An Introduction to Community Data Roundtable's Behavioral Health Rehabilitation Services Outcomes Dashboard

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Purpose

This paper presents data from a multi-year collaborative effort including providers, HealthChoices oversight entities, managed care companies, public health advocacy groups, and government. We have all come together with a shared vision of implementing a data-driven community mental health system in Pennsylvania. In this paper we present the Behavioral Health Rehabilitation Services Outcomes Dashboards, which trace aggregate outcomes trajectories for children receiving Behavioral Health Rehabilitation Services (BHRS).

Background on Behavioral Health Rehabilitation Services

BHRS is one of the largest mental health programs in Pennsylvania's child serving system. This "homegrown" behavioral health program came into being as a part of the "wrap around" movement that swept the American landscape throughout the 80s and 90s. Without a formal research base, BHRS is primarily shaped by the regulations that gave it birth, and which are largely found in the contract that regulates behavioral health Medicaid dollars in Pennsylvania: The "Program Standards and Requirements, Appendix T" (The PSR). Collectively, BHRS now accounts for hundreds of millions of dollars from the Pennsylvania budget annually, and serves thousands of children suffering from various developmental and mental health conditions.

BHRS is a community-based service – it is not provided solely in a clinic or hospital, but primarily in the child's home and school. With this family and community-based focus, BHRS services improve our ability "to address the increasingly complex needs of children receiving services in multiple child serving systems (i.e.- child welfare, juvenile justice, education, mental retardation, and drug & alcohol) and offer an alternative to some of the functions clinic/hospital based services have previously played, because home/community delivered services are considered more appropriate to specific tasks of directed treatment" (PSR, Appendix T, Part B(2)).

BHRS is primarily composed of three services: (1) Therapeutic Staff Support (TSS), which is typically a bachelor's level behavior technician working one-on-one with a youth in implementing a behavior plan designed by a master's leveled clinician. The clinician is typically either a (2) Mobile Therapist (MT) who works with children or families in implementing direct face-to-face therapy, or a (3) Behavior Specialist Consultant (BSC) who serves as a consultant by evaluating the problematic behaviors of the child and writing a behavioral intervention plan for the TSS to implement.

Despite the complexity of this clinical challenge, and the size of the program in its current state, there have been few practical attempts to integrate a comprehensive, quantitative accounting of the clinical impact of this service through measurement of patient outcomes. It was over 5 years ago that Knapp and Reed produced the only summary of the already sparse research available on BHRS, in their article "Does (or Why Does) BHRS Work?" (2010). This brief paper (2 pages) presents many of the barriers and problems that our project is trying to address, so it is helpful to review some of their findings. Knapp and Reed point out that:

- BHRS continues to be haunted by the question of whether it really works. There are no articles which address this question in a formal scientific manner (with controls, etc.), and the articles that do exist are on very small samples, and have conflicting results.
- BHRS treats a broad array of ages and diagnoses, incomes and locations, races and genders. The broad diversity of this clinical population present challenges in isolating populations for which efficacy claims could be made.

- BHRS comprises a broad array of services and interventions, the most prominent of which are Therapeutic Staff Support (TSS), Mobile Therapy (MT), and Behavior Specialist Consultant (BSC), but which also include TSS-Aids, Brief Treatment Model, Strengths-Based Model … the list goes on, and cannot be easily summarized, since different areas can have their own versions, and these come in and out of existence regularly. When these programs overlap and inter-program transitions happen over time for individuals, it becomes even more challenging to do a focused analysis of effectiveness or efficacy.
- Ultimately, data generated for this research comes from active clinical treatment data, and not laboratory controlled experiments, so true causal claims are hard to make.

The article ends with a hope that "the large databases of BHRS agencies or managed care companies [will] allow for research into outcomes," but admits that at that time, no such large scale work had been done. The project we present here, takes off from this hope, and is our first presentation of BHRS outcomes done on a larger and more robust scale.

Outcomes in BHRS – *Does BHRS work, and for whom?*

With these limitations in mind, Community Data Roundtable brought together interested stakeholders to meet at regular "Roundtable Meetings" to implement an outcomes system that could help to understand: *Does BHRS work, and for whom?** As of yet, this project does not fully traverse all of the barriers discussed by Knapp and Reed. Most substantially, a control population is not available. However, with the collaboration of a large group of providers and counties, plus the resources of the MCO, PerformCare, we have implemented a large-scale, and consistent data model that is producing some of the most important outcomes data Pennsylvania has ever produced on BHRS. Below we discuss our model, and then show the outcomes trajectories that our project is revealing.

The Model for Collecting Data:

BHRS services require regularly-occurring psychological evaluations, which re-assess service needs, and prescribe a new plan of care based on the evaluation's results. These evaluations occur at the beginning of treatment, prompting BHRS if the child is found to meet the criteria for the program, and then occur regularly after that point at intervals typically ranging from 4 to 6 months (occasionally extending to 12 months for special cases.) These "Best Practice Evaluations" are typically thorough clinical documents, rich in clinical narrative, but not analyzable in any aggregate way for quantitative or structured insight.

The evaluation is a natural place to include an outcomes measurement tool, since evaluations already include thorough assessment of clinical needs and treatment progress. A computer-based outcomes tool makes this clinical intervention more impactful – allowing us to capture the evaluation's insights in way that allows objective analysis at the individual, as well as system level.

Psychologist evaluators who evaluate and prescribe BHRS have a grave responsibility, but few evidence-based tools for making BHRS decisions and prescriptions. While doing a comprehensive psychosocial assessment is within the purview of clinical psychology training, recommending community-based care is a unique skill, in which most psychology programs do not train. Further, there are few continuing education programs on this task, and few tools or norms available for psychologist evaluators to refer to in making their decisions. Thus, CDR's stakeholders decided that the psychologist evaluators should receive real-time feedback on well-structured evaluation results, so that the use of the tool was instantly helpful to actual clinical work, and not just cataloging data for abstract analytical purposes. As such, the inclusion of the outcomes tool is not to simply measure care, but also to provide immediate evidence-based decision-support to impact care.

The Child and Adolescent Needs & Strengths (CANS) assessment

The Child and Adolescent Needs & Strengths Assessment (CANS) is the most famous of a group of social services measurement tools created by John Lyons, Ph.D. These tools all fit into a larger social services measurement and management vision he calls Total Clinical Outcomes Management (Lyons et al., 2010). There are statewide applications of TCOM in 36 states, with implementations on every continent except Antarctica.

Here we will discuss some of the most essential aspects of the CANS, and why it is the best tool to help us answer the question whether BHRS works, and for whom?

The CANS measures communication for action:

The items on the CANS are a discrete list of activities that "get done" in children's community behavioral and mental health. When an item is endorsed by an evaluator, this means that the psychologist, in collaboration with the treatment team and family, has identified that something needs to be worked on and addressed. By endorsing the item, the psychologist evaluator is not just identifying a need, but also an action, and treatment plan direction.

The CANS is designed for making community-based level-of-care decisions.

The CANS is uniquely designed to help match children to the level of care that matches their clinical need, especially in broad and multifaceted community mental health systems.

The CANS is individualized for local needs and realities.

The original CANS is built of "core items" that Dr. Lyons and his team have identified as the "core" action pathways in the child-serving system. Those items were then added to by CDR and its stakeholder groups, to create a tool that uniquely and accurately captures the mental health needs and actions of the Pennsylvania Medicaid system. The CDR CANS-PA added items utilizing a process consistent with the CANS initial design, and has been approved by the central administrative body of the CANS, the Praed Foundation, and bares the Praed Foundation trademark.[±]

The CANS bridges the gap between regulations and patient-centered realities.

One of the most important driving forces in social services are the regulations which dictate various aspects of service provisions, such as level of care decisions, medical necessity decisions, and best practices and principles. In a social service's system, clinical measurement that does not account for regulations risks measuring things so abstractly that the results are not actionable. However, attention only to the regulations that govern a system of care, without measuring and analyzing the clinical realities that the regulations are impacting, can have negative public health implications. The CANS provides a means for providing variables based on regulations (more on this below) that can be measured in action, and as such understood (and impacted) in ways that no other tools allow.

The CANS process ensures reliability.

The CANS has been established as a tool that can create a reliable reading of a child's mental health functioning and status (Lyons, 2009; Anderson et al., 2003). Further, all participants in the evaluators CANS project are annually re-certified on the CDR CANS-PA, using the canstraining.com web page. An evaluator must pass this annual exam, or he or she cannot submit CANS into the CDR system.

The CANS process ensures validity

The CANS also has an established literature substantiating its validity (Lyons, 2009; Dilley et al., 2003; Heng & Liu, 2014). Further, the unique approach of the CANS further substantiates its validity – because fundamentally the CANS transforms the clinical expertise of its scorers into numbers that can be objectively analyzed. As such, the CANS are as valid as the written biopsychosocial evaluations that they accompany.

Project Timeline:

Engaging providers

Between May 2013 and October 2013, CDR worked with the HealthChoices groups, Capital Area Behavioral Health Collaborative (CABHC) and Behavioral Health Services of Somerset and Bedford Counties (BHSSBC), as well as the PerformCare BH-MCO, to pull together local steering committees to implement a system for measuring clinical outcomes in BHRS. The groups represented the broad clinical communities within the HealthChoices areas, including mental health advocates, consumers, government entities, providers, managed care and government.

Implementing a pilot project

Pilot providers were identified in each region.

- CABHC – In the 5 county Capital Region three large scale BHRS providers were identified who worked with CDR to train their evaluators to implement CANS in their evaluation process. Participating providers in the Capital Area were:
    - Pennsylvania Counseling Services
    - Philhaven
    - T.W. Ponessa
- BHSSBC – In the smaller Bedford and Somerset counties, all BHRS evaluators participated in the project. Participating providers here were:
    - Alternative Community Resources Program
    - Alliance Health
    - Assist
    - Craig Hartmann Ph.D.
    - Family Behavioral Resources
    - Footsteps
    - Nulton Diagnostic & Treatment Center
    - Northwestern Human Services
    - Petrosky Psychological
- Provider groups – It is important to note that even though PerformCare, CABHC and BHSSBC led the project with their networks, some providers also independently have joined CDR and used the tool broader than just PerformCare and BHSSBC & CABHC members. Thus, in all, CDR currently possess CANS information from children located in the following counties:
    - Bedford
    - Dauphin
    - Perry
    - Lebanon
    - Franklin
    - Cambria
    - Somerset
    - Cumberland
    - Westmoreland
    - Monroe
    - Fulton
    - Huntingdon
    - Pike
    - Carbon
    - Lancaster
    - Schuylkill

- This represents children covered by most of the BH-MCO's in the state. Below we state the MCOs from which we have information, and then what percentage of our sample is from each of these MCOs:
    - Community Care Behavioral Health Organization (~29%)
    - Magellan (~1%)
    - PerformCare (~58%)
    - Pennsylvania DHS/FFS (~2%)
    - Value Behavioral Health (~11%)

Sharing the BHRS Outcomes Dashboard

After a year and a half of data collection, CDR began producing the data descriptions and visualizations found in this paper. This dashboard, along with other reports produced and shared with the community, guide the Roundtable process where the stakeholders evaluate patient-centered treatment needs.

Understanding the BHRS Outcomes Dashboard

CDR set for itself the task of answering the simple question: "Does BHRS work, and for whom?" To do this, we had to devise an appropriate measure of "severity" that would reach across the vast clinical scope treated by BHRS. Our method for addressing this problem was to draw on the science of the CANS, which has special means for operationalizing regulatory concepts and turning them into quantitative concepts for analysis (See Lyons, 2009 for details, especially chapter 2). Though there is much diversity to BHRS, it is regulated by a handful of formal documents that ultimately define its implementation on a daily basis. Every day, clinicians, care managers, government agents, and so on, implement these regulations and provide care. If we can capture the underlying logic of these professionals at work, we can provide a general measurement of the system at work. The key is to correctly operationalize the BHRS regulations so that an accurate measure of clinical action becomes possible.

Measuring "Severity"

As has already been mentioned, the design of BHRS is highly impacted by the Program Standards and Requirements (PSR), Appendix T, that demarcate the everyday rules of how BHRS is to be prescribed and served in the system. In review of this documentation, the PSR identifies "Severity" as the central concept to differentiate the clientele who require BHRS:

> Symptom severity is often more apparent to the clinician than it is easy to describe. Levels with identifiable indicators can make the process of assessing severity easier. Additional descriptive information remains important to provide clarifying documentation in the child or adolescent's record. Each of the four levels represented in these guidelines requires an assessment of the child's expression of emotional and behavioral disturbance [...]. Also important is an assessment of the impact of any disturbance on social skill development and the relationship between them. Gaging the severity of any of these presenting symptoms is ultimately left to the judgement of the clinician in his or her review. If severity is otherwise linked to endangerment or imminent risk of out-of-home or out-of-school placement, descriptors may be crafted to indicate relative severity. Challenging behaviors closely associated with social contexts such as family, school, or other community activities must be

> considered when determining an appropriate treatment design involving home/community services, or any combination of home/community and the more conventional services. The severity of presentation determines the extent of service need. (PSR, Appendix T, Part B(2), Pg. 8)

With this in mind, CDR has been building a quantitative model of Severity that accounts for the "child's expression of emotional and behavioral disturbance," its impact on "social skill development" and its connection to "endangerment or imminent risk of out-of-home or out-of-school placement." CDR's model keeps true to the PSR's emphasis on four Severity Levels, and differentiates between them based on the "risk of endangerment allowed" at each level (PSR, Appendix T, Part B(2), Pg. 6).

The CANS provides the necessary tools for operationalizing these concepts, since it has domains for emotional and behavioral disturbance (the "Problem Presentation Domain"), social skill development (the "Functioning Domain") and risk of endangerment allowed (the "Risk Domain"). As stated earlier, it is no surprise that the CANS has these domains, since the CANS was designed to help make placement decisions in community behavioral health settings, and the logic of the PSR is homologous to the general structure and logic of most "wrap around" programs throughout the country. The CANS is by its very design meant to capture and measure this logic in the real world.

CDR has thus developed the Severity Score, which is a quantitative model of severity that is derived from CANS scores.[¥] While the Severity Score on a CANS does not actually represent the totality of a client's Severity, since a clinician must always rely on her judgement and knowledge that stretches beyond the CANS, the CANS Severity Score does allow for formal measurement of a client's status at any given time. The underlying clinical logic of the quantitative model used by CDR to operationalize Severity can be seen in this table:

	Summary Language	Clinical Language	% of CANS with this criteria in our sample
Severity 1	Least	No actionable risks, mild mental health problems and functioning deficits	30%
Severity 2	Moderate	1 actionable risk, moderate mental health problems and functioning deficits	29%
Severity 3	Intensive	2 actionable risks, intensive mental health problems and functioning deficits	22%
Severity 4	Highly Intensive	More than 2 actionable risks, intensive mental health problems and functioning deficits	19%

With this model in hand, CDR is able to look at the change of the average member who begins treatment at any one of the four Severity Levels. That is to say: What is the average outcomes trajectory in BHRS for someone who starts treatment at Severity 1, or 2, etc.? We are now measuring the program in its own terms, based on the scoring of professionals working in the field, and exercising their professional judgement as the PSR expects. This measurement will give us insight into the clinical impact of the program in its actual, daily reality.

The Outcomes

The graphs below are the CDR BHRS Outcomes Dashboards. Updates on these graphs will be published semi-annually. They will be made available on the Community Data Roundtable web page (www.communitydataroundtable.org) as well as in updated publications. It is our goal that this information be available for review regularly, and that it be a baseline measure for quality initiatives and decision making in the Pennsylvania child serving field.

Month	# of Clients
0	8,477
6	3,719
12	1,885
18	505
24	14

Number of Clients Evaluated Over Time
Complete Dataset

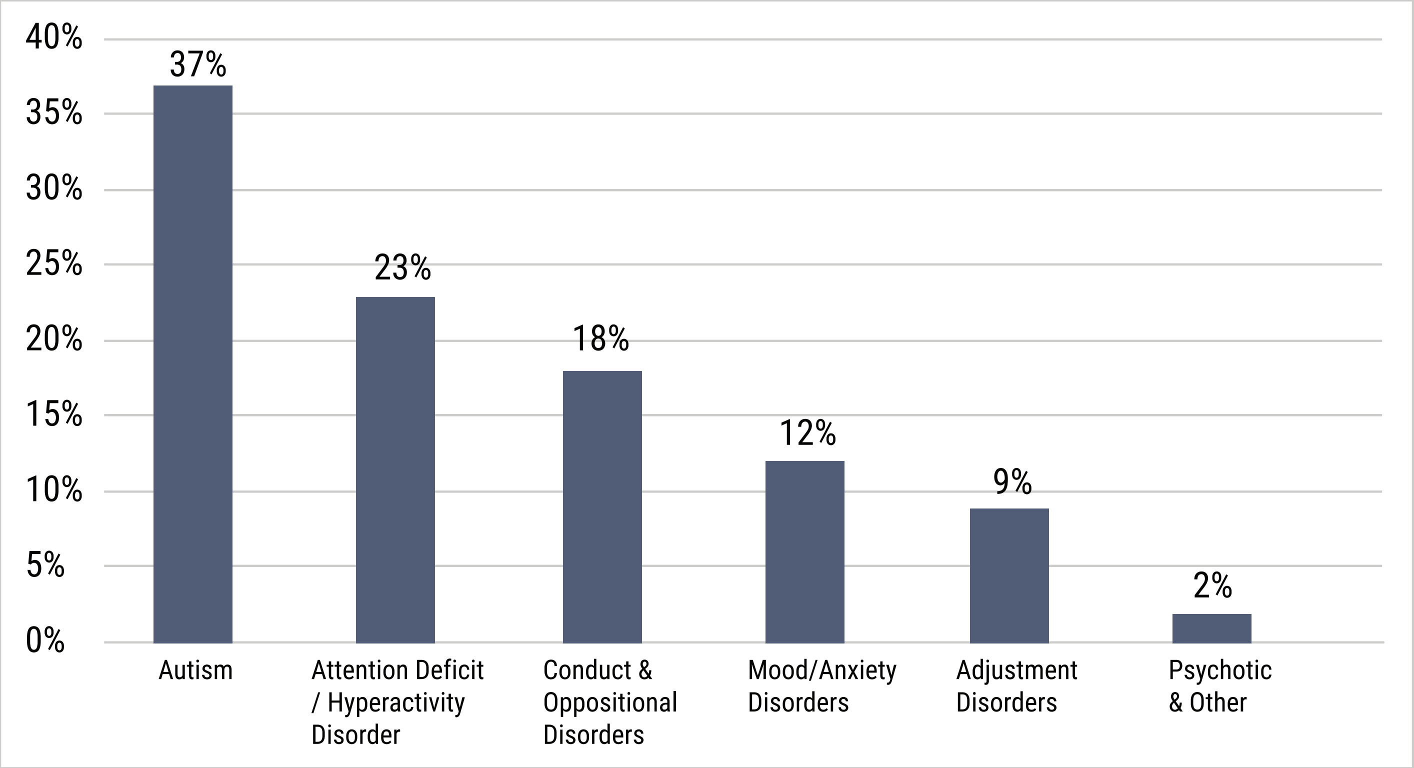
Client Characteristics[a]

	Clients (N=8,477)
Age (in years)	
N	6,632
Mean (SD)	9.2 (4.0)
Median (range)	9.00 (1-27)
Sex	
Female	2,054 (31.0%)
Male	4,578 (69.0%)
Race	
American Indian	11 (0.3%)
Asian	38 (1.1%)
Black	523 (14.9%)
White	2,946 (83.7%)
Ethnicity	
Hispanic	626 (14.9%)
Non-hispanic	3,567 (85.1%)
Autistic	
No	5,011 (66.1%)
Yes[b]	2,574 (33.9%)

[a] Numbers may not sum to total for some characteristics where data are not available.

[b] Autism is defined by ICD-9 diagnosis code 299.xx at any follow-up visit.

Primary Diagnosis Breakdown of all CANS (n=18,484)

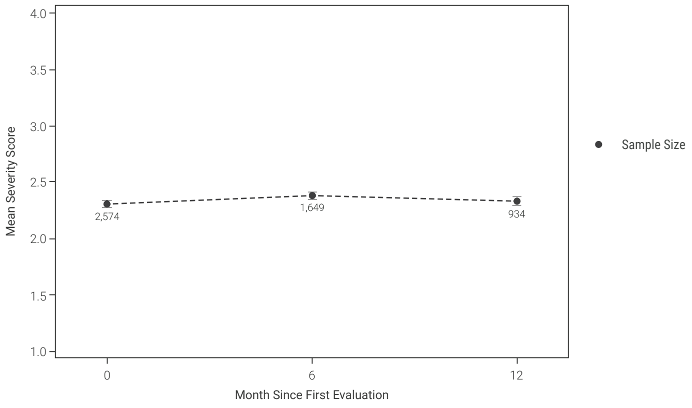


Diagnosing is done at every evaluation and these can change over time. Pinning a client to one diagnosis is not easily done. Thus we have aggregated all primary diagnoses associated with each CANS into this graph.

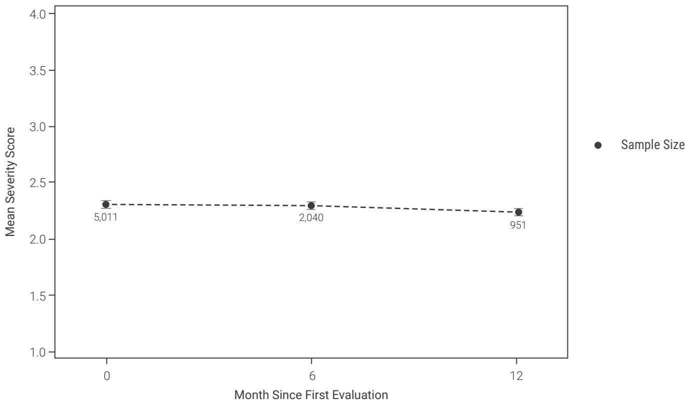
BHRS Outcomes Dashboards

Overall BHRS Outcomes

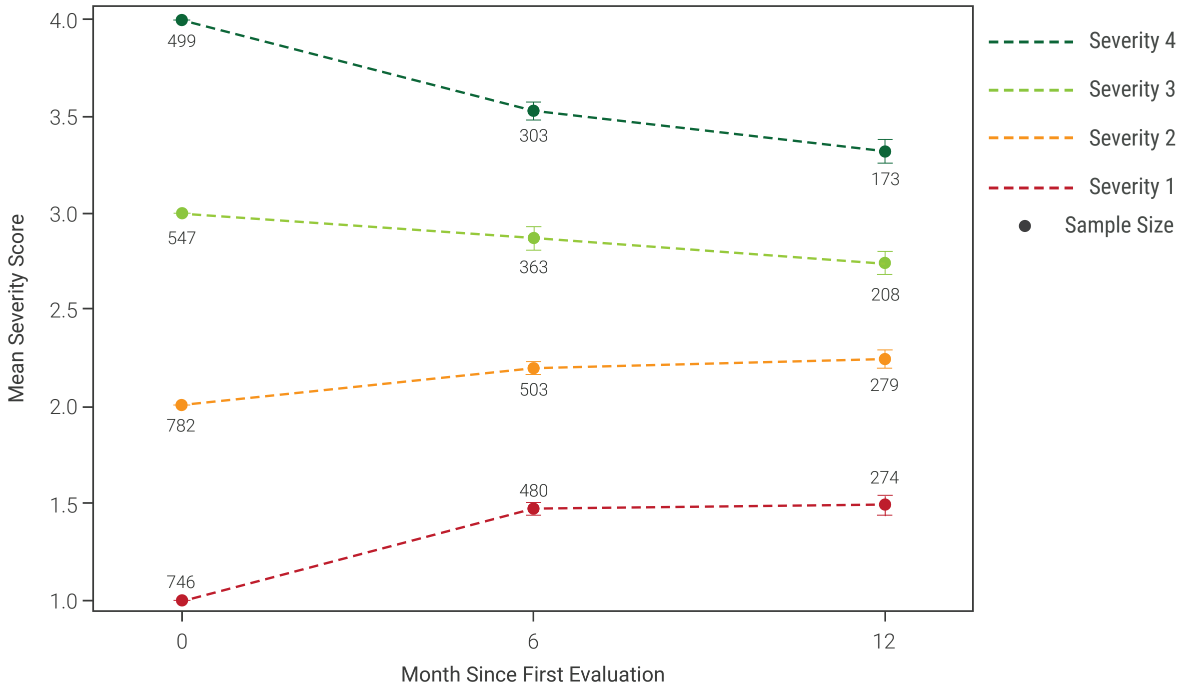
Overall BHRS Outcomes for children with a diagnosis on the Autism Scale (ASD)



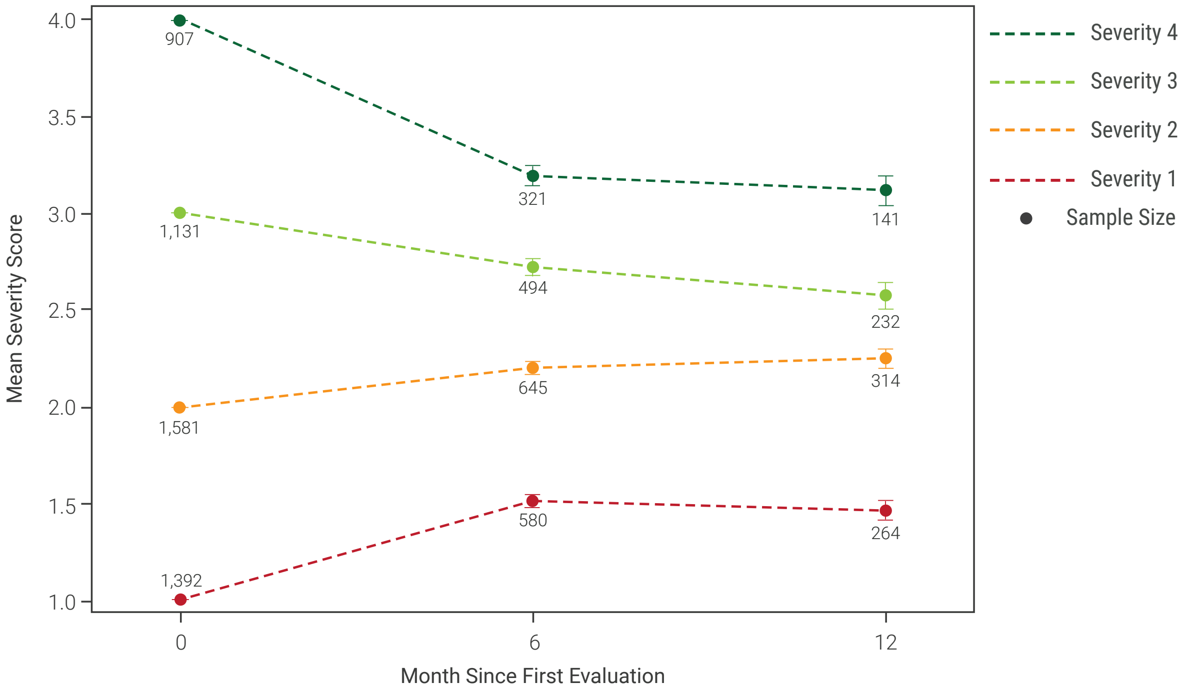
Overall BHRS Outcomes for children with a diagnosis of a Serious Emotional Disturbance (SED)



Trajectory for children with an ASD who enter BHRS treatment



Trajectory for children with an SED who enter BHRS treatment



Data observations

There are many interesting things to note in this data, as well as possible "drill downs" that could be pursued. Here are a few of the most salient insights at the current level:

- On average, children on the autism spectrum tend to have the same outcomes trajectory as children with serious emotional disturbance, when severity is measured as a function of riskiness.
- On average, children receiving BHRS, who start with a ***lower*** Severity Score (1 & 2), are at a higher Severity at their second and third evaluations.
- On average, children receiving BHRS, who start with a ***higher*** Severity Score (3 & 4), are at a lower Severity at their second and third evaluations.
- If children receiving BHRS are not differentiated into Severity Levels, the average treatment trajectory of the program is flat, without any notable aggregate change in either a positive or negative direction.

Discussion on caveats and limitations

Limitations of the psychologist evaluator model:

- First, in its current design, there is no mandate that a person come back for a psychological evaluation when they are done with treatment. Though occasionally people return for one last evaluation when treatment is done, more often than not when a patient ends treatment, they simply end their plans of care, and do not bother coming in for another evaluation. As such, the sample drawn upon for this dashboard cannot necessarily identify a "discharge" status for a patient. The most-recent CANS for a patient does not necessarily indicate the official status of a patient discharging from treatment. This is a problem that the stakeholders are looking to address in moving the initiative forward.
- Second, since psychologists are receiving information from the CANS tool as they are also using the tool to measure clinical change, our process has a feedback loop. In short, the CANS data shared in this report is not "pure" or "controlled." This is data generated by clinicians in their day to day work, and which is already influenced by CANS insights. This limits the universal applicability of some aspects of the data.

Caveats on aggregate analysis of Severity, versus any individual's Severity Score

- It is important to note that any given child can only be assigned to one Severity at any one time (i.e. every child at any given time is either at Severity 1, 2, 3 or 4). However, the aggregate reports of treatment trajectories for people starting at a given Severity Level allow for gradations (i.e. in the outcomes graphs above one sees that outcomes trajectories for each Severity Level end up in the "middle" of Severity levels, like at Severity 1.5, or 2.3, etc..) Again, this is why the graphs here speak to general aggregate trajectories for clients receiving BHRS, but they do not speak to any one individual's status at any one time. At the aggregate level, movement within Severities represents a meaningful "worsening" or "improving" of the "average child" through the BHRS level of care. But there is no such thing as an "average child," and at the individual level such fine toothed distinctions would need to be measured and identified in a different way, and also may very well not represent any given child's actual trajectory.

Is it possible that the rise in Severity 1 & Severity 2 children by the second evaluation is due to more information

coming in through treatment, instead of an actual rise in Severity?

- We should note here that CDR has looked both at people who are starting treatment at each of the Severity levels, or who are just being measured for the first time at whatever Severity level they fall into. In both situations, the shape of the curves is the same. This helps control for the concern that perhaps the change from one evaluation to the next is more due to discovery of more information about actual clinical need, instead of an actual change in need. Our conclusion is that the changes in Severity from one evaluation to the next, as scored in these large aggregate samples, are NOT due to more information, but are due to actual average changes in Severity over time.

Conclusion

After two years of collaborative effort, CDR and its partners have produced some of the most wide-scale BHRS outcomes data ever generated. The findings are not in a controlled environment that could be called research, but the data has a distinct shape and trajectory that bears attending to and taking seriously.

The answer to the question, then, of "Does BHRS work, and for whom?" has a few tentative answers that are ready to be made public.

First, BHRS has an average effect of reducing the severity of children who come in with high severity needs. In short, it "works" for people with multiple actionable risks as measured by the CANS and scored by psychologist evaluators. By "work," we mean that generally such children see an improvement in their mental health symptoms, their functioning, and their "risk of endangerment" goes down. However, BHRS has an average effect of increasing the severity of children who come in with low severity needs. Such children tend to develop more needs through the treatment, in particular at the level of riskiness. So, the summary statement could be, *"It seems that on average, BHRS works for reducing the Severity of children with multiple high risk needs, but turns out correlating with increased Severity of children who have mild to moderate needs."*

CDR does not believe that this is the final statement on BHRS outcomes, but we do believe that this is a good first statement, and that we hope we can springboard into deeper and wider analyses moving forward.

It is our hope at CDR, that with CANS information being reviewed by families, providers and care managers, debate about level of care decisions can be reduced, and data can help guide smarter placement decisions in a timely fashion. Here are a few of the ways we think this information above can already contribute to more meaningful treatment planning decisions in BHRS.

First, for **children and families** considering treatment for their mental health needs, being rated on the CDR CANS-PA can help families have a sense for the outcomes trajectory of their child in BHRS, and can help them evaluate what treatment is best for them. It is our hope that this data empowers families to have more insight during the evaluation and treatment planning process, and to use this information to talk to all members of the treatment team about what could be most positively impactful for their child.

Second, **psychologist evaluators** who use the CDR CANS-PA should consider these outcome trajectories when making treatment prescriptions for children who score at one of the various Severity levels. When the prospects for someone at Severity 1 or 2 is to have a higher Severity Score by the next evaluation when BHRS is prescribed, an assessment of other levels of care is probably in order. Likewise, knowing the possibility that someone at Severity 3 or 4 could benefit from BHRS, should inform disposition planning on clients with such a profile.

That being said, **care management** entities can also benefit from this information, by identifying both those children who have good prospects for benefitting from BHRS, and those whose profiles foretell a worsening Severity when engaged with BHRS. Historically, managed care primarily has access to utilization data, and thus manages based on units, not on clinical need. (For instance, if someone has "been in the program too long" they are managed out, etc.) CANS data allows us to know about a client's actual needs, and thus can help care management be a more clinically sensitive process that makes smart upfront decisions on placement, instead of after the fact review decisions.

It is important to note that the CDR DataPool software not only scores a client's Severity Score, but also has **algorithms to match children to locally available services** that address their clinical needs. A thorough discussion of these algorithms and the logic that links children to appropriate evidence-based programs is beyond the scope of this paper. However, training in these algorithms is available to both psychologist evaluators and care managers, and as such should be informing decisions and conversations with families in the BHRS process. It is our hope that CDR data and decision support can help evaluators and care managers think about the entire spectrum of services available when making disposition decisions for their clients and members.

Last, **planners and policy makers**, when considering the needs and strengths of their system, should consider how their members and citizens should expect to fare in the BHRS system, and this data could inspire a search for services with different outcomes trajectories for children presenting at various Severity levels. The BHRS Outcomes Dashboards are showing that BHRS does work for some people, but not for others – and that Severity is one axis that can help us sort people appropriately. Other such dimensions will mostly likely also become known over time. CDR data is rich with insight that can only benefit system planning on a grand scale.

In all, it is our hope that this CANS data and the CDR BHRS Outcomes Dashboard can contribute to insight, conversation and innovation amongst all stakeholders in the community mental health system. Data should bring clarity that can help build a unified direction that improves clinical outcomes, and resource distribution, across the field.

CDR plans on releasing the above dashboards on a semi-annual basis: once in the Fall and once in the Spring. It is our hope that this information be integrated into any number of quality and planning initiatives made in the children's mental health system.

CDR data stretches beyond just this BHRS Outcomes Dashboard. CDR also currently is involved with data initiatives to better support evidence-based programs in the network including MultiSystemic Therapy, The Incredible Years, Functional Family Therapy, and Parent-Child Interaction Therapy. There are also other ongoing projects. Further, drilldowns and more fine toothed analysis is possible. To learn more about our various initiatives, please contact Amanda Hope, Executive Director (ahope@communitydataroundtable.org), and visit our web page at www.communitydataroundtable.org.

Acknowledgements

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We would also like to thank advisory board members Jason Colditz, & Ed Zuckerman for their invaluable editing and assistance in writing this paper.

Full Disclosure

CDR's Board President, Dan Warner, Ph.D. is also employed by PerformCare as Director of Outcomes. Dr. Warner has not received any remuneration for his work for CDR while employed by PerformCare.

A separate data specifications document is available for parties interested in the methodology underpinning the analysis in this paper. Please contact Executive Director Amanda Hope for more information: ahope@communitydataroundtable.org

Endnotes

* It is important to note that there are many other questions the stakeholders have been simultaneously pursuing, including an analysis of network needs, an analysis of clinical profiles of members of other levels of care including Multi-Systemic Therapy, Community Residential Rehabilitation, Partial Hospitalization, Functional Family Therapy, Parent-Child Interaction Therapy, Outpatient therapy, to name just a few; as well as other questions that emerge through close scrutiny of the data.)

± For more information on the Praed Foundation, please see their web page: www.praedfoundation.org.

¥ For more information on the quantitative modeling of Severity Score, please contact Amanda Hope (ahope@communitydataroundtable.org.) More technical specifications of the measure, including regression analyses, are available.

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