services received	Other

The four levels and nine topics contain detailed measures that are crosswalked to each of the SAMHSA domains. Each level is discussed in the sections that follow, as well as the time frames for measurement and challenges for adopting uniform measurement tools.

System and Payer-Level Measures. When evaluating performance, insurers, managed care and other payers primarily use administrative and claims data for measures of access, utilization and cost. *Access/Penetration* rates allow payers to analyze geographic or demographic patterns of care and differences in the population’s ability to access residential interventions. *Utilization* measures identify the numbers of youth and families who are using residential interventions, the duration of care, and some indicators of outcomes, such as readmissions. Data on the *Cost* of residential intervention, reported per episode, or per capita, or by demographic sub-groups of the population, allow system managers and payers to make informed decisions about the purchase of services and their financial impact. Data sources include claims and other administrative data at the state and national level; and data aggregated from the provider level. As more and more services are “bundled” with providers who are responsible for delivering an array of services for youth and families, these same kinds of measures will need to be reported by these more comprehensive programs.

A number of national efforts (including National Committee on Quality Assurance, Health Effectiveness Data and Information Set, the SAMHSA Medicaid Managed Care Benchmarking Project and the Annie E. Casey Foundation’s Children’s Mental Health Benchmarking Project) have focused on administrative measures¹⁵; some do not specifically address residential interventions, but provide measures that could be, and in some case have been, adapted for residential interventions. For example, penetration rates have been reviewed for whole systems, and could be adapted for residential (e.g., “What proportion of children served by Medicaid, a State Mental Health or Child Welfare Authority have received residential

¹⁵ “Administrative measures” refer to those data routinely collected as a part of claims or other administrative operations (utilization management, case reviews, admission or discharge forms, adverse events, etc.).

services?”). The advantage of administrative measures is that the data are collected for other purposes and can be easier for researchers or managers to retrieve, either through existing information systems or clinical records. As more data are available through electronic health records or web-based applications, survey and clinical measures may be more readily available. However, such practices are not yet universal.

Information from two notable examples of the use of administrative measures was also reviewed. These included the California Residentially-Based Services Reform (CA-RBS) and a project supported by Magellan in Pennsylvania. In CA-RBS, the goal is to reduce youth

length of time in group home care and improve

permanency outcomes by combining short-term residential stabilization and treatment with follow-along community-based services to reconnect youth to their families and communities. The five-year demonstration project collected measures across systems. CA-RBS integrates data from different sources, including data from Juvenile Justice, Child Welfare or Education agencies.¹⁶ Similarly, the two-year demonstration project administered by Magellan in Pennsylvania¹⁷ used data from different public agencies to examine the effects of four key components: small caseloads, family involvement, comprehensive discharge planning, and post-discharge follow-up. Initiatives like these, and other individual studies show the advantages of integrated measures across community agencies.

Every provider, as a routine part of their practice, should also conduct follow-up surveys of post-discharge status and risk.

Provider-Level Measures. While providers have access to their own administrative and claims data, it is only over the last decade with better data systems, that providers have begun using these data for measures other than purely financial ones. This review did not attempt to collect information to describe the extent of provider measurement and reporting. Suffice it to say that providers are increasingly using a broad array of measures to supplement financial measures as a part of their board reporting and other internal management meetings. These generally include administrative data from claims, medical records, admission and discharge forms and other sources. The data vary in how easily they can be retrieved, with claims files generally being the easiest to aggregate and analyze.

Providers are also increasingly collecting data on clinical outcomes and level of functioning. These can come from validated assessment tools or from measures and surveys and these tools are increasingly required by payers. Far too often, however, the data are collected by providers but not analyzed. Usually this is a result of not being able to dedicate staff time or have the skills needed for analysis. As a general principle, every provider, as a routine part of their practice, should conduct follow-up surveys of post-discharge status and risk. These measures will help providers assess the effectiveness of their programs and identify areas for improvement and document their value to payers.

¹⁶ Martone, William P (2010). California Residentially-based Services Reform Initiative. Presented at MA Interagency Residential Provider Forum October 29, 2010. Accessed 7/23/2013 at <http://www.mass.gov/eohhs/docs/eohhs/chapter257/youth-intermediate-3c.pdf>. For additional information on cross-system information sharing, see: Center for Substance Abuse Treatment. Introduction to Cross-System Data Sources in Child Welfare, Alcohol and Other Drug Services, and Courts. HHS Publication No. (SMA) 11-4630. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011. (http://www.ncsacw.samhsa.gov/files/DataPrimer_508.pdf accessed 11/14/2012); Young, N. K., Bocella, I., Amatetti, S. & Earle, K. (2011). Facilitating cross-system collaboration: A primer on child welfare, alcohol and drug services and courts. HHS Pub. No. (SMA) XXXXXX. Rockville, MD: Substance Abuse and Mental Health Services Administration. (<http://www.cffutures.org/files/publications/FCSC%20draft%206%2024%202011.pdf> accessed 11/14/2012); Screening and Assessment for Family Engagement, Retention and Recovery (SAFERR) <http://www.ncsacw.samhsa.gov/files/SAFERR.pdf> (accessed 11/14/2012).

¹⁷ Intensive Residential Treatment Facility (RTF) Program Two-Year Outcomes Report, Magellan Health Services, Inc. 2011. http://www.magellanofpa.com/media/168454/pa_intensive_rtf_2-year_report_final_sm.pdf

As noted above, Children’s Village in NY and Boys Town in Nebraska have robust post-discharge data collection practices. Both also use a dashboard which displays key indicators. Children’s Village tracks stability at home, progress in school, work, and recidivism. Boys Town reports on the following: school attendance or graduation; living in a home-like setting; arrest rates or percent arrest-free since departure; quality of family relationships; attendance at religious services; relationship with a personal physician, and; perceptions of the impact of Boys Town services.

Both organizations collect follow-up data by contacting the youth or caregiver for information. This is time consuming and can be, but is not always, costly; the focus on these outcomes ensure that the organizations keeps focused on the variables that ultimately matter most to youth and families.

Measures of Youth/Family Functioning. Measures of youth and family functioning cover a broad range of physical and behavioral health indicators in the sample projects. These include family and community engagement and functioning in the residential and home environment. Each of the projects categorized important measures of youth and family functioning under slightly different general headings. There are numerous assessment tools that have already undergone extensive testing but there is no consistency of tools or measures between states and across different providers. This limits comparability. A variety of clinical and level of functioning tools are currently being used by providers and a growing number of state agencies to measure changes in the different child and family well-being functioning domains. A recent AACRC survey asked about 28 different tools that were reported to be used by members in the past. As a part of this review, some state representatives noted statewide use of the Ohio Scales and the Child and Adolescent Needs and Strengths (CANS) survey. However, not every organization is using a validated tool; some use tools developed “in-house.” Characteristics of some of the most widely used validated tools are summarized in Appendix B.

While near-term outcomes have traditionally been required for many residential providers, tracking of longer term outcomes is what will ensure that payers, residential and community providers comprehensively evaluate their practices and change practice when needed to improve outcomes.

Changes in youth or family functioning should be measured at different points in time, allowing the provider and others to monitor changes. It is particularly important to gather data at the point of admission and look for changes in youth and family outcomes during the residential stay and after discharge. In the projects reviewed, different points in time were generally used for post-discharge follow-up, depending on the goals of the study. They ranged from near term (30, 60 and 90 days) to long-term (6, 12, 24, 36 and even 60 months post-discharge). Boys Town, for instance, implements a survey that has questions related to level of functioning, experience of care and overall results that is repeated at 3,6,12 and 24 months. While near-term outcomes have often been required for many residential providers, tracking longer term outcomes is what will ensure that residential and community providers comprehensively evaluate their practices and change practice when needed to improve outcomes.

Youth/Family Experience of Care. Assessing youth and family experience of care regularly during a residential intervention helps the provider know what adjustments to make to meet client needs. Opinions about, and satisfaction with, residential interventions should also be assessed at least once after discharge. Surveys can be used to obtain feedback about services from youth and families directly, and are often administered by programs to measure experience of care as well as to track follow-up

after discharge. A brief post-discharge survey can also function to collect important information about the status of youth and risk factors that might trigger outreach and referral. Sometimes discounted by researchers because of concerns about validity and reliability of measures, experience of care surveys are a useful way to ensure that the voices of people served by the program are being heard. For instance, some researchers and advocates argue that any survey done while the youth is in residential may not be reliable, because of fears by youth or family of possible reprisals for negative feedback. Frequently, experience of care tools tend to be developed and adapted by individual programs. There are several widely accepted surveys available and programs can adapt these surveys if needed. These tools are summarized in Appendix B-CD.

Besides being a good, customer-centered business practice, follow-up is necessary to assess how youth and families are doing post-discharge and what they may need in the way of additional community services to build and reinforce family strengths and capacities. Follow-up will allow providers to assess and improve their own performance.

Challenges. In interviews and research for this project, a number of challenges for collecting and aggregating outcome data were reported.

A major gap in the field is the lack of routine follow-up by many residential providers post discharge. Some providers share that they have difficulty locating families, and that the resources and costs involved in contacting families can be high. Some question the reliability of the information they receive. However, the bridge between residential and community-based care is critical, and it is incumbent on providers to ensure that support is available to families and youth after returning to their communities. Besides being a good, customer-centered business practice, follow-up is necessary to assess how youth and families are doing post-discharge and what they may need in the way of additional community services to build and reinforce family strengths and capacities. Having routine access to follow-up data also allows providers to assess and improve their own performance.

Other challenges include:

- Inconsistent requirements by states, accreditation entities and other payers for outcome measures, in large part a result of the different roles of each entity
- The time and resources required to collect and manage the data
- Cost of acquiring and using outcome instruments and analyzing the data
- Lack of reliability of data collection tools and the data they produce
- Different data collection practices used by programs
- Different clinical goals, interventions and populations across programs
- Limited sustainability, particularly as a result of the lack of funding for provider and association measures
- The wide variety of specific measures for any given topic

Some providers and delivery systems have addressed the challenges. First, those providers that do collect follow-up information have generally created an administrative protocol for support staff to make the calls. They have built this into their standard operating procedures. This is critically important, because it minimizes costs, sets the expectation of follow-up with families and send an

important message that providers care. Many providers have community-based outpatient and home based services as part of their service array, allowing them to access relevant follow-up data from these staff. Some programs also have external funding for evaluation and quality improvement efforts; others simply prioritize these efforts and find the resources. A combination of all these tactics may be necessary to push the field to adopt universally applied long-term outcome measures.

In part, the challenges that have held back efforts to initiate and sustain broad-based consensus on residential outcome measures have arisen from the different opinions that youth and families, providers and payers have about the purposes of residential interventions. BBI has empowered and engaged youth, families, providers and payers, and demonstrated how important all of their voices are in setting system goals. From these discussions there is an emerging consensus about the need for effective use of residential interventions. It is time to take that emerging consensus to the next stage and focus on establishing specific goals, outcomes and associated measures and build the commitment for universal implementation.

III. Proposed Framework and Actions

In this section, a framework and action steps are proposed. They are designed to begin a dialogue among youth, families, providers, payers and oversight agencies. The goal of the dialogue should be to clarify terms, prioritize measures and agree on a core set of common measures that can be implemented universally. It is critical that health plans, other payers, providers and youth and families build this consensus to frame future discussions about the need for residential interventions and for more transparency and accountability.

Two types of measures, with 5 different categories and related action steps are proposed in the following pages. These include system and provider performance measures and three types of outcomes for youth and families.

A. Performance Measures

- 1) **System Performance Measures:** Identify and develop standards for a core set of national performance measures for residential interventions, addressing access, utilization and cost.
- 2) **Provider Performance Measures:** Identify and establish a core set of national performance measures for residential interventions to be used in purchasing and performance monitoring. This should include selected practice, living environment, and utilization measures.

B. Youth/Family Outcomes

- 1) **Post-Discharge Follow-up:** Develop a standard that every publicly funded residential program conducts post-discharge follow-up with the caregiver, community providers, and youth if age-appropriate. A set of core questions for follow-up is suggested in the discussion below.
- 2) **Validated Level of Functioning Tools:** Establish a standard that every publicly funded residential program should use at least one validated level of functioning tool, even if they also use a program-specific one.
- 3) **Experience of Care:** Establish a standard that every publicly funded residential program chooses **some** means of assessing youth and family experience of care; there should be some consistent way of assessing experience of care system-wide.

Outcome measures should be collected at multiple points in time, before services are received (at intake), during residential interventions or at discharge, and after discharge. Some measures listed

below are not very strength-based, in part because with the tools the field is using, it is unfortunately also easier and more reliable to count adverse events. When more strength-based tools are available for individual providers, they should be considered, although it is important to monitor certain adverse events as well.

A1. Performance Measures – System Level

System-wide (generally claims-based) performance measures should be routinely summarized and reported for public payers or purchasers of residential interventions. Such measures give a key understanding of the role residential interventions are playing in the overall system and provide indicators for how well the system is functioning. They also give important information for statewide policies, resource allocation and other decision-making. To advance the dialogue, a set of proposed measures that are generally consistent with other national efforts (including the Center for Medicare and Medicaid Services (CMS), the Healthcare and Effectiveness Data and Information Set (HEDIS and Administration for Children and Families (ACF) measures) have been developed. Table 2 summarizes these proposed measures for each data category. Appendix D provides more detailed specifications, and lists some of the programs/initiatives using the measure.

Table 2: Proposed System-Level Performance Measures

Category	Proposed Measure
Access/ Penetration	Number admissions to residential programs per 1000
Access/ Penetration	Percent community follow-up within 30 days after discharge from residential intervention
Access/ Penetration	Access (percent) to adolescent well-care visits (primary care) during the year after discharge from residential programs
Access/ Penetration	Access (percent) to dental care for youth during the year after discharge from residential programs
Utilization	Percent of youth with a psychiatric emergency room visit in the 12 months post-discharge
Utilization	Engagement with community based treatment or support services post-discharge from residential programs
Utilization	Average number of days spent in an out-of-home placement in the year following discharge, per youth discharged [Alternate: Consider “Days spent in Community”]
Utilization	Percent of youth re-admitted to 24 hour level of care 30 or 90 days post-discharge
Utilization	Multi-agency involvement (Juvenile Justice, Probation, Child Welfare, MH)
Utilization	Average Length of Stay per residential episode (ALOS)
Utilization	# days in residential per 1000 eligible
Cost	Residential and other Behavioral Health Expenditures per episode

A2. Performance Measures – Provider Level

The performance measures recommended below cover provider practices during residential interventions and in preparation for discharge; those providers who also provide aftercare should also report on that period where applicable (as the practice becomes more universal, agreement on aftercare measures should also be reached). Providers should monitor trends in these data over time and identify quality improvement opportunities. These core performance measures may provide data for a “dashboard” maintained and routinely reported on by providers. Some of these measures may also be able to be aggregated by payers at the system level. Individual providers may want to consider other measures and tools, such as fidelity to system of care principles or data from the BBI Self-

Assessment Tool¹⁸ to give more detailed data for special projects. However, most of these are not practical to collect or analyze on a routine level. As with System Level Measures, Appendix D provides more detailed specifications, and lists some of the programs/initiatives using the measure.

Table 3: Proposed Provider-Level Performance Measures

Category	Proposed Measure Title
Utilization	Average Length of Stay in residential for discharges
Utilization	Re-admissions to 24 hour level of care 1 year post-discharge
Practice	# Restraints/Seclusions divided by the number of youth in residential, per year
Practice	# Critical incidents per youth per year in residential
Practice	% of admissions and discharges incorporating comparison of a youth’s medication orders during and after the residential episode
Practice	% of youth discharged on multiple psychotropic medications
Practice	Presence or absence of a Child and Family Team
Practice	% of informal supports on Child and Family Team (CFT) where one is used
Practice	[a measure of youth and family participation – to be suggested in discussion?]
Practice	% youth free from child-to-child injuries while enrolled in residential program, annually
Utilization	% of Discharge Type (Reunification or Goals Met, Against Medical Advice, Runaway, Administrative, Planned, Loss of eligibility, Managed Care Denial) for youth discharged from residential services
Practice	% of youth with a Post-discharge continuing care plan: a) created b) transmitted to a responsible adult in the post-discharge Living Environment
Living Environment	Restrictiveness of Living Environment Score (ROLES) ¹⁹ Change Score between Residential environment and discharge destination
Living Environment	Post discharge exposure to maltreatment or abuse in the home, in the periods following discharge: as long as follow-up continues but no less than three months

Some areas were reviewed and not included in these recommendations, and may warrant further consideration. They were used in some of the national measurement projects reviewed and/or were raised in some interviews. These include: medication visits for youth after discharge (potentially difficult to separate from non-medication-related ambulatory visits), involvement with state agencies (not always available but potentially available in more detail in some areas), and permanency (partially addressed in the ROLES categories).

Note these provider performance measures rely primarily on administrative data. Providers should also be administering follow-up measures (see section B1 below), a standardized functional assessment (see Section B2) and some form of experience of care survey (see Section B3).

B1. Post-Discharge Follow-Up

Follow-up after discharge is intended to measure the effectiveness of the “bridge” between residential and community-based services, whether provided as aftercare by the residential program or by community providers. A number of states and payers are requiring post-discharge follow-up. Despite

¹⁸ Building Bridges Self-Assessment Tool, developed by the Building Bridges Outcomes Workgroup to assist programs in assessing how well their practices implement the Building Bridges principles. Available in Staff/Advocates and Youth/Family versions, in Spanish and English. (<http://www.buildingbridges4youth.org/products/tools> accessed 11/16/2012)

¹⁹ The Restrictiveness of Living Environment (ROLES) score gives numerical values to living environments, including: Independent Living by Self, Independent Living with Friend, Two Biological Parents, Biological Mother, Biological Father, School Dormitory, Home of a Relative, Adoptive Home, Home of a Family Friend, Supervised Independent Living, Foster Care, Specialized Foster Care, Individual Home Emergency Shelter, Therapeutic Foster Care, Group Home, Residential Job Corp/Vocational Center, Group Emergency Shelter, Residential Treatment, Medical Hospital, Drug/Alcohol Rehabilitation Center, Inpatient Psychiatric Hospital, Juvenile Detention Center, Jail

this, many programs do not yet have practices in place to assess long-term post-discharge outcomes. These surveys can be completed efficiently by telephone and administered by support staff if clinicians or residential staff are not available. In the ideal world, follow-up surveys should be done at multiple points in time after discharge to determine whether levels of youth and family functioning have been maintained or improved over time. One year post-discharge should be the expectation for all providers, some providers may collect these data more frequently; post-discharge follow-up needs to become a universal practice.

It is difficult to find follow-up surveys that have undergone proper psychometric testing. Those that have are often too long because time is a major issue for the program staff who are conducting the follow-up as well as for caregivers responding to follow-up questions. Nevertheless, post-discharge follow-up is so important that the activity of initiating follow-up should not wait for universal adoption of a particular follow-up survey. Examples from the programs reviewed in this paper range from standardized interview questions (Boys Town, with 15 to 20 questions depending on branching) to broad guidance for interviewers to ask anything of relevance to the four main areas tracked (Children's Village).

Based upon review of level of functioning tools²⁰ and other measures, this project identified a set of areas that should be the focus for follow-up by programs. Follow-up surveys should address:

- whether the child is living safely in community;
- how well he or she is functioning with pro-social peers;
- participation in purposeful community activities such as school or work; and
- whether or not s/he is maintaining good physical and behavioral health, including avoidance of risky behaviors, illegal substances and trouble with the law.

These areas cover the same as those in Boys Town and Children's Village follow-up efforts, and they align with the four domains identified by the BBI Outcomes Work Group: Home, Community, Purpose and Health. Follow-up surveys should also address the capacity of caregivers to provide a safe and nurturing environment for the child; the level of parental or caregiver stress can be a key indicator of this.

Survey questions should be brief and at a reading level that most people will understand. The meanings of follow-up questions for people from different cultures should also be carefully considered. A short set of questions should be used, so that follow-up can be completed within a 5-10 minute conversation. Brevity increases the likelihood that program staff will have time to complete the interview and respondents will make the time to respond.

²⁰ The follow-up questions are designed, as indicated in Table 4, to address the four broad domains of functioning identified by the Outcomes Work Group – Home, Community, Purpose and Health. In a number of cases, questions apply to several of the four domains. They also can be crosswalked to some of the areas of functioning covered by commonly used functional assessment scales. For instance, in the case of the CANS, the core version of the CANS Comprehensive Form covers Life Domain Functioning (including Family, School, Job, Legal, Recreational and Physical, among others), as well as Youth Strengths, Acculturation, Youth Behavior/Emotional Needs, Youth Risk Behaviors, and Caregiver Strengths and Needs. Optional modules can also be completed based on indicators in the core version, and these include Substance Abuse, Violence, Sexually Aggressive Behavior, and Juvenile Justice. As another example, the CAFAS covers School/Work Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Moods/Emotions, Substance Use, Risk Behaviors and Thinking, along with subscales for Caregiver Resources.

Table 4 lists a set of proposed questions for follow-up interviews, taking the four domains and breaking them down into individual items. They are presented as a starting point for a consensus process aimed at designing a universal set of questions that can be used, ideally by all programs. They have not undergone psychometric testing. These can be supplemented, if necessary, by program-specific queries or follow-up questions. These questions are by no means final, nor do they cover all of the aspects of functioning included in published functional assessment scales. The goal is to present a set of questions that can be implemented by program administrative staff or others to capture the most essential follow up data and flag areas for further inquiry or support to the family.

With the exception of the last, open-ended question, all of the questions in the table seek answers that can be expressed quantitatively, with the intent to make the results suitable for data analysis. These might include dichotomous, yes/no answers such as whether or not the youth is in trouble with the law; continuous data, such as the number of days the youth had to wait for a medication appointment; or Likert scale answers, such as rating how well the child is doing in school. Each answer can also include space for comments. The survey is designed for caregivers, but most of the questions can also be framed for youth respondents. Considering what questions are most likely to be most important to caregivers should help response rates. A set of 18 basic questions is presented in the table below.

Table 4: Suggested Follow-up Questions

Functional Status Questions	SAMHSA Domain
Overall Status Questions	
1) Where is the youth living? Code answer as ROLES Category (from least restrictive to most):	Home
2) Has (s)he had a psychiatric hospitalization since leaving residential? Y/N If so, for how many times and how many days in total?	Home/Health
3) How often is (s)he attending school? (Likert – not at all/all the time)	Purpose
4) How well is (s)he doing in school? (Likert – not well/well)	Purpose
5) Is (s)he in a job or job training? Y/N	Purpose
6) Has the youth been arrested? Y/N If so, how many times has (s)he been arrested since coming home?	Community
7) Has the youth reported being a victim of sexual abuse, neglect, physical abuse or abandonment? Y/N	Home/Health/ Community
Service Access Questions	
8) Was the youth on medication when (s)he came home? Y/N If so, how long did she have to wait for a medication appointment? (Number of days or weeks)	Health/ Transition (other)
9) Is (s)he receiving treatment or formal support services (such as counseling or in-home visits)? Y/N Does (s)he have an adult, whether a family member or friend, who can be counted on for support? (Y/N)	Health
Behavioral Ratings by Caregivers	
10) How would you rate your level of stress since the youth has been home? (Likert)	Health
11) The child or youth has been showing unsafe, violent or abusive behaviors against self or others since (s)he has been home? (Likert – agree/disagree)	Home/Health/ Community
12) How often, if at all, has the youth been using alcohol or drugs since (s)he came home? (Likert)	Health
13) How physically health is the youth? (Likert – unhealthy/healthy) Does the youth have a primary health care provider in the community (Y/N)?	Health

Functional Status Questions	SAMHSA Domain
14) Are the youth's friends positive influences, in general? (Likert – negative/positive)	Community
15) How involved is (s)he in community activities? (teams, sports, youth clubs, music lessons, religious activities, etc. – Likert – Not involved/involved)	Purpose/Community
16) Impact of the program on his/her life? Likert – negative/positive	Other
17) How satisfied were you with the care (s)he received? (Likert – unsatisfied/satisfied)	Other
18) What else would you like to add? (Open)	Other

B2. Validated Level of Functioning Tools

While some might argue that it would be ideal to reach broad national consensus on which functional screens or assessments to use, this may not be desirable in part because the major differences between states will limit comparability of many findings. Furthermore, a number of providers have no doubt invested in their own measurement systems using different tools, and it is likely to be challenging and costly for them to re-tool in order to come into alignment with their peers. More importantly, programs differ in terms of their specialties and populations served, and as a result there may be very good reasons to use different measures, such as those required by evidence-based practices. States also have different requirements specific to the assessment tool that is used. Therefore, providers should choose from among the many validated assessment tools available, with as much agreement among stakeholders as possible on the domains they should cover and the criteria for selecting them. States, other public payers and health plans should consider adopting an approach that requires providers to use a standard tool but that does not dictate which tool should be used.

Factors considered for the level of functioning tools and summarized for a selected set of tools in Appendix B, include:

- Established validity and reliability for the populations receiving services;
- Coverage of key domains of child and family functioning;
- Cultural competence;
- Cost, or access in the public domain; and
- Electronic capacity for scoring, management of and reporting on outcomes.

Some provider-specific tools and measures are serving individual providers well and they should continue to be used. However, these and all other providers should seriously consider the benefits of adopting widely accepted standards that can eventually be benchmarked to identify quality improvement opportunities.

B3. Experience of Care

This project reviewed several surveys of child and family experience of care (see Appendix C) with attention to how applicable they might be to the residential and intensive community-based service experience. Measuring experience of care is growing, but many measures used by individual providers and associations have not undergone psychometric study. As with the level of functioning tools, experience of care measures can be customized to address important components of a particular program. Providers would also benefit from using measures that have been proven to be reliable and valid for most sectors of the populations. Boys Town's follow-up interview includes questions related to experience of care, and it seems a useful approach to combine in a single interview questions related to Level of Functioning and Experience of Care, rather than require multiple contacts with former residents and families.

The reliability and validity of such measures can be important, including consideration of the way in which a measure is administered. For example, in the case of satisfaction surveys, having the provider sit with the client while he or she is completing the survey can positively influence levels of satisfaction reported. These considerations are particularly important when programs develop their own surveys, where there may be a lack of psychometric research.

Cost and ease of use are major considerations for client satisfaction surveys; a version of Atkisson's *Client Satisfaction Questionnaire (CSQ-8)* has only eight questions and can be completed in five minutes or less, whereas the 40-item Wraparound Fidelity Index set of 4 interviews (WFI-4) or the 37 item self-report instrument WFI-EZ Short Version both take a long time to complete. The WFI4 should in theory be administered by a person who is independent from the treatment process.

Collecting input from youth and families about their experience of care is key to providing youth and family voice in the system of care. Ensuring their input is used in quality improvement efforts at the provider and system level is also essential.

It is also possible to adapt some of the tools to meet the needs of specific programs either by adding program-specific measures to validated tools, or by selecting certain questions from validated measures (such as the WFI-4, for example). Care should be taken in doing this so as to not change the meaning or interpretations of the validated questions, and to ensure that it is valid for them to stand alone.

Collecting and using input from youth and families about their experience of care, including satisfaction and their perceptions of whether they were included, felt heard and had control in the care provided, is key to providing meaningful youth and family voice in the system of care. It also ensures that quality improvement efforts for providers and payers are focused first and most importantly on the needs of youth and families.

IV. Recommended Process for Consensus-Building and Implementation

Residential providers, along with advocates, policy makers, families and youth, have been building some consensus on practice for years, through the Children's Mental Health Initiative, BBI and efforts of provider associations. Consensus-building on specific outcome measures, however, has faced numerous barriers in the past. Many residential providers have argued that long term success in the community is the responsibility of payers and other community organizations rather than the residential program. Many argue that measurement and research efforts will not happen without additional funding for the data collection and analysis. Others have complained of competing requirements of payers. This paper is intended to provide a common foundation and promote the development of a national consensus. In order to make progress, a set of performance measures at the system and provider level should be adopted. States and other payers should adopt requirements for the use of a functional assessment tool, mandate post-discharge follow-up and require experience of care measures. These suggestions need to be reviewed and revised by key stakeholders in order to move forward in a successful and sustained effort. Specific recommendations for the process are summarized below.

A. Identify Experts and Stakeholders

Key stakeholders are eager to share their experience and advice in further discussions. Further involvement should be sought from youth and family members, providers, payers and other system level stakeholders. This should include state agency directors, research staff, state and national associations, health plans, national accrediting organizations, and state licensing agencies. Representatives from other state child-serving agencies, such as Juvenile Justice, Child Welfare and Education agencies, should also be sought to ensure appropriate terminology and suggest any data sharing possibilities. This paper should be shared broadly with these different constituency groups, seeking feedback on specific measures to be used. Additionally, one or more dialogues with stakeholders identified by BBI should occur to prioritize and select measures, and then to recommend a route to implement a systemic strategy for performance and outcome measurement and post-discharge follow-up.

B. Develop Inclusion Criteria for Measures

The consensus building process should establish inclusion criteria that address the following areas:

- 1) The selected measures should cover the key domains and variables identified by the BBI outcomes work group, with priority emphasis on long-term outcomes post residential discharge.
- 2) The data should be as easily collectable as possible.
- 3) The data should be as reliable as possible.
- 4) Needed resources should be considered, regarding the amount of data collected, who does the data collection and how, and how the data are entered and maintained in an electronic system.
- 5) Items chosen should be quantifiable in order to support aggregation and analysis. For interviews, these data can be dichotomous (Yes/No) or continuous (Likert Scale).
- 6) Redundancy should be kept to a minimum. Any repetitions should only be included when necessary to verify information.

While all stakeholders want the best outcomes for youth and families, their opinions about which outcomes and processes to measure vary. Different measures are important to different stakeholders, yet to be practical, only a small percentage of them can be selected. Priorities must be established that are consistent with BBI goals.

C. Facilitated Dialogue

Building Bridges, with support from a range of organizations, should arrange one or more facilitated meetings and/or conference calls, to review the recommendations and develop initial consensus on specific outcome measures as well as practical next steps. Following the initial meeting(s)/calls, a framework for reaching consensus on a small initial set of measures should be developed – including receiving recommendations from Residential and Community Provider Associations, payers, youth and family representatives, health plans and federal agencies. A pilot of a small initial set of measures should be developed, with input from the aforementioned stakeholders. After results from the pilot, feedback on a longer vision for national data collection and sharing should be sought. At the initial meeting(s), presentations should be made by providers and systems already collecting and reporting on longer term outcomes and representatives of systems sharing cross-system data, so that practical advice may be shared.

In addition to measure selection, the meeting(s) and national leaders should address the following details:

- Developing a process to specify a core set of measures in detail: States vary in the measures required and data formats used. This will take considerable effort but as NCQA and other groups have shown, industry consensus is essential.
- Identifying strategies and technical support needed for states and other payers: Many payers and providers have not yet dedicated sufficient resources for data analysis. A sustained, nationwide outcomes measurement project will require resources for data collection, storage and analysis to aggregate, benchmark and report data. Technical assistance in outcome measurement and quality improvement will require training and support in analytic methods, graphical presentation of results, and support for the uses of data in quality improvement. To succeed, there is a need to obtain support for the project, including federal, state and community funding sources and providers.
- Developing an analytic framework: Multiple factors affect long term outcomes from residential interventions including program-specific factors (differing staff qualifications, staffing levels, and activities), factors related to an individual youth and family's environment, and youth's individual physical and psychological development. It is difficult to determine which one or combination of interventions lead to a specific outcome, as well as to tease out the contributions of specific environmental or developmental factors. With a randomized or quasi-experimental comparison group design, measures can be used to find correlational and even causal relationships between interventions and outcomes. However, even short of this type of complex experimental design, universal measures are needed to collect data to improve the system and provider quality.
- Developing a process to identify best practices and working to identify resources needed to support best practices.

D. Product

The process should result in publication of the recommended set of measures and practices, and specific implementation steps. It should also lead to some national demonstrations of these measures.

V. Conclusion

National consensus on performance and outcome measures for residential interventions is needed among providers and payers to improve the quality and effectiveness of services. Data on long term outcomes which could provide necessary feedback for program improvement is not widely available because systems have not been put in place to support data collection. Research data on the effectiveness of residential interventions and factors which promote effectiveness are at best inconclusive and often not available. Follow-up and tracking long term outcomes has not occurred. Health care reform and more integrated care demand that services are better coordinated and that the individual services as well as whole systems demonstrate effectiveness and efficient utilization of resources. A concerted effort to address this gap must begin immediately.

All stakeholders – youth, families, caregivers, advocates, providers, payers and communities – identified the many challenges that exist in implementing a consistent and comprehensive approach to outcome measurement for residential interventions. These include: inconsistent requirements by states, accreditation entities and other payers for outcome measures; the time and resources required for individual providers to collect and manage the data; varying data collection practices; varying clinical goals, interventions and populations; sustainability; and the wide variety of specific measures for any given domain of interest.

Fortunately, there are strong examples to build upon and considerable progress has been made over the last two decades by a number of exemplary providers to measure outcomes of youth and families during and after a residential intervention. Many different stakeholders have worked at developing their own outcomes systems, and virtually all stakeholders have expressed strong interest in moving toward a more universal system. Embedding the work in Building Bridges and System of Care principles has provided an important framework for considering what information should be gathered. Consistently employing a strength-based focus will help all stakeholders – youth and families, providers and decision-makers - move toward positive goals for system improvement.

The framework in this paper seeks to start a dialogue among providers, payers and others to review and prioritize a set of performance and outcome measures. This report proposes some minimum expectations – that stakeholders develop a core set of performance measures, and that all programs conduct long term follow-up, collect experience of care data and use a validated level of functioning tool. These data should be used to inform practice improvement. We hope this framework and vision will spark a critical dialogue among stakeholders and allow the entire field to move forward in measuring outcomes, experience of care and performance, and using that information to improve care.

APPENDICES

Appendix A – Descriptions of Current and Prior Measurement Efforts Reviewed

Appendix B – Selection of Level of Functioning Tools

Appendix C – Selection of Experience of Care Surveys

Appendix D – Specifications for Proposed Measures

Appendix A

Descriptions of Current and Prior Measurement Efforts Reviewed

This appendix contains a summary of various state and national initiatives to measure child and family outcomes, which have informed this report.

American Association of Children's Residential Centers (AACRC) 1999 and 2010 update

In 1999 the AACRC conducted an association-wide survey looking at 19 measures of residential intervention. A follow-up survey was conducted recently looking at 2010 data; as of this writing the results are not yet released, but the questions were provided to support this project.

The Administration on Children and Family's (ACF) National Survey of Child and Adolescent Well-being (NSCAW)

The NSCAW makes available nationally representative longitudinal data drawn from first-hand reports from children, parents, and other caregivers, as well as reports from caseworkers, teachers, and data from administrative records. Moreover, NSCAW is the first national study that examines child and family well-being outcomes in detail and seeks to relate those outcomes to their experience with the child welfare system and to family characteristics, community environment, and other factors. The study describes the child welfare system and the experiences of children and families who come in contact with the system. It is designed to increase the knowledge needed to support service, program and policy planning.

Alliance for Families and Children's National Benchmarking Initiative

In partnership with the company Behavioral Pathway Systems, this initiative collects data on 44 performance issues selected by an Alliance workgroup guided by input from an online national interest survey. For Residential programs, these include: Length of Stay (*by Program Type*); Occupancy; Discharge Status; Use of Restraint (*Rate/ Injuries by Program Type*); Medication Errors (*by Program Type*); Violence/Aggression Injuries (*Male/Female*); Violence Aggression; Property Damage (*Male/Female*); Self Harm (*Male/Female*); Client Satisfaction (*Adult/Youth*); Post-Discharge Outcomes (*Stability, Productivity, Risky Behavior, Relationships*); and Family Preservation. There are also a number of fiscal and administrative measures. Once data is submitted, users can generate unlimited benchmarking reports, which can be broken out by peer group. All data is summarized and reports are anonymous.

Building Bridges Initiative Outcomes Workgroup

The BBI Outcome Workgroup developed the Self-Assessment Tool (SAT) to help individual programs assess fidelity to the practices recommended by BBI, among them that residential intervention be youth-guided and family driven, culturally and linguistically responsive, and evidence-based; and that programs engage in continuous quality improvement, sharing data with stakeholders. To guide providers and communities on outcomes they should measure, the Building Bridges Outcome Workgroup developed an Outcomes Tip Sheet, ultimately using domains identified by an even wider SAMHSA process.²¹ Important domains identified by youth and families include:

²¹ SAMHSA's Definitions and Guiding Principles of Recovery (<http://blog.samhsa.gov/2012/03/23/definition-of-recovery-updated/>), which were based upon a two year public process, were also used in the Building Bridges Tip Sheet, "Evaluating and Improving Outcomes for Youth Who Have Received Residential Services" (<http://www.buildingbridges4youth.org/sites/default/files/Outcomes%20Tipsheet%20-%20Final.pdf>)

- Home - a safe, stable, supportive living environment
- Purpose - meaningful daily activities, such as a job, school, volunteerism, and the independence, income and resources to participate in society
- Community - relationships and social networks that provide support, friendship, love
- Health - sustained basic physical and behavioral health, and overcoming or managing health challenges

California Residentially-Based Services Reform

California's Assembly Bill (AB) 1453 (Soto; Statutes of 2007) authorized a five-year pilot demonstration project to transform the State's current system of long-term congregate group home care into a system of Residentially Based Services (RBS) programs. These RBS programs seek to reduce the length of time in group care and improve permanency outcomes for youth by combining short-term residential stabilization and treatment with follow-along community-based services to reconnect youth to their families and communities.

In order to achieve these goals, high-cost, intensive services would need to be provided to the youth and his/her family during the early months of placement in RBS. While this would result in higher up-front costs, it should produce cost offsets because lengths of stay in foster care would be reduced. The law requires RBS to be cost neutral with respect to the State General Fund for payments under the Aid to Families with Dependent Children-Foster Care (AFDC-FC) program. This project reviewed measures from LA's RBS project, and interviewed the person who developed the San Bernardino County RBS plan.

Children's Array of Psychiatric Programs (CHARPP)

Founded in 1992, the Children's Array of Psychiatric Programs (CHARPP) was an association of nationally accredited residential, day treatment, foster care and outpatient programs serving children, adolescents and their families in Oregon. CHARPP was formerly known as Child & Adolescent Residential Psychiatric Programs. CHARPP's mission of promoting quality and accountability through shared best practices was implemented through a national benchmarking system that measured 19 indicators of provider performance, functional outcomes, restrictiveness of living environment, and experience of care.

Children's Mental Health Benchmarking Project (2005)

Sponsored by the Annie E. Casey Foundation with support from the Center for Health Care Strategies and the Robert Wood Johnson Foundation, the project collected data for four years from state Medicaid agencies and Mental Health Authorities on access to, utilization of and expenditures for children's mental health services. While the principal goal of the project was to provide states and counties with benchmarks for performance improvement, it also documented the scope and impact of the fragmentation in the system of care for children with mental health needs.

The Council on Accreditation Standards for public and private residential services

The Council on Accreditation provides accreditation for Military and Family Readiness Programs, Private Organizations, Public Agencies, After School Programs, and Canadian Organizations. As its website states, "[t]he COA process involves a detailed review and analysis of an organization or program's administrative functions and service delivery practices. All are measured against international standards of best practice. These standards emphasize services that are accessible, appropriate, based in the community, coordinated, culturally competent, evidence-

based, individualized, outcomes-oriented, provided by a skilled and supported workforce, respectful of individual rights, strengths-based, supportive of partnership, child and family focused, treat all people with dignity, involve family and provider collaboration, and address child outcomes. As such, consumers, board members, funders, regulators and staff can have confidence in the credibility, integrity and achievement of the organization or program.”

This project reviewed the COA service standards for Residential Treatment Services. For all organizations, the COA standards reference “widely accepted, measurable outcomes promoted by the standards [that] include”: Safety, Permanency, Well-being, Housing Stability, Stability of Relationships, Educational Achievement, Integration within the Community, Change in Clinical Status, Change in Functional Status, Behavioral Change, Permanency of Life Situation, Symptom Reduction.

Evaluate Outcomes Now (IARCCA, association of children and family services in Indiana), 1997-Present

In 1995, the Indiana Council of Juvenile and Family Court Judges challenged Indiana’s residential providers for children to provide evidence that the programs and services provided to abused, neglected, and delinquent children were effective. The IARCCA Board of Directors committed to work with the Juvenile Court Judges by establishing an Outcome Measures Project focused on identifying measurable variables to evaluate the effectiveness of these programs and services. After completing a pilot outcome study in 1997 with nineteen member agencies, the Outcome Measures Project was expanded in 1998 to all member agencies of IARCCA. With data collected annually for over 4,500 children, the Project has continued to identify areas for improvement. In 2002, IARCCA received a generous grant from Lilly Endowment Inc. to expand the Outcome Measures Project; a second grant was received in 2007. Starting in 2004, the project was marketed more widely. To date, six agencies outside of Indiana have participated in the Project. The software package EON (Evaluate Outcomes Now) was developed in 2005. In 2009, following two years of development and testing, the EON® web application was rolled out to all agencies. Replacing the original software, the web application allowed increased access and monitoring of outcome data, as well as the production of real-time individual agency outcome reports. Annual and special reports are produced.

Joint Commission Hospital Based Inpatient Psychiatry Services Core Measure Set²²

First available in 2008, the Hospital-Based Inpatient Psychiatric Services Core Measure Set was developed by The Joint Commission and the National Association of Psychiatric Health Systems (NAPHS), the National Association of State Mental Health Program Directors (NASMHPD) and the NASMHPD Research Institute, Inc. (NRI). It is a set of seven measures: admission screening for violence risk, substance use substance use, psychological trauma history and patient strengths completed; hours of physical restraint use; hours of seclusion use; patients discharged on multiple antipsychotic medications; patients discharged on multiple antipsychotic medications with appropriate justification; post discharge continuing care plan created; and post discharge continuing care plan transmitted to next level of care provider upon discharge.

Magellan’s Intensive Residential Treatment Facility Program in Pennsylvania

The Intensive Residential Treatment Facility model includes four key components: small caseloads, family involvement, comprehensive discharge planning, and post-discharge follow-

²² <http://www.jointcommission.org/assets/1/6/HBIPS.pdf>

up. A two-year demonstration project was conducted by Magellan at three sites in Pennsylvania starting in 2009.²³

*Medicaid Proposed Core Measures for Adults 24 and CHIPRA Initial Core Set of Children's Health Care Quality Measures*²⁵

Core Measures for Adults eligible for Medicaid were published in the Federal Register January 4, 2012. The CHIPRA initial Core Set of Children's Health Care Quality Measures was published in 2009 for use on a voluntary basis and first included in the Health and Human Services annual report in 2011.

*Medicaid Managed Behavioral Health Care Benchmarking Project*²⁶

The Medicaid Managed Behavioral Health Care Benchmarking Project reviewed Medicaid managed behavioral health care programs to:

- Systematically review and compare data on Medicaid managed behavioral health system performance from multiple states and counties;
- Identify opportunities to improve consistency, comparability and quality of data;
- Build a database that could be maintained and augmented as programs expanded and new initiatives began; and
- Analyze trends in the ways that states and counties measured the performance of Medicaid managed behavioral health programs.

Programs reviewed in 17 states, five counties and the District of Columbia included carve-in; Medicaid only carve-outs, and braided carve-ins serving Medicaid and non-Medicaid eligibles.

*National Association for Children's Behavioral Health, 1998-2004*²⁷

The National Association for Children's Behavioral Health (NACBH) is a non-profit trade association representing multi-service treatment and social service agencies providing a wide array of behavioral health and related services to children, youth and their families. Services provided by NACBH members include assessment, crisis intervention, residential treatment, group homes, family-based treatment homes, foster care, independent living, alternative educational services, in-home treatment, respite, outpatient counseling and numerous community outreach programs. Providers serve clients from the mental health, social service, juvenile justice and education systems.

NACBH's Results-Based Treatment Initiative (RBTI) was developed to be a process by which practice, outcomes and training needs could be identified to assist providers to develop meaningful systems of care for children and families. The core of the project was the development and implementation of a data collection system which collected demographic, clinical and outcome data (Phase I) as well as measured the community linkages, family focus and readiness of providers to develop and deliver systems of care (Phase II). Phase I was

²³ Intensive Residential Treatment Facility (RTF) Program Two-Year Outcomes Report, Magellan Health Services, Inc. 2011.

http://www.magellanofpa.com/media/168454/pa_intensive_rtf_2-year_report_final_sm.pdf

²⁴ Federal Register, Vol. 77, No. 2, Wednesday, January 4, 2012: Notices, pp. 286-290.

²⁵ <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/CHIPRA-Initial-Core-Set-of-Childrens-Health-Care-Quality-Measures.html>

²⁶ Dougherty Management, Inc. Medicaid Behavioral Health Benchmarking Project Report. DHHS Pub. No. (SMA) 03-3844, Rockville, MD: Substance Abuse and Mental Health Services Administration, 2002.

²⁷ Information from "National Association for Children's Behavioral Health Results-Based Treatment Initiative (RBTI)" provided by Joy Midman.

completed, but due to a loss of funding, the project ended in 2004. Phase II would have involved the development of data sets including such elements as utilization of seclusion/restraint, client/family satisfaction, family involvement, service planning and community linkages. The goal focused on building “meaningful systems of behavioral health care for children, youth and families, supported by nationally comparable data with common definitions of: treatment settings, living environments, educational environments, functional outcomes, family and community focus.”

National Outcome Measures of the Center for Mental Health Services at the Substance Abuse and Mental Health Services Administration (SAMHSA)

According to the description on its website,²⁸ the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Outcome Measures (NOMS) “are an effort to develop a reporting system that will create an accurate and current national picture of substance abuse and mental health services. The NOMS serve as performance targets for state- and federally-funded programs for substance abuse prevention and mental health promotion, early intervention, and treatment services.”

The NOMs embody meaningful, real life outcomes for people who are striving to attain and sustain recovery; build resilience; and work, learn, live, and participate fully in their communities. Within NOMS there are 11 priority areas. Each area is split in three divisions: Mental Health Services, Substance Abuse Treatment, and Substance Abuse Prevention. Each of these is further subdivided into ten domains: Reduced Morbidity, Employment/Education, Crime and Criminal Justice, Stability in Housing, Social Connectedness, Access/Capacity, Retention, Perception of Care (or services), Cost Effectiveness, Use of Evidence-Based Practices.

This project reviewed the CMHS NOMs Child Client-level Measures for Discretionary Programs Providing Direct Services - Child or Adolescent/Caregiver Combined Respondent Version, OMB No. 0930-0285, Expiration Date 5/21/2013.

North Carolina Treatment Outcomes and Program Performance System

NC-TOPPS is the state Division of Mental Health, Developmental Disabilities and Substance Abuse Services web-based system for gathering outcome and performance data on behalf of mental health and substance abuse consumers in North Carolina’s public system of services. The NC-TOPPS system provides information that is used to measure the impact of treatment and to improve service and manage quality throughout the service system.

National Evaluation of the Medicaid Demonstration Waiver Home-and Community-Based Alternatives to Psychiatric Residential Treatment Facilities

The Home-and Community-Based Alternatives to PRTFs Medicaid Demonstration waiver program was created by section 6063 of the Deficit Reduction Act of 2005 (P.L. 109-171). This Demonstration waiver program allowed up to ten state grantees to compare effective ways of providing care for children enrolled in the state’s Medicaid grant program in the form of home and community-based services (HCBS) vs. care in Psychiatric Residential Treatment Facilities (PRTFs). For purposes of the waiver, PRTFs are deemed facilities specified in section 1915(c) of the Social Security Act. The waiver program targeted children/youth who might not otherwise be eligible for Medicaid-funded, intensive community-based services and supports.

²⁸ <http://www.samhsa.gov/co-occurring/topics/data/nom.aspx>

CMS awarded ten states grants between \$15 million and \$50 million each over the grant period, for a total funding of \$217 million. One, Florida, did not continue in the Demonstration waiver after the Year 1. The nine fully participating State grantees are Alaska, Georgia, Indiana, Kansas, Maryland, Mississippi, Montana, South Carolina, and Virginia.

Among other goals, the evaluation assessed functional outcomes for youth using: “Six common functional outcomes...mental health, social support, school functioning, juvenile justice, alcohol and other drug use, and family functioning outcomes.” The two major research questions were whether youth and family functioning improved and whether “Cost Neutrality” (i.e. that HCBS cost no more than PRTF) was established. Evidence was established both for improved functioning as well as cost neutrality.

Washington State: Review of performance indicators and outcomes measurement for mental health systems for children

Prepared for the Washington State’s Joint Legislative Audit and Review Committee (JLARC) in 2002 by Dougherty Management Associates, Inc. (now DMA Health Strategies), this project provided a review of performance indicators and outcomes measurement for mental health systems for children. The goal was to provide models for Washington and assess the data and reporting by the Washington State Department of Social and Health Services, Mental Health Division (MHD), Regional Support Networks (RSNs), and providers to determine their adequacy for use in performance and outcomes measurement. In addition, the project reviewed the measurement framework laid out in the December 13, 2000 JLARC Performance Audit of the Mental Health System and developed recommendations for modifications to this framework. The recommendations were aimed at assisting stakeholders to improve Washington’s performance and outcomes measurement system so that it ultimately allowed reporting of data to the Legislature that could inform their decision-making. The recommendations also provided information to MHD on ways to make the data more useful for their decision-making as well as to increase the comparability of data to allow comparisons among RSNs and as well as with other states.

Appendix B

Selection of Level of Functioning Tools

In selecting clinical measures and tools, individual programs and collective efforts consider key factors related to the purpose of the program and the utility, validity and reliability of the tools. This section summarizes the factors that are often (and should be) considered in making the selection of appropriate functional assessment tools.

Method

Methods include literature review, internet search and interviews with key informants to determine which measures are used most commonly and for what purpose. The goal was to determine what might be the most likely measures of functional outcomes for the Building Bridges project and to gather the information needed for providers to make informed decisions about what instruments to use. These tools should have a set of core characteristics: they should be easily accessible, should measure key domains of child and family functioning, and should meet practical criteria such as cost, functionality across multiple sites, and the electronic capacity to score and report results for youth and families over time, for individual agencies, and across delivery systems. When possible they should also be backed by strong psychometric study, with allowance for additional measures or questions that may not have been validated but meet the objectives of individual programs.

In this review a number of instruments and assessment tools were found that are especially important for certain service sectors but not for others. For example, a number of measures for out-of-home-care are used in the child welfare system to assess the extent to which services meet mandates for child safety, well-being and permanence. Such measures tend to focus on information such as waiting time for foster placements, repeated placements, safety, episodes of repeated maltreatment, and so on. While such information is very important, this review focuses on behavioral health measures that should apply across service sectors, which includes some but perhaps not all of the factors that apply to a sector such as child welfare. The review identifies a relatively limited number of behavioral health measures that have been most commonly used in national evaluations and published studies of outcomes in residential and community-based services. These include the Child and Adolescent Functional Assessment Scale (CAFAS), the Child and Adolescent Needs and Strengths (CANS) and the Child Behavior Check List (CBCL). A handful of others add information from a specific perspective, such as the focus on the family in the North Carolina Functional Assessment Scale (NCFAS). Also included are selected measures of parenting stress, given how important it is for children and youth with SED to be able to live in a home where caregivers are able to manage their own issues and provide a home environment that supports healthy behavioral development and has the capacity to address problems when they arise. This list is clearly not exhaustive, but this review methodology can easily be applied to additional measures if needed.

Instrument Criteria

Careful consideration is given to those characteristics that would be of highest priority for those considering the measures to use. These include: the *instrument*, how accessible it is and its history of use; the *population* it was designed for and the functional *domains* it measures; the *psychometrics* of the instrument; requirements for *administration and training* and associated *costs*; and *other considerations* (including cross-cultural and language considerations) that may inform how to make the best choice. Assumptions underlying these criteria are as follows. Stakeholders may want to select

instruments that have an established track record of use; are proven to cover the key domains for the population (including cultural and linguistic minorities) being studied; are backed by strong psychometric study; are practical and not prohibitively costly to implement; and allow for analysis of outcome data at multiple levels, beginning at the child and family level but also including all levels of the service system.

Building Bridges - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>Child and Adolescent Needs and Strengths (CANS)</p> <p>John Lyons</p> <p>http://www.praedfoundation.org/About%20the%20CANS.html</p> <p>Developed from a communication perspective to facilitate the linkage between the assessment process & decision-making, level of care and design of individualized service plans; to facilitate quality improvement initiatives, and to monitor outcomes. Currently used in nearly every state in child welfare, mental health and juvenile justice systems, and statewide in at least 12 states.</p>	<p>CANS-MH</p> <ul style="list-style-type: none"> *Life Domain *Child Behavioral/Emotional Needs *Child Risk Behaviors *Acculturation *Transition to Adulthood *Child Strengths *Caregiver Resources and Needs <p>CANS-Comprehensive</p> <ul style="list-style-type: none"> *Includes additional modules: *Dev. Disabilities *Trauma *Substance Use *Violence *Sexually Aggressive Behavior *Runaway *Juvenile Justice *Fire Setting 	<p>Reliability and validity above face validity have been demonstrated – a “B” on CANS-MH from the CA Evidence Based Clearing House for Child Welfare.²⁹</p> <p>Validity of the CANS has been demonstrated through the relationship between the CANS and other measures, such as the CBCL and the CAFAS, as well as to service use and outcomes.</p> <p>Inter-rater reliability for N=60 in MH services was .81 overall and ranged from .72 for problem presentation to .85 for functioning on individual subscales.³⁰</p> <p>Average inter-rater reliability can be above .90 with live cases.³¹</p>	<p>Public domain</p> <p>The CANS-MH has 47 items. Can be completed by BA level with some course work.</p> <p>The Comprehensive CANS includes an additional 77 measures.</p> <p>Online certification training is estimated at \$10 per person year.</p> <p>Dr. Lyons or associate can train large groups of up to 300 for certification (1 day) training and 60 for a Certified Trainer program (1 additional day).</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *Includes strength based *Available in Spanish <p><i>Disadvantages:</i></p> <ul style="list-style-type: none"> *No self-report version

²⁹ Lyons, J., (2009). Child and Adolescent Needs and Strengths-Mental Health (CANS-MH). The California Evidence-Based Clearinghouse for Child Welfare. From <http://www.cebc4cw.org/assessment-tool/child-and-adolescent-needs-and-strengths-mental-health/> (accessed 9/25/2012).

³⁰ Anderson, R. L., Lyons, J. S., Giles, D. M., Price, J. A., & Estle, G. (2003). Reliability of the Child and Adolescent Needs and Strengths-Mental Health (CANS-MH) Scale. *Journal of Child and Family Studies*, 12(3), 279-289.

³¹ Lyons, J. About the CANS. The Praed Foundation. From <http://www.praedfoundation.org/About%20the%20CANS.html#Here> (accessed 9/25/2012).

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>Child and Adolescent Functional Assessment Scale (CAFAS)³²</p> <p>Kay Hodges http://www.fasoutcomes.com/Content.aspx?ContentID=12</p> <p>Originally developed in 1989 and supported by over 20 years of research and 80 published articles. Used to assess needs across mental health, child welfare and social services, juvenile justice, education, prevention, and community-based programs) and evaluating outcomes for programs, Evidence-Based Treatments (EBTs) and Evidence Informed Practices (EIPs).</p> <p>Widely used to inform decisions about level of care, type and intensity of treatment, placement, and need for referral.</p>	<p>Children and youth ages 5-19</p> <p>Domains:</p> <p><i>Youth</i></p> <ul style="list-style-type: none"> *School *Behavior Towards Others *Moods / *Emotions *Home *Thinking Problems *Self-Harm *Substance Use *Community <p><i>Caregiver</i></p> <ul style="list-style-type: none"> *Material Needs *Family Social Support <p>The PECFAS is available for children age five and under.</p>	<p>Over 20 years of research.³³ Reliability – Proven internal consistency and inter-rater (Hodges & Wong, 1996), as well as test-retest (Hodges, 1995) reliability. Concurrent validity- Differentiates between youth being served at varying levels (e.g., in-patient vs. out-pt.) (Hodges & Wong, 1996). Predictive validity- CAFAS scores at intake have predicted subsequent episodes of care (Hodges, Doucette-Gates, & Kim, 2000); care that is more restrictive (Doucette, Hodges, & Laio, 1998; Hodges, Doucette-Gates, & Kim, 2000); and cost of services (Hodges & Wong, 1997; Doucette, Hodges, & Laio, 1998). Has shown sensitivity to change in multiple studies, including Fort Bragg and the Children’s Mental Health Initiative.</p>	<p>317 items 4-point Likert scale of levels of impairment (from minimal to severe).</p> <p>Practitioner completes based on routine clinical information.</p> <p>Can be completed online with instant CAFAS scale scores, CAFAS Profile, alerts for critical items, risk behaviors, clinical markers, client types; one report on child and one on family, with report of progress on strengths and goals.</p> <p>Online generates treatment plans and compares current with most recent scores on the 8 subscales.</p> <p>Online: \$400 annual fee; plus \$295 for 100 protocols; Paper: \$305 for 100 protocols.</p> <p>Training manual (\$28) for paper; free online training and quiz for certification.</p> <p>Onsite training at consultant day rate by negotiation.</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *Has been translated into French, Spanish, and Dutch. *Includes a section on caregiver resources *Includes a section on strengths and goals. *Data entry and reports can be completed online.

³² Hodges, K., Martin, L., Smith, C. & Cooper, S. (2011) Recidivism, Costs and Psychosocial Outcomes for a Post-Arrest Youth & Adolescent Diversion Program, Journal of Offender Rehabilitation, 50:447–465. From <http://www.fasoutcomes.com/RadControls/Editor/FileManager/Document/Recidivism,%20Costs%20and%20Psychosocial%20Outcomes%20for%20a%20Post-Arrest%20Juvenile%20Diversion%20Program.pdf> (accessed 9/25/2012).

³³ Hodges, K. Child and Adolescent Functional Assessment Scale® (CAFAS): Overview of Reliability and Validity. Functional Assessment Systems. From http://www.fasoutcomes.com/RadControls/Editor/FileManager/Document/FAS611_CAFAS%20Reliability%20and%20Validity%20Rev10.pdf (accessed 9/25/2012).

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>Child Behavior Checklist (CBCL)</p> <p>Thomas Achenbach (1991)</p> <p>www.aseba.org</p> <p>Dr. Achenbach developed the CBCL and other tools in order to develop a more differentiated picture of child and adolescent psychopathology. At the time the DSM had only two categories for childhood disorders.</p>	<p>Ages 6-16 Ages 6-18 Preschool version ages 1½-5</p> <p>Reports generate subscores in 8 domains: *Anxious/depressed *Withdrawn/Depressed *Somatic Complaints * Attention Problems *Thought Problem *Social Problem *Rule-Breaking Behavior *Aggressive Behavior</p> <p>Reports also summarize “Competencies”, “internalizing Behaviors” and “Externalizing Behaviors.”</p> <p>Scales also report on 6 DSM-IV diagnostic categories: *Anxiety *Affect *AD/HD *Somatic *Oppositional Defiant *Conduct</p>	<p>118 items on a 3-point Likert scale</p> <p>Over 40 years of research shows:³⁴ Reliability- Intraclass coefficients (ICC) on a normative sample (N=783) found .93 for the 20 competence items and .96 for the 118 specific problem items. Inter-rater reliability (N=73 non-referred children found 1.0 ICC for competence items and .95 for problem items.</p> <p>Validity- The authors report “Considerable” internal consistency. Content and criterion-related validity studies have shown the CBCL discriminates between referred and non-referred children. Construct validity is shown in significant associations with analogous scales.</p>	<p>There are 3 versions – One for youth; one for parents and one for teacher. Each of these is \$25 for 50 forms.</p> <p>Assessment Data Manager (ADM, \$295) supports one desktop for data entry and yields scores and a report. Web link (\$220) supports a network (i.e. unlimited residential placements). One network administrator purchases “E-Units” (2 per administration) – (\$80 for 100; \$2,000 for 5,000), which with ADM allows aggregation.</p> <p>Graduate training at the Master’s level is expected for interpretation.</p> <p>Onsite or online training for use of the software is available; fee depends on numbers, distance, etc.</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *There is a Spanish version of the CBCL *Significant research on multi-cultural interpretation of specific items * Forms can be translated into over 80 languages. A site license application is required in order to reproduce them. *Self-report format (as opposed to being completed by clinicians or mental health workers) can guard against bias <p><i>Disadvantages:</i></p> <ul style="list-style-type: none"> *Some see CBCL items as deficit based *The questions themselves do not address cultural adaptation *Many view the CBCL as not sensitive to change

³⁴ Achenbach, T. M., & Rescorla, L. A. (2001). Manual for the ASEBA School-Age Forms & Profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families. Chapter 9. From <http://www.aseba.org/ordering/ASEBA%20Reliability%20and%20Validity-School%20Age.pdf> (accessed 9/25/2012).

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>Behavior and Emotional Rating Scale (BERS)^{35,36,37,38}</p> <p>Michael Epstein, Ed.D.</p> <p>http://www.cebc4cw.org/assessment-tool/behavioral-and-emotional-rating-scale-2nd-edition/</p> <p>The test was normed on children and adolescents both with and without “emotional and behavioral disorders.”</p>	<p>Ages 5-18 years</p> <p>5 Domains:</p> <ul style="list-style-type: none"> *Interpersonal Strength *Family Involvement *Intrapersonal Strength *School Functioning *Affective Strength <p>There is also a 5-item Career Strength subscale for older youth. Scores can be used to identify target areas for interventions, set goals for educational, mental health and social work treatment plans and monitor progress towards goals.</p>	<p>52 items on a 4-point Likert Scale</p> <p>“A rating” from the Californian Evidence Based Clearinghouse for Child Welfare.</p> <p>Analysis³⁹ indicated that “(a) the six BERS-2 subscales and overall strength index were generally highly positively correlated with the social skills composite score from the Social Skills Rating System—Student Form (Secondary Level, Grades 7 to 12), (b) the BERS-2 subscales and strength index were generally moderately negatively correlated with the Problem scales of Achenbach’s Youth Self-Report, and (c) test-retest reliability coefficients over a 1-week period were all above .80.”</p> <p>Content validity was established with N>3,000 both with and without behavior disorders.</p>	<p>Administered by teacher, therapist, etc. About 10 minutes to complete.</p> <p>Has 3 versions – One for the youth (which can be completed by the assessor), one for parents and one for teacher. A complete kit is \$198 with 25 forms for each.</p> <p>www.parinc.com or www.proedinc.com.</p> <p>Administration and scoring is by paper and pencil only.</p> <p>Recommended requirements are a 4-year degree in Psychology, Counseling, or a related field, including coursework in the administration of psychological tests.</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *Available in English and Spanish. *Authors describe the scale as strengths-based <p><i>Disadvantages:</i></p> <ul style="list-style-type: none"> *Has no online or desktop support

³⁵ Epstein, M. H., Ryser, G. & Pearson, N. (2002). Standardization of the behavioral and emotional rating scale: Factor structure, reliability, and criterion validity. *The Journal of Behavioral Health Services and Research*. Pages 208-216. From <http://www.springerlink.com/content/465u5q7481542520/?MUD=MP> (accessed 9/25/2012).

³⁶ Buckley, J. A., Ryser, G., Reid, R. & Epstein, M. H. (2006). Confirmatory Factor Analysis of the Behavioral and Emotional Rating Scale-2 (BERS-2) Parent and Youth Rating Scales. *Journal of Child and Family Studies*, Vol. 15, No. 1, 27-37. DOI: 10.1007/s10826-005-9000-2.

³⁷ Epstein, M., Mooney, P., Ryser, G., Pierce, C. (2004). Validity and Reliability of the Behavioral and Emotional Rating Scale (2nd Edition): Youth Rating Scale. *Research on Social Work Practice*, Vol. 14 No. 5, 358-367. DOI: 10.1177/1049731504265832

³⁸ Buckley, J. A., Epstein, M. H. (2004). The Behavioral and Emotional Rating Scale–2 (BERS-2): Providing a Comprehensive Approach to Strength-Based Assessment. *The California School Psychologist*. Vol. 9, pp. 21-27.

³⁹ Epstein, M., Mooney, P., Ryser, G., Pierce, C. (2004). Validity and Reliability of the Behavioral and Emotional Rating Scale (2nd Edition): Youth Rating Scale. *Research on Social Work Practice*, Vol. 14 No. 5, September. 358-367 DOI: 10.1177/1049731504265832 © 2004 Sage Publications.

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<p>Child and Adolescent Level of Care Utilization System (CALOCUS)⁴⁰</p> <p>http://providersearch.mhnet.com/Portals/0/CALOCUS.pdf</p> <p>Designed by members of the American Academy of Child and Adolescent Psychiatry American Association of Community psychiatrists.</p> <p>Scores can be used to identify target areas for interventions, set goals for educational, mental health and social work treatment plans and monitor progress towards goals.</p> <p>Designed for use in schools, mental health clinics, juvenile justice settings, and child welfare agencies.</p>	<p>Though developed for children and adolescents, CALOCUS materials do not specify an age range.</p> <p>Worker assigns a score for each scale based on detailed descriptions</p> <p>Has six scales: *Risk of Harm *Functional status *Co-Morbidity *Recovery Environment *Resiliency Treatment Acceptance and Engagement (split into 2 scales to measure both the child and family’s engagement)</p> <p>There is also a 5-item Career Strength subscale for older youth.</p>	<p>Reliability - The interclass correlation coefficient (ICC) for placement recommendations was at the high end of the "good" range at .68. It achieved a strong inter-rater reliability level, with ICCs ranging from .57 to .95 on the subscales and from .89 to .93 for the overall CALOCUS score. When the CALOCUS score was compared with score on the CAFAS, a Pearson correlation coefficient of .62 was obtained, indicating a high level of agreement. Dimensions related to child functionality were highly correlated, with low correlations with family and community environmental factors.</p> <p>http://ps.psychiatryonline.org/article.aspx?Volume=54&page=1461&journalID=18</p>	<p>Scoring yields one of 7 levels of care, ranging from “Basic services” (routine health but no mental health) to “outpatient services” to “Secure 24-hour services with psychiatric management.”</p> <p>Public domain - The CALOCUS and manual are available on-line.</p> <p>This is a paper and pencil format.</p> <p>Also has an online data entry and analysis system that provides a level of care as well as report for a fee as low as \$1.50 per administration. http://www.locusonline.com/</p>	<p><i>Advantages:</i> Designed to assist with assessing need for different levels of care.</p> <p><i>Disadvantages:</i> *No translations</p> <p>Not a true functional assessment tool – more a level of care instrument.</p>

⁴⁰ Daleiden, E. (2004). Child Status Measurement: Operating Characteristics of the CALOCUS and CAFAS. State of Hawaii Department of Health, Child and Adolescent Mental Health Division. From <http://www.hi5deposit.com/health/mental-health/camhd/library/pdf/rpoteval/mr/mr001.pdf> (accessed 9/25/2012).

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>North Carolina Family Assessment Scale (NCFAS)^{41, 42}</p> <p>Reed-Ashcraft, Kirk & Fraser, (2001)</p> <p>http://www.cebc4cw.org/assessment-tool/north-carolina-family-assessment-scale/</p> <p>The NCFAS was developed in the mid-1990s to allow caseworkers working in intensive family preservation services (IFPS) to assess family functioning at the time of intake and again at case closure.</p> <p>Over 700 agencies in the USA, Canada and Australia use the NCFAS or versions thereof.</p>	<p>5 domains:</p> <ul style="list-style-type: none"> *Environment *Parental capabilities, *Family interactions, *Family safety *Child well-being <p>Also 3 additional scales for:</p> <ul style="list-style-type: none"> *social/community life *self-sufficiency *health <p>The NCFAS-R includes the NCFAS plus two additional domains related to reunification:</p> <ul style="list-style-type: none"> *parent/child ambivalence *readiness for reunification 	<p>39 items; 30-40 Minutes</p> <p>Provides ratings of family functioning on a six-point Likert scale ranging from “clear strengths” to “serious problems.”</p> <p>“A Rating” for psychometrics from the California Evidence Based Clearinghouse for Child Welfare. Authors report based on one small scale study that internal consistency and construct validity are supported. The instrument also appears to have some degree of predictive validity in relation to placement prevention. Study with over 1,200 children and youth found predictive validity of change scores and scores at discharge for placement.⁴³ Domain scores were found to be highly reliable.</p>	<p>Designed to be completed by family service workers after home visits. The form is available online at http://www.cshealthystart.com/Products/Documents/CS%20Healthy%20Start%20Forms/Case%20Management/NorthCarolinaFamilyAssessmentScale.pdf</p> <p>Price quotes are based on number of sites and staff.</p> <p>\$9,920 for 11 sites and 120 staff. Kit includes manual, PowerPoint trainings, license to reproduce forms, Windows CD for data entry, scoring and development of case summary, goals and plan.</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *Family Focus * Good for child welfare *Available in Spanish <p><i>Disadvantages:</i></p> <ul style="list-style-type: none"> *Expensive *Not normed with Spanish-speaking populations
<p>Ohio Scales⁴⁴</p> <p>Ohio Mental Health System</p> <p>https://sites.google.com/site/ohioscales/home</p> <p>Ben M. Ogles, Ph.D., ogles@ohio.edu.</p>	<p>12-18 years old</p> <p>Problem Severity: 44 items</p> <p>Functioning: 20 items</p> <p>Satisfaction/Hopefulness: 8 items</p>	<p>3 different scales (Youth Problem, 0-5; Satisfaction 1-6; Functioning 0-4)</p>	<p>Youth, Parent and Worker versions</p> <p>http://mha.ohio.gov/Default.aspx?tabid=294</p> <p>The Ohio Scales User’s Manual and Technical Manual are available online.</p>	<p>Ohio scales are being used by Delaware, Ohio and others</p>

⁴¹ Reed-Ashcraft, K., Kirk, R. S., Fraser, M. W. (2001). The Reliability and Validity of the North Carolina Family Assessment Scale. *Research on Social Work Practice*. July. Vol. 11, No. 4, 503-520.

⁴² Kirk, R. S., Kim, M. M., & Griffith, D. P. (2005). Advances in the reliability and validity of the North Carolina Family Assessment Scale. *Journal of Human Behavior in the Social Environment*, 11(3/4), 157-176

⁴³ Ibid.

⁴⁴ Ogles, Benjamin M., Melendez, Gregorio, Davis, Diane C., Lunnend, Kirk M. The Ohio Scales: Practical Outcome Assessment. *Journal of Child and Family Studies*, Volume 10, Number 2, June 2001 pp. 199-212.

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
Reports of Parenting Stress				
<p>Parenting Stress Index</p> <p>Abidin (1990)</p> <p>www.parinc.com</p> <p>http://people.virginia.edu/~rra/psi.html</p> <p>Designed to identify potentially dysfunctional parent-child systems. in high stress areas and predicts children's future psychosocial adjustment</p>	<p>3 months to 10 years</p> <p>Domains:</p> <p><i>Child-</i></p> <ul style="list-style-type: none"> *Distractibility/Hyperactivity *Adaptability *Reinforces parent <p><i>Parent-</i></p> <ul style="list-style-type: none"> *Demandingness *Mood *Acceptability *Competence *Social isolation *Attachment to child *Health *Role restriction *Attachment to spouse <p>PSI 36 Short Form also measures:</p> <ul style="list-style-type: none"> *Parental Distress *Difficult Child Characteristics *Dysfunctional Parent-Child Interaction <p>An optional 19-item Life Events stress scale is also provided.</p>	<p>The PSI has been empirically validated to predict observed parenting behavior and children's current and future behavioral and emotional adjustment, not only in a variety of U.S. populations but in a variety of international populations. The transcultural research has involved populations as diverse as Chinese, Portuguese, French Canadian, Italian, and Korean.</p> <p>N=245 French mothers completing the PSI and other measures regression analyses indicated that both parent and child scales contributed significantly and independently to the prediction of marital adjustment, depression, the child's problems as reported by the mother and behaviors observed in the laboratory.⁴⁵</p> <p>Other psychometrics are reported in the manual, which is proprietary.</p>	<p>Parent self- report</p> <p>120 items</p> <p>20 minutes to complete</p> <p>Manual - \$64</p> <p>10 Re-usable item booklets - \$65</p> <p>25 scoring sheets - \$70</p> <p>www.parinc.com</p> <p>Revised PSI-4 now available: PSI-4 Professional Manual, 10 Reusable Item Booklets, 25 Answer Sheets, and 25 Profile Forms - \$210</p> <p>The software automatically scores the item responses and generates a 7- to 9-page report with assistance with clinical interpretation of PSI results; PSI profile and score summary; Information on validity; clinical description of the respondent's perception of his or her personal stress; recommendations on diagnosis, treatment planning, and management.</p> <p>Software with administrations is \$625 plus \$355 for 50 protocols</p> <p>http://www4.parinc.com/Products/Product.aspx?ProductID=PSI-SP</p>	<p><i>Advantages:</i></p> <ul style="list-style-type: none"> *Translated into at least 25 languages *Numerous studies with different populations and cultures. <p><i>Disadvantages:</i> Not designed for parents of adolescent children.</p>

⁴⁵ Bigras, M., LaFreniere, P., Dumas, J. (1996). Discriminant Validity of the Parent and Child Scales of the Parenting Stress Index. *Early Education & Development*. Volume 7, Issue 2, 1996, 167-178.

Appendix B - Level of Functioning Tools

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
<p>Stress Index for Parents of Adolescents</p>	<p>For parents of adolescents ages 11-19 Domains: <i>Adolescent-</i> *Moodiness/Emotional *Liability *Social Isolation/ Withdrawal *Delinquency/ Antisocial *Failure to Achieve/ Persevere Domains: <i>Parent-</i> *Life Restrictions *Relationship with Spouse/Partner *Social Alienation *Incompetence/Guilt <i>Together-</i> Parent and Adolescent Relationship Domain Like the PSI has an optional Life Stress domain</p>	<p>90 items Psychometrics are reported in the manual, which is proprietary. Normative data were derived from 778 parents of adolescents from the general population and a clinical sample of 159 parents of adolescents who had received a <i>DSM-IV™</i> diagnosis. Internal consistency coefficients range from .80 to .90. Test-retest reliability coefficients for the subscales range from .74 to .91. Numerous research studies have used the PSI and/or SIPA to measure the relationship of parenting stress to other factors and outcomes.</p>	<p>Manual - \$49 25 Item booklets - \$52 25 Scoring forms - \$52 Software versions are not listed. http://www4.parinc.com/Products/Product.aspx?ProductID=SIPA</p>	<p>A logical development of a stress scale for parents of adolescent youth.</p>
<p>Caregiver Strain Questionnaire A. Brannan (1997) Used in CMHI evaluation.</p>	<p>No on-line description of this instrument was found</p>	<p>Findings from exploratory and confirmatory factor analyses also indicate that the Caregiver Strain Questionnaire is a reliable and valid scale for the measurement of caregiver strain among families of children with emotional or behavioral disorders.⁴⁶ Also found to The CGSQ was found to be a reliable and valid instrument to assess burden among caregivers of children with autism.⁴⁷</p>	<p>No information regarding purchase or downloading of protocols was found.</p>	<p>The lack of available information on this tool suggests that it may not be a good choice.</p>

⁴⁶ Brannan, A, Hefflinger, C, Bickman, L (1997). The Caregiver Strain Questionnaire: Measuring the Impact on the Family of Living with a Child with Serious Emotional Disturbance. Journal of Emotional and Behavioral Disorders Winter 1997 vol. 5 no. 4 212-222

⁴⁷ Khanna, R., Madhavan, S. S., Smith, M. J., Tworek, C., Patrick, J. H., & Becker-Cottrill, B. (2012). Psychometric properties of the Caregiver Strain Questionnaire (CGSQ) among caregivers of children with autism. Autism. Mar;16(2):179-99. Epub 2011 Jun 29.

Appendix C

Experience of Care Surveys

Although many programs develop their own satisfaction surveys, standard instruments are available, and some programs find one that suits their needs. Validation is an added value of the Client Satisfaction Questionnaire.

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
Youth and Family Satisfaction				
Youth Services Survey (YSS) Brunk et al. (2000) Previously available at http://www.nri-inc.org/projects/SDICC/urs_for_ms.cfm Adapted from the Family Satisfaction Questionnaire used in CMHI evaluation.	Age 13 and up 32 Items plus 5 demographics questions. 21 items are Likert Scale	5-point Likert scale from Strongly Disagree to Strongly Agree Preliminary web search finds no psychometric studies. Approved by the Mental Health Statistics Improvement Program	Youth self-report Public domain	Although used in the CMHI national evaluation, the lack of psychometrics may be a concern.
Youth Services Survey for Families (YSS-F) Brunk et al., (2000) http://www.nri-inc.org/projects/SDICC/urs_for_ms.cfm	For Parents/Families 32 Items plus 5 demographics questions 21 items are Likert Scale	5-point Likert scale from Strongly Disagree to Strongly Agree Preliminary web search finds no psychometric studies	Parent self-report Public domain	Again, the lack of psychometric study may be a concern.
Client Satisfaction Questionnaire (CSQ Scales) Clifford Atkisson http://www.ncbi.nlm.nih.gov/pubmed/10259963	All ages 3, 4, 8, 18 and 31 items depending on version. Multiple translations are available.	Response options differ from item to item but all are based on a four-point scale. In the initial defining study of the CSQ-8, coefficient alpha is .93. In an array of published studies alpha has ranged from .83 to .93 with an average alpha of .88. Virtually identical results have been found in multiple studies of the CSQ-3, CSQ-4, CSQ-18A, CSQ-18B	Self-report (adolescent and adult) or surrogate (children) Formal license agreement required – see www.csqscales.com \$.55 each for first 500 uses, \$.45 each use after. Cost per use increases for translations or orders less than 500.	

Appendix C – Experience of Care Surveys

Instrument	Population Number of Items Domains Measured	Psychometrics	Administration and Training/Cost	Comments
Youth and Family Satisfaction				
ARHQ – Experience of Care and Health Outcomes (ECHO) Survey	Available in Child and Adult versions, for Managed Behavioral Care organizations and Managed Care Organizations. A 58-item scale.		http://www.hcp.med.harvard.edu/echo/ECHO.child.mbho.version.3.0.pdf The ECHO has been field tested but no psychometric studies were found. The ECHO is available online.	<i>Advantages</i> : Widely accepted <i>Disadvantages</i> : If used on overall health system, may need adaptation for residential, and some questions may not apply. Relatively long.

Appendix D

Specifications for Proposed Measures

Table D-1: Proposed System-level Performance Measures

Category	Proposed Measure	Proposed Calculation	Rationale, Adaptation Considerations	Source of Model Measure(s)
Access/ Penetration	<i>Number of admissions to residential services per 1000</i>	# Residential Admissions/ 1000 population	Provides a sense of the magnitude of residential admissions relative to total number in the population.	Adapted from MMBHCBP, CMHBP
Access/ Penetration	<i>Percent community BH follow-up within 30 days after discharge from residential services</i>	# youth discharged from residential in the year whose date of community (ambulatory) BH visit minus discharge date is less than or equal to 30 days / # youth discharged from residential in the year	Provides a key indicator for quality of transitions: whether connection to community services has occurred within appropriate time window.	Adapted from HEDIS/ Medicaid. Note: HEDIS includes outpatient, intensive outpatient and partial hospitalization visits with a mental health practitioner.
Access/ Penetration	<i>Access to adolescent well-care visits (primary care) during the year after discharge from residential services</i>	Percentage of youth 12 to 21 years of age discharged from residential who had at least one comprehensive well-care visit with a PCP or an OB/GYN practitioner during the year following discharge.	For this high risk group, a well-care visit is indicator of a link to primary care or a “health home”, which will support the youths’ wellness on an ongoing basis.	HEDIS
Access/ Penetration	<i>Access to dental care for youth during the year after discharge from residential services</i>	Percentage of youth 2 to 21 years of age discharged from residential who had at least one dental visit during the year following discharge.	Access to routine preventive care and treatment for dental health will support youth in an ongoing basis. Similar to the primary care access measures, this measure can tell whether this high risk group is getting the same access as others.	HEDIS
Utilization	<i>Percent of youth with an ER visit in the 3 months post-discharge from residential services.</i>	Youth discharged from residential who have an ER visit within 3 months/ total youth discharged from the facility. Stratify for MH/SA diagnoses if available.	All-cause ER visits give an indicator of the stability of the youth, and possible exposure to violence or dangerous environments, as well as the severity of the youth’s substance use or physical or mental health condition. It also may be an indicator of the need for a medical home.	Adapted from NOMS – Child MH
Utilization	<i>Engagement with community BH services 3 months post-discharge from residential services</i>	For all youth discharged in the last year, the # of community (ambulatory) BH visits in the 3 month period post-discharge for youth discharged / # youth discharged.	This measure addresses how well the youth has engaged with community services in the critical 3 months post-discharge.	Suggestion

Appendix D– Specifications for Proposed Measures

Category	Proposed Measure	Proposed Calculation	Rationale, Adaptation Considerations	Source of Model Measure(s)
Utilization	<i>Average number of days spent in an out-of-home placement in the year following discharge, per youth discharged.</i> [Alternate: Consider “Days spent in Community”]	Total days paid for out of home placements / total youth discharged. Identify different funding sources separately. [Alternate: 365 minus total days paid for out of home placements / total youth discharged. Identify different funding sources separately.]	Time spent in out-of-home care is a key indicator of how the youth is doing in the home environment, and is also of primary importance to youth and families. The alternate is a strength-based version of the same information, which may be preferable.	Adapted from PRTF States, MMBHCBP, CA-RBS, Magellan, Medicaid Core Set – Adults, HEDIS
Utilization	<i>Re-admissions to 24 hour level of care 30 or 90 days post-discharge</i>	Youth discharged who were re-admitted to 24 hour level of care within 30 days and/or 90 days of discharge from residential program / total youth discharged.	Re-admission to 24 hour level of care soon after discharge may point to issues with access to other services in the community or residential practices which could be improved. Some areas may want to consider a longer time period for the readmission window.	Adapted from HEDIS
Utilization	<i>Multi-agency involvement (Juvenile Justice, Probation, Child Welfare, MH)</i>	# of state agencies that each youth admitted to residential in the year are involved with / # youth admitted to residential in the year	Where available from cross-system databases, this gives an indication of both the severity of the issues youth are dealing with, as well as the resources being devoted to them and potentially available for support after discharge. Multiple state agency involvement suggests multiple problems.	Suggestion
Utilization	<i>Average Length of Stay in residential (ALOS)</i>	For all youth discharged from residential, calculate and sum the length of stay (discharge date minus admission date) / number of discharges.	ALOS is a key measure by itself for understanding system performance, and in combination with other data for effectiveness studies. Lengths of stay are not in themselves indicators of the final functional outcomes for youth.	CA-RBS, MMBHCBP, CHARPP, Magellan, CMHBP, IARCCA
Utilization	<i># days in residential per 1000 eligible</i>	# days paid for residential/ 1000 eligible (Medicaid population)	# days in residential per 1000 gives a sense of the impact of residential stays on the population. May be valid only in comparison with other similarly structured systems – e.g. counties.	Suggestion
Cost	<i>Residential and other BH Expenditures per episode</i>	Total residential and BH expenditures for youth in residential between admission and discharge (episode) / the total number of episodes.	This covers the total cost of MH services. Some residential providers bill for outside specialty MH services such as psychiatry, and some include such costs in their own bill, so this measure is designed to capture the total cost regardless of billing structure. Some states may want to look at the relative share of the two.	Suggestion

Appendix D– Specifications for Proposed Measures

Table D-2: Proposed Provider-level performance measures

Category	Proposed Measure Title	Proposed Calculation	Rationale, Adaptation Considerations	Source(s) of Model Measures
Utilization	<i>Average Length of Stay in residential for discharges</i>	For all youth discharged from residential, calculate and sum the length of stay (discharge date minus admission date) / number of discharges.	ALOS is a key measure by itself for understanding system performance, and in combination with other data for effectiveness studies. Lengths of stay are not in themselves indicators of the final functional outcomes for youth. ALOS is the subjects of intense discussion in the field.	CA-RBS, MMBHCBP, CHARPP, Magellan, CMHBP, IARCCA
Utilization	<i>Re-admissions to 24 hour level of care 30 or 90 days post-discharge</i>	Youth who were re-admitted to any 24 hour level of care setting within 30 days and within 90 days of discharge from this provider / the number of youth discharged from the provider.	Re-admission to 24 hour level of care soon after discharge may point to residential practices which could be improved.	Adapted from HEDIS All-Cause Readmission
Practice	<i># Restraints/Seclusions per capita in residential, per year</i>	Total restraints or seclusions / total enrolled in residential during the year.	Restraint and seclusion are key topics in the field.	CHARPP, JC-HBIPS
Practice	<i># Critical incidents per youth per year in residential</i>	Total critical incidents / total youth enrolled in residential during the year.	Each state would have its own list defining “critical incidents,” which would likely include restraint and seclusion but include other events.	Suggestion
Practice	<i>% of admissions and discharges with Medication Reconciliation</i>	Total number of youth for whom Medication Reconciliation was conducted at admission and discharge / total number of residential admissions and discharges of youth on medications.	Reconciliation: physician review of existing medications at admission and consideration of that history in determining ongoing medications. Should happen whenever a youth moves from one prescriber to another.	HEDIS
Practice	<i>% of youth discharged on multiple psychotropic medications</i>	# of patients discharged on multiple psychotropic medications / total discharges.	Medication management in the community must be monitored closely.	JC-HBIPS
Practice	<i>% of informal supports on Child and Family Team (CFT)</i>	# of members of a CFT who are informal supports/ Total # members of CFT.	"Supports" are people chosen by the youth to participate in their Child and Family Team. Consider simply asking if CFTs include informal supports.	CA-RBS
Practice	<i>% youth free from child-to-child injuries while enrolled in residential program, annually</i>	[# youth free from child-to-child injuries in a year/# youth enrolled in the year] X100.	Safety while in residential is a key measure.	CA-RBS

Appendix D- Specifications for Proposed Measures

Category	Proposed Measure Title	Proposed Calculation	Rationale, Adaptation Considerations	Source(s) of Model Measures
Utilization	<i>% of Discharge Type (AMA, Runaway, Administrative, Planned, Loss of eligibility, Managed Care Denial) for youth discharged from residential services</i>	Number discharges from residential for each Discharge type / total number of discharges from residential.	This measure addresses of the most basic questions: did the youth leave because goals were accomplished, or for other reasons?	Adapted from NACBH
Practice	<i>% of youth with a Post-discharge continuing care plan: a) created b) transmitted to responsible adult in post-discharge living environment?</i>	Total continuing care plans created in the year/total discharges in the year Total continuing care plans transmitted in the year/total discharges in the year.	Part of follow-up and transition in care.	HEDIS; JC-HIBPS; similar in Medicaid Core Set -Adult
Living Environment	<i>ROLES Change Score between Residential environment and discharge destination</i>	ROLES score of discharge destination minus ROLES score of residential environment.	Services in the least restrictive environment possible is an overarching System of Care goal.	Magellan, NACBH, IARCCA, CHARPP
Living Environment	<i>Post discharge exposure to maltreatment or abuse in the home, in the three months following discharge</i>	Total # of substantiated reports in the 3 months after discharge, for all youth discharged in the year/ total number of discharges in the year.	Substantiated reports of abuse or neglect address a critical element of child safety and well-being and can be reported from cross-system databases or from community BH provider.	Adapt from CA-RBS, ACF-NSCAW, IARCCA