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TA Network Quality Collaborative: Improving the Use of Psychotropic Medication with Youth in Residential Treatment Facilities

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Introduction to the Collaborative

Background

The utilization rates of psychotropic medication among children and adolescents in the United States increased rapidly over the last two decades, with particularly pronounced increases observed in the foster care population.[i] While psychotropic medications can address the behavioral health challenges of youth, they should be rarely used alone or in lieu of an evidence-based psychosocial intervention.[ii] Polypharmacy is the simultaneous use of multiple psychotropic medications, and the practice has become more common, raising concerns about the potential impact of interactions between medication classes and the potential impact to the developing brain.[iii] Copharmacy is the use of two medications from the same class, such as two antipsychotic medications; the practice has also become more common despite its discouragement in clinical guidelines and lack of evidence that concurrent use is safe or effective.[iv]

In the literature, a limited number of studies assess utilization rates of psychotropic medications in residential treatment interventions (residential treatment facilities [RTFs]). These studies generally show high-utilization rates of psychotropic medication,[v] which may be consistent with the relatively higher level of acuity seen in youth referred for residential intervention. However, there is concern about the overmedication of children in residential care as a way to control behavior or to address the lack of coordination and communication across often multiple placements, in addition to other factors. Studies have shown that the use of evidence-based behavioral health approaches can reduce youth's reliance on psychotropic medications in residential care. Research has also shown that residential care, as an intervention, can be a favorable setting for thoughtful medication reassessment because, in general, youth learn new ways of managing their anger, frustration, traumatic experiences, and emotions.[vi, vii]

Focus

Within this context in 2016, the Substance Abuse and Mental Health Services Administration (SAMHSA) funded the National Technical Assistance Network for Children's Behavioral Health (TA Network) to recruit RTFs interested in joining a three-year Quality Collaborative on Improving the Use of Psychotropic Medications in Residential Treatment Facilities (Collaborative). The initiative worked with nine RTFs, from across the United States, to facilitate the development of site-specific quality improvement goals to assure appropriate utilization of psychotropic medication during residential interventions. **The TA Network's goal was to show changes in RTF practices, over time, either due to the use of evidence-based approaches or other strategies; the changes of interest were those that positively impact both problematic medication utilization rates and overall behavioral health functioning and outcomes in youth.**

The initiative's outcomes were designed not only to benefit participating RTFs but also to inform the field on best practices in prescribing psychotropic medication for youth during residential interventions.

Assessment of outcomes occurred through both quantitative and qualitative measures. Participating RTFs identified measures related

> *"Psychotropic medications for youth with serious behavioral health needs may be necessary, but not sufficient to address their challenging behaviors. Best practice guidelines suggest multimodal treatment strategies for youth with most severe psychiatric disorders. There is a risk of over-reliance on medication to address these clinical challenges. The prescribing data from programs may provide some clues in understanding how well multimodal treatment is integrated into care planning."*
>
> Joel Goldstein, Collaborative Participant with The Home for Little Wanderers

to their individual goals for quality improvement. **Results do not compare one RTF against another but show change over time: either in overall medication utilization within an RTF or overall behavioral health functioning and outcomes from admission to discharge.** This report contains outcomes in aggregate, unless a participating program gave permission to make its data available to a larger audience.

In 2017, participating RTFs selected by consensus a set of common measures to track and report. Beginning in winter 2018, these common measures were collected by the sites for the six-month period starting in July 2017. Common measures are identified and discussed more extensively in the Data Management section.

Structure

Teams

The TA Network solicited applications for RTFs to join the Collaborative in late spring 2016. States and tribal communities and system of care (SOC) grantees were encouraged to share the information with those RTFs that would benefit from the Collaborative. Organizations already engaged in quality improvement initiatives related to clinical interventions, including psychotropic medication utilization, and organizations new to the area of quality improvement, were encouraged to apply.

Although the TA Network originally envisioned supporting six RTF teams, it accepted nine teams, from across the country, to participate:

- Children's Canopy Solutions (formerly Mississippi Children's Home Services, Jackson, MS).
- Devereux Advanced Behavioral Health (Villanova, PA).
- Five Acres (Pasadena, CA).
- George Junior Republic (Grove City, PA).
- KVC Hospitals, Inc. (Kansas City, KS).
- Lad Lake, Inc. (Dousman, WI).
- Northern Family Institute (Worcester, MA).
- The Home for Little Wanderers (Boston, MA).
- Vista Del Mar Child & Family Services (Los Angeles, CA).

See Appendix A (Site Profiles) for information on each participating RTF.

Faculty

Core faculty for the Collaborative included several TA Network partners and consultants with comprehensive knowledge of SOC philosophy and practice. Project co-leads brought content expertise in child psychiatry, behavioral health, and residential practice; they also brought an experience and understanding of quality improvement approaches and project management to the Collaborative.

Collaborative core faculty intentionally reflected and modeled SOC values of family and youth voice and offered the perspectives of former RTF administrators and purchasers. Throughout the Collaborative, core faculty convened regularly, initially weekly then bimonthly, to discuss participant technical assistance needs and plan webinars and meetings.

Process

In keeping with the above-mentioned purpose of the initiative—i.e., to review current practices and develop and implement identified strategies collaboratively to improve the prescribing of psychotropic

medications for children and youth in care—RTFs were required to have the capacity to collect and report data on the utilization of psychotropic medication. Specifically, the nine participating RTFs were required to:

- Provide baseline data on the use of psychotropic medications among youth in their care.
- Identify quality improvement goals related to practice, including ensuring the appropriate use of psychotropic medications and appropriate access to evidence-based psychosocial therapies.
- Measure, collect, and report data on both process and outcome indicators through the end of the three-year project (e.g., measurements in the aggregate and at the individual child level, psychotropic medication utilization, and behavioral health outcomes of the population(s) served by the RTF) and identify an approach or approaches to implement and examine for impact in the data.
- Complete assigned tasks within the assigned time parameters and contribute meaningfully in the three-year Collaborative through active participation during scheduled calls and virtual and in-person meetings.
- Participate in peer-to-peer learning activities (described further below) designed to help identify and implement strategies to improve psychotropic medication use and prescribing practices in their facilities.

Throughout the initiative, a learning collaborative model supported participants in tracking their process and outcome indicators using a continuous quality improvement (CQI) structure; the structure was adapted from the Quality Improvement Framework developed by the Center for Health Care Strategies, Inc. (CHCS), a core partner of the TA Network. The TA Network provided clinical and program-related technical assistance to support participating RTFs and facilitated peer-to-peer learning through in-person and virtual Collaborative-wide meetings, topical webinars, conference calls for individual technical assistance, and affinity groups (described below).

The TA Network offered each of the nine participating RTF teams:

- Six individualized virtual consultation meetings per year (12 in the first year of the Collaborative).
- Quarterly, Collaborative-wide virtual expert and peer technical assistance meetings.
- Targeted expert and peer technical assistance at one in-person Collaborative-wide meeting in each of the three years of the initiative.
- Orientation, training, and continued support in the use of the CQI framework, adapted from the CHCS tool, to support a systematic approach to identify and solve problems and plan and implement change.
- Access to a data-driven process designed to yield measurable results.
- Facilitated peer affinity groups on data, staff retention and training, family and youth engagement, and clinical/polypharmacy.
- Access to distance learning through periodic topical webinars.

Activities

Individual Technical-Assistance Calls

During the first year of the Collaborative, the TA Network facilitated monthly individual technical-assistance calls with each participating RTF. In addition to specific items identified by either the faculty or the RTF team (such as funding, logistics, opportunities, etc.), the topics of the monthly calls typically included site, organizational, and project-specific updates; progress on data collection and submission; emerging

technical-assistance needs; and upcoming events. The Collaborative faculty and participating RTF teams developed the agendas for these calls.

Individual technical-assistance calls moved to every other month in years two and three. Call participants included RTF team members (and others the members wished to include), at least one project co-lead, the project coordinator, administrative staff, and other subject matter experts as required.

Project-Update Calls

There were nine Collaborative-wide project-update calls (90-minutes or two-hours in length), beginning in September 2017 and culminating in September 2019. Project-update calls afforded the opportunity for quarterly cross-site sharing of data, accomplishments, and challenges and encouraged peer-to-peer inquiry, dialogue, and relationship building.

In advance of each call, participating teams received a four-slide template (see Appendix B) to populate according to instructions. Using a standardized format, teams presented quarterly updates to one another and RTF faculty on all of the following:

- *Progress/Innovations* related to their overall Collaborative goals, developed or implemented in the previous quarter.
- *Challenges* to achieving Collaborative objectives or the overall quality improvement process and any course corrections made as a result.
- *Data*, including any measure for which progress was seen or that demonstrated the need for improvement.
- *Next steps* implemented or pending implementation for the next quarter's phase of work.

Links to recordings of project-update calls (and any accompanying materials for download) were made available to participants electronically following the calls.

On-Site In-Person Meetings

The TA Network facilitated one in-person Collaborative-wide meeting in each of the three years of the initiative. These meetings provided participating RTF teams opportunities for peer learning, networking, and expert and peer clinical- and program-related technical assistance.

February 2017, Rockville, Maryland. The meeting to launch the Collaborative brought together the nine RTF teams to orient them to the purpose and overall aim of the initiative; to familiarize the teams with SAMHSA, the TA Network, and one another; and to familiarize the teams to the structure of the Collaborative and the CQI reporting process and tool for data collection. RTF teams spent concentrated, facilitated time identifying and refining their site-specific quality improvement objectives to ensure that practices changed over time to positively affect both the medication utilization rates identified as problematic and overall behavioral health functioning of children and youth in care.

The February meeting expanded on the information shared during the virtual, Collaborative-wide launch call in November 2016; included orientation to SAMHSA's interest and investment in the initiative, the TA Network's role and purpose; and included historical context for why the Collaborative was established. The meeting shared information on the use of psychotropic medications with youth in RTFs, youth and family voice and engagement, opportunities and risks for RTFs, and the CQI tracking and reporting process used to collect data and monitor progress throughout the duration of the Collaborative.

February 2018, Baltimore, Maryland. The second meeting of the Collaborative was designed to facilitate peer learning and provide exposure to peer best practices; the meeting also included targeted technical assistance from expert faculty working with the Collaborative. The nine RTF teams spent concentrated,

facilitated time working on the review and refinement of site-specific quality improvement objectives; participated in topical affinity groups and peer panel discussions; and received presentations on best practices by external faculty. Facilitated peer panel topics included family and youth engagement and partnership, best practices, aggressive behavior, and trauma-informed care. Presentations on best practices focused on alternative strategies for treating trauma and strategies for addressing aggressive behavior.

RTF teams reviewed the common measures identified and the reporting procedures; they participated in facilitated affinity groups by topic (i.e., data, family/youth engagement, clinical/polypharmacy and staff retention). Teams also worked individually, via facilitated sessions with faculty, on identified meeting objectives and technical assistance needs; teams also drafted actionable goals and strategies to implement upon returning to their sites.

July 2019, Hamilton, New Jersey. The third and final on-site peer meeting of the Collaborative focused on the review of accomplishments. Participants worked together to identify successes, barriers, and trends in the common measures data; participants collaboratively developed focus areas for reporting results of the Collaborative to the field.

Affinity Groups

In Spring 2018, in response to the success of the facilitated affinity-group sessions at the February 2018 meeting, the TA Network began facilitating affinity groups on data, staff retention and training, family and youth engagement, and clinical/polypharmacy. These calls reflected the participants' expressed strong desire to be able to connect regularly with peers in similar roles to learn, engage in consultation and collaborative problem solving, and share resources. Throughout the Collaborative, project faculty supported the four affinity-groups calls that met monthly (or at other intervals as decided by the group). Agendas for these calls were participant driven.

In response to a request for continued affinity calls beyond the end of the Collaborative, with participants assuming responsibility for facilitation and the TA Network providing limited logistic support, the TA Network continued calls for one year beyond the official end of the Collaborative.

Product Development

Products for the Collaborative were developed in response to needs of participants identified during individual team and Collaborative-wide calls, meetings, review of the CQI tool submissions; and in response to requests from RTF participants. The products primarily consisted of webinars.

The Collaborative's core faculty developed the brief on Operationalizing and Funding Youth and Parent Peer Support Roles in Residential Treatment Settings and the accompanying infographic on Meaningful Youth and Family Engagement in Residential Treatment Settings in 2018. The infographic, in particular, helped distinguish between family and youth *involvement* (i.e., opportunities for participation in program activities that support the youth and family, such as support groups) and *engagement*; the latter concept is far broader and encompasses all aspects of an organization and program, including culture, staffing, leadership, and management. The information was disseminated as part of a targeted workshop at the University of Maryland, Baltimore Training Institutes, in July 2018, and via a poster session at the University of South Florida's 32nd Annual Research & Policy Conference on Child, Adolescent, and Young Adult Behavioral Health in March 2019.

Webinars

Seven webinars were held over the course of the Collaborative, including the above-mentioned initial launch call in November 2016 that introduced the purpose, goals, and structure of the Collaborative

and its participating teams and faculty. Collaborative webinars oriented participants to the CQI process and strategically exposed participants to elements of SOC and best practices in residential treatment, including family and youth engagement, operationalizing and funding youth and family partnerships, cultural and linguistic best practices, metabolic monitoring, and resilience strategies.

Eblast and Resource Sharing

The TA Network shared the many relevant resources collected throughout the Collaborative with participants via a quarterly e-blast containing annotated links and attachments. In addition, all collected resources were made available to participants online, initially through Dropbox and subsequently on the TA Network's website.

Benefit of a Quality Improvement Collaborative Framework

Throughout the Collaborative, participants communicated clearly on how the Collaborative's structure and activities helped them clarify their goals, held them accountable for making progress, and provided the peer learning and technical assistance necessary to achieve real results.

> *"One of the most valuable parts of the Collaborative was the opportunity to hear about best practices that are happening across the nation from the other organizations who participated."*
>
> Donelle Hauser, Lad Lake, Inc.
>
> *"The Collaborative was a driver to help us change the way we thought about psychotropic medications in our program and for integrating that into our total care for youth."*
>
> Lori Keough, Northern Family Institute

Collaborative participants identified the following as the key elements that catalyzed change:

➤ Opportunities for peer learning.

In-person meetings, Collaborative-wide project-update calls, and affinity-group calls provided project teams with the opportunity to learn from each other in real time. At times, sites adopted innovations of other sites. For example, Canopy embarked on a sleep-hygiene initiative after learning about the success of The Home for Little Wanderers in addressing the high rates of sleep medication utilization. The Home for Little Wanderers is looking at its use of PRN or "as-needed" medication after learning about the progress made in this area by the Northern Family Institute (details on both successes are below).

➤ Technical assistance from subject matter experts.

Technical-assistance calls with an individual team provided an opportunity to discuss the team's progress with project faculty on a regular basis. Teams shared challenges encountered, new insights, and results of tested interventions, thereby giving faculty the opportunity to provide 1:1 technical assistance and share relevant resources. Topical webinars provided a venue for sites to hear from experts in the field on a range of topics related to their project goals and objectives.

➤ Accountability.

RTF staff who participated in the Collaborative generally held many roles within their respective organizations, and their quality improvement efforts often competed with other priorities. Having to meet reporting deadlines for the Collaborative and update one another and faculty on TA calls provided RTF staff with a desired level of accountability in moving their initiatives forward and completing associated tasks.

Data and Measurement

To improve the use of psychotropic medications in residential care, it is critically important that RTF leadership see psychotropic-medication utilization as an area appropriate for a quality improvement

approach. Psychiatric care providers[1] in RTFs are an expensive and rare resource, so leaders of RTFs are often more focused on ensuring that they have any psychiatric care provider to care for the residents than on worrying about the quality of that psychiatric service. This Collaborative was designed to challenge that assumption and to model best practices for applying a quality improvement approach to this critical area of clinical practice. A core element of this quality improvement approach, and a mechanism sites used to elevate this issue within their organization, was the focus on gathering and reporting actionable data on psychotropic medication-related measures—using data to drive the sites' quality improvement initiatives was at the forefront of almost all project activities.

Site-Specific Measures. As mentioned above, during the first year of the Collaborative, the TA Network consulted with the nine RTF teams to develop and refine their site-specific goals. The precise needs and interests of each site, consistent with their reasons for joining the Collaborative, informed site-specific goals. Each site received training from the TA Network on how to use the CQI tool to inform a plan-do-study-act approach to quality improvement. Sites identified anywhere from three to eight objectives and for each objective, determined specific strategies for achieving the objective, identified the action steps, and specified timelines. From there, project teams reported their progress on a quarterly basis through site-specific measures that were developed to determine the efficacy of their efforts to implement their objectives. Based on their assessment of the corresponding strategy and data, they described their progress in achieving their strategy, the challenges they encountered, and the modifications they made, if necessary, during the next reporting period. In this way, their objectives, and the strategies to achieve them, were refined through an iterative process. By the end of the first year of the Collaborative, all sites had defined their objectives and were reporting on their outcomes for site-specific measures.

Best Practice Highlight: As part of their initial set of objectives and site specific measures, The Home for Little Wanderers (The Home) conducted an analysis of their overall psychotropic medication utilization and determined that a very high number of youth were prescribed medications for sleep. Wanting to ensure that they were doing everything they could to provide youth with nonpharmacological ways of supporting good-sleep hygiene, the project team pivoted, adding a new goal and set of strategies to ensure that tools and resources were made available to address this issue. Subsequently, The Home instituted a pilot initiative targeting sleep hygiene that included the development of the Sleep Environment Checklist, the Individualized Sleep Assessment, support from an occupational therapist, and a set of policies and procedures developed to help reduce the reliance on sleep medications for youth in their facility. By the end of the Collaborative, The Home saw the percent of youth prescribed sleep medications drop from a high of 89% to 50%—and the initiative had not even been spread throughout the organization at that point.

Common Measures. To identify which sites were progressing on the overarching goal of improving psychotropic medication practices, the Collaborative agreed to develop and adopt a set of common measures to track across all nine sites. The Common Measures Subcommittee was formed and led by the TA Network's medical director (and child psychiatrist); the subcommittee represented at least one member from each RTF team identified and operationalized measures for implementation. Once a list of common measures was drafted by the subcommittee, it was presented to the full Collaborative at the second in-person meeting in February 2018. Based on the feedback from that group, measures that focused on youth and family engagement were added and other measures were further refined. Because the Collaborative was not set up as a research study, these measures were intended to be used

[1] Psychiatric care provider is the term used throughout this document to refer to an individual who is qualified and licensed to prescribe psychotropic medications.

as a method for gauging quality improvement needs; however the data trends provided project faculty and Collaborative sites with enough information to entertain a variety of hypotheses, which should be confirmed by more rigorous research.

A critical factor in developing and selecting the measures was the availability and accessibility of the data and the capacity of the nine sites to report the common measures. The subcommittee needed to balance its desire for having the "best" data with the reality that data infrastructure requires the investment of time and money. The subcommittee settled on measures that told a real story about how each RTF was able to impact prescribing practices over the course of a youth's treatment (i.e., change from admission to discharge data versus point-in-time data) and on measures that a majority of sites felt confident that they could report on. Although some sites had to pull data manually or write new code to prepare data reports, the subcommittee opined that the agreed upon measures would provide actionable information to the sites and the Collaborative.

The common measures adopted were:

- Percent of youth on fewer, more, the same, and no psychotropic medication(s) from admission to discharge.
- Percent of youth on fewer, more, the same, and no antipsychotic medication(s) from admission to discharge.
- Percent of youth on four or more psychotropic medications, concurrently, from admission to discharge.
- Percent of youth on fewer, more, the same, and no sleep medication(s) from admission to discharge.
- Frequency of critical incidents (as defined by site's state licensing body) from admission to discharge.
- Percent of youth taking an antipsychotic medication who were being appropriately monitored for metabolic disturbances (following the American Diabetes Association/American Psychiatric Association guidelines[viii]).
- Percent of youth discharged to a less-restrictive setting, foster home, or to family.
- Percent of youth and parent/caregiver who know the reason for the psychotropic medication and if the medication is helping.

The nine RTFs varied widely in both ability and experience in collecting and using data to inform their work in the Collaborative. Some sites had invested in their data collection capabilities, but most struggled initially to collect reliable data on medication utilization. Strategies to address this barrier included developing new reports in existing electronic health records (EHRs), partnering with pharmacy providers to develop utilization reports, or manually collecting utilization data. Initially, a number of the sites reported pushback from other RTF staff and in some cases, from psychiatric care providers about the data collection. Staff perceived the collection as an additional burden without a clear purpose, and psychiatric care providers were concerned about the intrusion into their scope of practice. To overcome these concerns, it was critical that the data were shared with staff and psychiatric care providers so

> *"The Collaborative drove us to look at some of the data around our medication usage—it wasn't something we were looking at closely on an organizational level. We were able to see common patterns among prescribers as well as individual differences. Some of the data was a surprise to us, and it allowed for us to intervene when probably, without that look at the data, the issues wouldn't have been on our radar."*
>
> Michael Semel, The Home for Little Wanderers

that they understood how to use the data to inform their practice with children and youth. While the data sharing did not alleviate the additional burden of data collection, it did allow staff to see the value of their efforts.

At the final Collaborative convening, participants reported varying experiences with specific common measures and based on those experiences, were making decisions about which measures they would continue to collect and which measures do not provide them with useful information. In some cases, the sites decided to collect additional data (e.g., consider polypharmacy data by medication class) or collect point-of-time data for a measure instead of change from admission to discharge (e.g., for critical incident frequency). Regardless of these differences, there was consensus that the process of gathering and reporting a common set of measures was valuable overall.

Many sites, though not all, saw reductions in medication utilization. It appears that programs who saw youth with the greatest acuity had greater opportunity for deprescribing[2,ix]—these youth were more likely to be referred from inpatient settings where medications tend to be used at higher rates. For other sites serving youth who previously may not have engaged in behavioral health treatment and had unmet needs, medication reductions appeared less likely. However, due to variability across programs, measures and intervention time frames, it was difficult to summarize data in the aggregate. Each site used the common measures individually to identify how interventions impacted medication utilization and other data trends and adjusted accordingly.

Best Practice Highlight: Devereux Advanced Behavioral Health's project team faced a significant burden in gathering and reporting data on common measures. Having multiple sites in multiple states involved in the Collaborative meant that the necessary data were housed in a number of places. Through trial and error, the project team created a system using Microsoft Power BI to integrate the data and complete the necessary analyses with an eye toward standardizing their systems where possible across sites so they could accurately and effectively gather usable data and share it with individual program sites to support quality improvement in a sustainable way.

Devereux is using what it learned to inform its process of procuring a new EHR system that has a more sophisticated ability to report on medication utilization and other quality improvement data.

Strategies and Lessons Learned

The Collaborative's efforts to improve the use of psychotropic medications included interventions focused directly on prescribing practices as well as addressing broad organizational issues that influence RTF cultures and treatment models. Many factors influence how psychotropic medications are considered and used throughout residential treatment settings—beyond a meeting between a psychiatric care provider and an individual youth. The influence of these factors was clear as project teams developed their initial site objectives and strategies. As part of their participation in the Collaborative, sites developed goals to improve the use of psychotropic medications that aimed to do all of the following:

- Increase the quality of engagements of youth and their families to ensure they are involved in and informed about psychotropic medication decision making.
- Increase staff training opportunities to educate both clinical and nonclinical staff about psychotropic

[2] Deprescribing is the act of systematically identifying and tapering, reducing, or stopping medications that are not indicated (either because of a previous misdiagnosis or evidence of no benefit or harm for a true diagnosis) but are causing, or have considerable potential to cause, adverse effects.

medication risks and benefits, what medications can and cannot do to treat symptoms, and about what changes in behavior to expect from medication use.

- Develop or enhance the site's trauma-informed approach to working with youth, throughout their facilities, so that staff can react appropriately to difficult or sometimes aggressive behaviors.
- Improve communication between psychiatric care providers and other RTF staff to achieve a consistent flow of information regarding youth behavior and symptomology, so psychiatric care providers can make informed decisions regarding medications.
- Improve the capacity of data gathering and reporting systems available at the site and increase the use of available data to support reporting and quality improvement.
- Assess and appropriately reduce the amount of psychotropic medications prescribed to youth.

Highlights of Notable Innovations

A comprehensive overview of project team objectives and results are outlined in Appendix A, however, there were site innovations that are worthy of highlighting:

- Use a data-driven CQI approach for the utilization of PRN or "as-needed" medications. The Northern Family Institute regularly analyzed data on how PRN medications were used within their units and created the systems and culture change necessary to drastically reduce the use. Over the course of the Collaborative, the Northern Family Institute reduced by over 90% the number of youth receiving PRN medications.
- Use the *peer review* system when two or more medications are prescribed. Devereux Advanced Behavioral Health instituted this change after analyzing their common measure and site-specific data.
- Involve youth in treatment team meetings. KVC Hospitals instituted this change to better incorporate youth voice into the treatment-planning process, thereby striving to ensure youth are involved in medication decision making and understand the risks and benefits of their medications.
- Increase collection and use of data to improve practice for obtaining consent for medication. Realizing the negative impact that a lengthy process to obtain consents had on timely administration of required treatment, Lad Lake developed a consent-tracking system. The site shared data with its comprehensive team (including the out-of-home care treatment team and the staff family engagement specialist) and monitored and shared results, thereby drastically reducing by 91% the average number of days from initial consent request to signed return.
- Support sleep hygiene to reduce reliance on sleep medications. During the Collaborative, The Home for Little Wanderers piloted a sleep-hygiene initiative that included assessments of the sleeping environment and an individual youth's needs; the initiative produced immediate results.
- Have clear processes and accountability for ensuring that youth on antipsychotics are metabolically monitored. After reviewing rates of metabolic monitoring, multiple sites instituted new policies and procedures to ensure that youth were monitored at recommended intervals.

Next Steps Recommendations for the Field

What follows are recommendations for the field, which reflect the key learnings from the Collaborative related to the experiences of RTF teams as they implemented their goals and objectives. Next steps for the field have been developed and presented for residential interventions, specifically, and for purchasers of children's residential-intervention services. The provision of residential intervention often happens through a partnership between a private entity and a jurisdiction, thereby creating a shared responsibility

for resulting outcomes. Throughout the Collaborative, barriers were identified that require partnerships between the provider and funder to find solutions, which are addressed below.

Residential-Intervention Providers

In order to improve the use of psychotropic medications in RTFs, providers should consider the following recommendations:

Ensure Psychiatric Care Providers, other Clinical Staff, and Milieu Staff Engage Youth in Treatment. Strengths-based, individualized care is at the core of the SOC framework.[x] Some Collaborative sites worked to integrate this into their practice model, establishing goals to engage youth more fully in their treatment through adjustments to how, when, and where they communicated with youth and their families about psychotropic medications.

Lessons learned include the following:

- Youth must be full participants in treatment planning—this leads to better-informed decision making by the provider and fosters engagement of youth. It is critical to have regular discussions with youth regarding:
  - Symptomatology.
  - Understanding of medication risks and benefits.
  - Satisfaction with medication—do they think it is helping? Are they concerned about side effects?
- Provide youth with opportunities to ask questions and communicate concerns about their medications beyond their routinely scheduled face-to-face appointments with their psychiatric care provider.
- Ensure that youth are fully prepared and knowledgeable about their medications at discharge (i.e., they understand why they are taking their medication and are confident their medication is helping as they move to their next living situation and treatment setting).

Best Practice Highlight: Staff at Vista Del Mar Child & Family Services created weekly cottage meetings that focus on psychoeducation for both staff and youth. While youth receive information about their medication in their individual meetings with the psychiatrist, this additional opportunity to learn and ask questions regarding medication through a different lens has created a culture of learning around psychotropic medication usage.

Ensure Staff Meaningfully Engage Family Members. Research shows that treatment outcomes increase when family members are more engaged in treatment. Engaging families in treatment during and after residential interventions is associated with sustained benefits.[xi] Collaborative participants recognized this and embarked on initiatives to better integrate family voice into aspects of their services, including and beyond prescribing practices.

Lessons learned include the following:

- Family members are critical to success in treatment. Whenever possible, they regularly engage with the treatment team and are kept informed about psychotropic medications.
- Family members have multiple opportunities to ask questions about the medications prescribed to their youth—this may include multiparent educational groups.
- Family members are involved in developing organizational policies and procedures and in informing programmatic approaches.

- For youth without available family to participate in treatment, providers must make an effort to identify and engage potential supportive individuals to partner with youth and be partners in any formal "family finding" efforts.

Best Practice Highlight: Canopy Children's Solutions used the Collaborative as an opportunity to refine the integration of its family partner and family advocate into care planning, family work, performance improvement, and administration. The family partner was a core part of the project team and worked to communicate better with families regarding psychotropic medication utilization throughout treatment.

Increase the Quality of Communication between Clinical and Nonclinical Staff regarding Youth and their Medications. Site objectives included strategies aimed at improving communication between psychiatric care providers and other RTF staff. Staff were not always aware of the risks and benefits of medication, and in some cases, psychiatric care providers did not receive valuable information regarding symptomatology and behaviors observed by nonclinical staff on a day-to-day basis.

Lessons learned include the following:

- Processes are needed that make the exchange of information and communication among staff about specific individuals routine and manageable. Regularly sharing data on youth behavior, possible side effects of medication, and rationale for medication changes can benefit treatment overall and also help deflect any tendencies to focus on sharing information only in crisis situations.
- Timely debriefing is necessary—that includes both youth and staff—following any critical incident to ensure that information is shared regarding what triggered the incident, what steps were taken by staff, and any necessary feedback or follow up.
- Psychiatric care providers participate fully as part of the treatment team whenever possible. Residential-intervention providers with psychiatric care providers on staff, versus psychiatric care providers who worked in a consulting capacity (i.e., contracted or locum tenens), saw differences in the ability and effectiveness of psychiatric care providers to communicate with other staff regarding youth treatment plans and to fully understand the organizational systems involved in addressing youth behaviors beyond the use of psychotropic medications.

> *"One of our biggest accomplishments as part of the Collaborative was the infusion of each treatment team member into the milieu. The therapist goes into the milieu and provides guidance on what the team should be doing, the psychiatrist is teaching others about psychiatric interventions, and the nurses are now involved in medication management and education for both staff and youth."*
>
> Dr. Mark Demidovich, George Junior Republic

Best Practice Highlight: Five Acres developed monthly psychotropic drug-review meetings that were successful in helping psychiatrists, clinicians, and nurses take a more cohesive and coordinated approach to supporting youth with challenging symptoms while making maximum use of the time the psychiatric care provider was on-site.

Invest in Staff Recruitment and Training with an Eye toward Staff Retention. High turnover is an issue that affects human service providers across service types. Collaborative teams recognized that when turnover is high, it is hard to sustain progress gained in quality improvement initiatives. Additionally, the quality,

quantity, and delivery method of a training event can significantly affect how staff perceive the range of youth behaviors, react to and manage the behaviors, and report satisfaction with their jobs.

Lessons learned include the following:

- Milieu and other clinical staff play a large role in the treatment process—paying attention to their preparedness for difficult situations they may face and how to respond appropriately to youth behaviors are key. Helpful strategies to select individuals with the right skill set include sharing information with recruits on what their job really entails, starting as early as the interview process through the use of videos or by bringing recruits into the milieu .
- New staff should be supported through opportunities to shadow and/or be mentored by seasoned staff.
- Trauma-informed approaches should include a method for working with staff to understand their own adverse childhood experiences (ACEs) and protective factors that foster resilience.
- Staff training must specifically include psychopharmacology education, so nonclinical staff understand the risks and benefits of specific medications, the appropriate role of medication in treating youth with behavioral health disorders, and what to look for in terms of symptoms and expected changes in behavior.
- It is critical to train staff on family and youth-driven treatment—and their role in that.
- Engaging staff voice in broader organizational decisions and initiatives can be a strategy to encourage staff retention.

Best Practice Highlight: The Northern Family Institute (NFI) observed that utilization of psychotropic medication, specifically the use of PRN or "as-needed" medications, was related to the level of awareness staff and clinicians had on the intent and purpose of the prescribed medications. As part of the Collaborative, NFI's prescribing advanced practice nurse practitioner developed a medication module as part of new employee education. This training opportunity led to a significant change in culture regarding how PRN medications should be utilized, and the rates of youth taking them were reduced significantly. At the start of the initiative, 100% of NFI youth in the two units involved were getting PRNs, and that was reduced to as low as 15%.

Adopting and Continuing to Improve upon a Trauma-Informed Approach. Overall, the human service field is becoming well acquainted with trauma-informed care; however, many children's residential treatment facilities still struggle to effectively implement trauma-informed treatment practices into their service delivery model and maintain a trauma-informed organization.[xii,xiii] For some, taking a trauma-informed approach is a new way of operating, thereby requiring significant investment of time and resources. Staff at all levels need to be trained, policies and procedures need to be revised, and spaces need to be reimagined to reflect the new approach and foster the resiliency of youth.

Collaborative participants agreed that integrating a trauma-informed approach was important as they looked to address the many ways that staff thought about and approached the use and mind-set regarding psychotropic medication.

Lessons learned include the following:

- Implementation is not a time-limited project or task—ongoing work is necessary to ensure sustainability of a trauma-informed treatment milieu.

- There are many trauma-informed models available to residential-intervention providers. Consistency of approach is important as is staff's clear understanding of the expectations and strategies available to them.
- Psychiatric care providers may not be well versed in complex trauma and trauma-informed care—they too need training and support in implementing a trauma-informed care model.

Best Practice Highlight: Throughout the Collaborative, KVC Hospitals continued to focus on how their trauma-informed approach was implemented in the residential setting. Their primary treatment modality is Trauma Systems Therapy, and highlights of their holistic approach included the use of virtual reality technology, expressive therapies, and biofeedback in their work with youth.

Structure Psychotropic Medication-Related Quality Improvement Initiatives for Continuity and Sustainability. For some Collaborative participants, a data-driven quality improvement initiative of this length and intensity was new. Others had robust quality improvement departments dedicated to ensuring the effort would continue to progress and that there were key indicators of success.

Lessons learned include the following:

- It is critical to have a champion within the organization and a designated project lead. They may be the same person or different people, but it is important that someone generates enthusiasm for the initiative, and that someone is responsible for ensuring that work get done.
- Project teams should be multidisciplinary, and include people with specific organizational roles (e.g., clinical, quality improvement, information technologies, and operations). It is especially important that staff responsible for data collection and reporting are included from the beginning as full project team members.
- While quality improvement processes are iterative, attention must be paid to planning for potential sustainable practices from the beginning.
- Whenever possible, psychiatric care providers are full project team members.
- Ongoing commitment from organizational leadership is needed, both to ensure the availability of financial and personnel resources devoted to the project and to ensure that lessons learned can be fully incorporated into organizational changes. Share data regularly with leadership to foster awareness, understanding, and continued commitment.
- Youth and family perspectives are valuable components of the CQI process. It is effective to include youth and family voice in CQI efforts as standard practice.

Best Practice Highlight: George Junior Republic's participation in the Collaborative helped catalyze conversations about the culture surrounding medication use and the overall approach to treatment in the organization. The team was able to leverage the resources of the Collaborative and engage its leadership in the process. While the team focused its interventions in one unit, the lessons learned quickly spread to other units.

Invest in Data as Soon as Possible and Use Them Strategically. Data infrastructure is clearly necessary for the kind of data analysis used in the Collaborative. Data systems can be expensive, complex, and challenging to implement. With the selection of the *right* system and investment of time and resources, however, they can be a quality improvement tool for collecting and reporting clear actionable data that will drive innovation and better outcomes.

Lessons learned include the following:

- When procuring EHRs, pay attention to how easily one can access automated medication data reports.
  - Sites that had flexible EHRs that were easily customizable were more successful at producing actionable data.
- Identifying what you are going to measure is a team effort—staff in different roles need to be involved in selecting measures to gather data on and in defining measure specifications. It is important to ensure that measures make sense from the perspective of those who input the data and those who extract and analyze the data.
- Data need to be relevant to all clinical and nonclinical staff, including milieu staff, and shared regularly so that staff are invested in the process and see the usefulness of the data collection—buy-in is critical to ensure data quality and overall outcomes. Share data in a digestible manner, ideally using visualizations (charts and graphics) and thoroughly integrating it into treatment-care decision processes.
- Manual data collection for complex or numerous measures is unsustainable. Sites that manually collected common measures data reported being burdened by the process, and some were unable to spread the process beyond utilization within a small pilot unit.

> *"As a result of this project, we developed a policy on polypharmacy, and we will be monitoring that process across all states and centers. A peer-review process will be utilized to identify individuals who may be prescribing outside of the guidelines or youth where there are concerns about medications. The data will be reviewed in every medical staff meeting monthly to inform and drive change going forward."*
>
> Dr. Yolanda Graham, Devereux Advanced Behavioral Health

Best Practice Highlight: Lad Lake utilized an electronic health record (EHR) system that was extremely user-friendly, and staff had the ability to make adjustments as needed without much hassle. This allowed the project team access to reliable, actionable data that were critical in helping them achieve their Collaborative goals. Initial data pulls informed them about the amount of time it took them to obtain consents, the number of youth who had follow-up appointments with psychiatric care providers after discharge, and the rates of psychiatrists connecting with families about psychotropic medications—all issues addressed as part of the Collaborative. They were able to closely track their progress on improvements using real-time data from their EHR.

Lessons for State Agency and Managed Care Organizations

To improve the use of psychotropic medications in residential-intervention facilities, purchasers of residential-intervention services, such as Medicaid, managed care organizations (MCOs), child welfare, and juvenile justice agencies must: evaluate their role in how psychotropic medications are used in residential interventions—partnership is key; take action to increase the availability of child and adolescent psychiatric services to youth in residential interventions; consider the impact of large-scale reform efforts on long-term quality improvement goals; and invest in quality improvement infrastructure.

Evaluate Their Role in How Psychotropic Medications Are Used in Residential Interventions—Partnership Is Key.

- The "us-versus-them" dynamic that sometimes plays out when child-serving state agencies and MCOs purchase services from the private sector can hinder the ability of the system, as a whole, to address complicated issues that impact young people and their families, for whom purchasers and providers share responsibility.

- Agencies that purchase children's residential interventions need to develop meaningful relationships with provider-agency leadership, so there is clear communication regarding how the jurisdiction and provider can work in tandem to improve the use of psychotropic medications for youth across service types.
- Decisions about whether or when to discontinue or start a deprescribing regimen during a residential intervention for youth are impacted by the length of stay. Ideally, the funder and the residential-intervention provider will agree on the goals of the residential intervention and engage in discussions about how to assess the appropriateness of medication a youth is currently prescribed—and whether there are opportunities to discontinue or deprescribe some of the psychiatric medications as the youth learns new skills during the residential intervention.

Example: Due in large part to the participation of an employee of a Massachusetts state agency in the Collaborative (at the invitation of a participating RTF), a process was developed in the jurisdiction to support children's residential-intervention providers by offering technical assistance, educational opportunities, and case-specific consultation. Two Collaborative sites, The Home for Little Wanderers and Northern Family Institute, operate in Massachusetts; they were able to share the progress they made as participants in the Collaborative with other providers in the state because of this effort at one of the state's annual symposiums.

Take Action to Increase the Availability of Child and Adolescent Psychiatric Services to Youth in Residential Interventions.

- There were clear differences in the ability of residential-intervention providers to address some of the prescribing-related goals that each provider had as part of the Collaborative based on their relationship with the psychiatric care provider at their organization. For sites that had non-staff, consulting (or locum tenens) psychiatric care providers, it was more difficult to include them in the initiative, thereby resulting in less impactful site-specific and common measure goals.
- The shortage of child and adolescent psychiatric care providers, in general, and their willingness to work within RTFs is a challenge greater than any one organization can bear. State agencies and funders need to work with RTF providers on establishing more systemic approaches to increase the availability of psychiatric care providers, such as by reducing barriers to and supporting internships and rotations, loan-forgiveness programs, recruitment efforts, and the like.

Example: Lad Lake, operating in Dousman, Wisconsin, utilized a psychiatric advanced practice nurse practitioner as a psychiatric care provider for youth in their treatment program. The psychiatric advanced nurse practitioner was an engaged and active Collaborative team member, which clearly contributed to the achievement of their project goals.

Consider the Impact of Large-Scale Reform Efforts on Long-Term Quality Improvement Goals.

- The sites in states that were undergoing large-scale system reform efforts were less able to focus attention on following through with set goals and objectives. In some jurisdictions, change is constant; new administrations can lead to a shift in priorities and focus, preventing provider organizations that contract with child-serving agencies from making investments in long-term solutions. Whenever possible, system partners should leverage ongoing initiatives and priorities to advance shared goals.

Invest in Quality Improvement Infrastructure.

- ➤ As purchasers and providers move toward more outcome-driven, value-based services and contracts, attention should be paid to the infrastructure needed to develop successful programs at the provider level. Financial resources are required to ensure that the necessary systems are in place to gather and report data metrics.
    - There may be opportunities for states and MCOs to support intentional investment in data systems and data-sharing strategies that can make information more available to system partners to drive quality improvement.

Example: A Collaborative faculty member, formerly a state-level purchaser of residential-intervention services, shared with participating sites how data were developed and shared with providers through a regularly updated data dashboard.

Conclusion

The Collaborative was neither designed nor intended as a research project and, therefore, cannot identify the specific causes of medication changes reported during the three-year initiative. However, the process that participating sites used to implement changes, evaluate their impact, and adjust accordingly led project faculty and participant teams to identify a number of hypotheses related to medication changes observed across the sites.

Sites that saw the most significant reductions in medication utilization were often those designed to serve youth with the highest level of acuity. These youth often have had multiple hospitalizations resulting in complex medication regimens. This may have allowed the residential-intervention providers to deprescribe some medications as longer-term therapies taught strategies and built skills so that youth no longer required some medications. In sites designed to serve youth with lower acuity (i.e., sites that serve as a higher level of care when outpatient services are not showing success), it may be more appropriate for youth to be prescribed new or additional medications as the site's clinical teams identify behavioral health needs and targets for medications.

Finally, one of the most interesting outcomes of the Collaborative is how many successful interventions—family and youth engagement in particular—did not initially appear to be directly related to psychotropic medication practices. The significant gains made by several sites in these areas appear correlated with better outcomes for youth, families, and staff. While this did not always translate to medication reductions, it led to improved overall outcomes for youth and families during residential interventions.

There were a variety of resources and tools developed throughout the Collaborative, which can be found by visiting: https://theinstitute.umaryland.edu/our-work/national/network/cbps/resources/

Appendix A: Site Profiles

Canopy Children's Solutions Site Profile

Site Name: Canopy Children's Solutions

Team Members: Psychiatric Residential Treatment Facility (PRTF) Program Director, Application Support Analyst, Director of Quality and Evaluation, Psychiatric Nurse Practitioner, Director of Nursing, Senior Director of Practice

Location: Jackson, Mississippi

Facility Highlights: 60 licensed PRTF beds

Average Length of Stay: Five months

Referral Sources: 82% from inpatient settings, 5% from outpatient mental health, 8% from child protective services, 2% from school districts, 3% from youth court

Baseline Psychotropic Medication Utilization: 86% receiving psychotropic medication

Treatment Model Highlights:

- Application of Building Bridges Initiative (BBI) principles to foster family and youth engagement.
- Trauma-informed care (Risking Connections).
- PracticeWise.
- Long-term outcomes research.
- Full integration of family partner and family advocate into organizational structures and processes.
- Use of pharmacogenetics in medication management practice.
- Coordinated-care model utilizing the Canopy continuum.
- Full-time prescribers on staff.

Quality Objectives:

Objective	Related Key Accomplishments
Improve reporting from contract pharmacy to provide sustained ability to evaluate medication use.	All psychiatric practitioners utilize e-prescribing. Improved documentation of medications in the electronic health record (EHR).
Improve reporting capacity of the current EHR to provide sustained ability to evaluate medication use.	Identification of opportunities to improve the utilization of the EHR.
Create and standardize the integration of psychopharmacogenetic testing (PGT) into clinical practice guidelines to inform psychotropic medication use.	Pharmacogenetics testing initially fully integrated into practice—medical staff decided to utilize PGT as a targeted intervention when establishing a medication regimen requires this level of testing since some managed care organizations no longer cover PGT.
Increase family engagement.	Deeper integration of family partner and family advocate into organizational structures
Identify solutions to reduce aggressive behavior.	Initial integration of resilience dosing into the Day School (PRTF) culture. While the methods are promising, they have yet to have an effect on reducing emergency safety interventions (ESIs) in the PRTF.

Devereux Advanced Behavioral Health Site Profile

Site Name: Devereux Advanced Behavioral Health

Team Members: Chief Clinical and Medical Officer and Senior Vice President, Corporate Program Manager, Quality Improvement Team Members, Information Resources Team Member, Site Medical Directors, Director of Pharmacy (TX), Director of Family Engagement, National Director of Population Health

Location: Corporate office in Villanova, Pennsylvania; sites—Arizona, Colorado, Georgia, Florida, Massachusetts, New York, Pennsylvania and Texas.

Facility Highlights: Devereux Advanced Behavioral Health is located in 14 states, currently serving approximately 20,000 individuals and families affected by autism spectrum disorders, intellectual disabilities, behavior disorders, social/emotional disorders, substance use disorders, and child maltreatment (traditional and treatment foster care); 971 children and youth currently receive care in residential treatment facilities

Average Length of Stay: Varies across sites; 424 days in 2016

Referral Sources: 44% from educational institutions, 35% from managed care organizations, 16% from Department of Human Services, 3% from parents or other providers, 2% from juvenile justice system or probation

Baseline Psychotropic Medication Utilization: 73% receive at least one psychotropic medication

Treatment Model Highlights:

- Clinical implementation of evidence-based practices (e.g., Trauma Focused-Cognitive Behavioral Therapy, Dialectical Behavior Therapy, Functional Behavioral Assessments).
- Trauma-informed care across all settings.
- Positive Behavioral Interventions and Supports implemented in all settings.
- Use of BBI Principles to improve practices.
- National family engagement initiative.
- National Medical Advisory Committee to share/vet practices.
- Quality improvement and continuous quality improvement (CQI) systems and processes to support data-driven decision making.

Quality Objectives:

Objective	Related Key Accomplishments
To reduce the burden of psychotropic medications on the clients Devereux serves.	Total burden not reduced but policy developed around appropriate use and monitoring.
To identify key strategies to improve clinical and health outcomes (specifically targeting obesity, hyperlipidemia, diabetes II) and reduce the challenges encountered in medication management.	Medication monitoring protocol updated to include recent developments in best practices. Lots of resistance to monitoring abdominal girth but able to demonstrate it can be done successfully without significant boundary concerns.
Disseminate data to providers to monitor quality and support the peer review process.	Utilized Microsoft Power BI to pull data from EHR systems to generate monthly reports. Developed a policy requiring peer review related to polypharmacy; revising peer review form to include target measures.
Improve awareness of medication prescription practices and family engagement initiatives among clients, family members, leadership, and stakeholders.	Added medication questions to satisfaction survey; completed BBI assessment at project start and end and will implement annually.

Five Acres Site Profile

Site Name: Five Acres

Team Members: Health Service Supervisor, Division Director, Residential Treatment, Chief Clinical Officer, Director of Quality Assurance, Director of Research and Clinical Training, Research Assistant

Location: Pasadena, California

Facility Highlights: Five Acres Residential Division provides intensive, out-of-home placement and therapeutic services for children and their families.

Average Length of Stay: Eight months

Referral Sources: 100% referred by the Los Angeles County Department of Children and Family Services; 123 youth served in fiscal year 2017/2018

Baseline Psychotropic Medication Utilization: 92% of youths receive psychotropic medications

Treatment Model Highlights:

- Training of evidence-based practices (e.g., Managing and Adapting Practice).
- Incorporates trauma-informed care approach with integrated core practice model. Services are delivered via coordinated, multidisciplinary child and family teams (CFTs).
- CQI systems to support data-driven decision making.

Quality Objectives:

Objective	Related Key Accomplishments
Create a facility-wide set of procedures detailing the use of psychotropic medications among clients in our care.	Facility-wide procedures have been established, finalized by the rest of the agency directors, and disseminated across the agency.
Incorporate data elements to track psychotropic medication use in existing EHR.	Data have been successfully pulled and are now utilized to develop reports.
Improve communication between prescriber and other residential treatment facility (RTF) staff to improve quality of psychotropic medication prescription practices.	Monthly psychotropic drug-review meetings established between prescribers, nurses, clinicians, and residential staff to provide psychoeducation on difficult cases and review data reports to inform treatment planning.

George Junior Republic Site Profile

Site Name: George Junior Republic

Team Members: Director of Development/Project and Data Coordinator, VP of Treatment Services/Treatment Oversight, Director of Nursing/Care Manager and Coordinator, Psychiatrists, Director of Information Technology/Technology Expert and Manager

Location: Grove City, Pennsylvania

Facility Highlights: Daily average census of 500

Average Length of Stay: Six to nine months

Referral Sources: 40% from child welfare, 60% from juvenile justice

Average Psychotropic Medication Utilization: An estimated 50% of youth are prescribed psychotropic medications

Treatment Model Highlights:

- Public school residential academic, career, and technical education.
- Adventure-based counseling.
- Full-time nurses employed from 6 a.m. to 10 p.m. with on-call coverage, with subcontracted primary care provider, dentist, and optometrist.
- Two psychiatrists on staff full-time.
- Two diagnostic programs.
- Three drug and alcohol programs.
- Two RTFs.

Quality Objectives:

Objective	Related Key Accomplishments
Engage and educate parents in the treatment and progress of youth, with the goal of returning home successfully.	Treatment team coordinators now have regular contact with families.
Identify and make certain pharmaceutical and nonpharmaceutical interventions are appropriate for youth in the two participating cottages.	New strategies have been proven effective and will be sustained: • Tracking of restraints has now led to a movement to become a restraint-free organization within the next six months. • Nurse integration into one team has led to a new job posting specifically for a nurse to be hired directly to work with the two units—licensed practical nurse position. • The organization's focus is moving from conduct management to a behavioral health and evidence-based focus. • Transitioning to the following: youth are becoming full participants in treatment planning and their medications at discharge.

Engage unit/treatment staff in the initiative to improve the use of psychotropic medication through initial and ongoing education on psychotropic medications, interventions, and documentation.	• Staff education on use of psychotropic medications. • Nurse integration into treatment team. • Nurse tracking metabolic markers. • Focus on collaborative effort to implement strategies to decrease use of restraints. • Movement toward a trauma-informed organization

KVC Hospitals, Inc., Site Profile

Site Name: KVC Hospitals, Inc.

Team Members: Medical Director, Director of Integrated Health Care, Nurse Practitioner, Senior Director of Hospital Services

Location: Kansas City, Kansas

Facility Highlights: Two sites, 45 beds

Average Length of Stay: Two to four months

Referral Sources: 70% from child welfare and juvenile justice

Baseline Psychotropic Medication Utilization: 99% are prescribed psychotropic medication

Treatment Model Highlights:

- Use of virtual reality technology.
- Biofeedback.
- Trauma Systems Therapy.

Quality Objectives:

Objective	Related Key Accomplishments
Increasing child and family collaboration in treatment.	Self-evaluation of youth engagement strategies by using the BBI youth engagement tool. Piloted the inclusion of youth in treatment-team meetings.
Enhance medication management goals and objectives in treatment plan.	Positive Behavioral Interventions and Supports implementation to include leadership meetings, data-based decision making, and strategies for planning universal interventions.
Provide and enhance education regarding mental health and medication management for parents.	Provided education to families throughout treatment and upon discharge.

Lad Lake, Inc., Site Profile

Site Name: Lad Lake, Inc.

Team Members: Chief Program Officer, Clinical Director, Psychiatric Nurse Practitioner, Performance and Quality Improvement Director

Location: Milwaukee and Dousman, Wisconsin

Facility Highlights: 300 staff on three campuses serving 1,100 youth annually in all programs; 170 youth at two Wisconsin residential campuses annually

Average Length of Stay: 184 days

Referral Sources: 68% from child welfare, 32% from juvenile justice

Baseline Psychotropic Medication Utilization: 66% of residential youth are prescribed psychotropic medications

Treatment Model Highlights:

- Strength-based/person-centered approach.
- Trauma-informed care philosophy and practice.
- Experience in wraparound-care coordination.
- Holistic approach, engaging the entire care team.
- Full-time psychiatric nurse practitioner essential part of care team.

Quality Objectives:

Objective	Related Key Accomplishments
Reduce the amount of time it takes to obtain legal guardian's informed consent for psychotropic medications.	Increased the collection and use of data to improve practice: • Developed a consent-tracking system. • Shared data with comprehensive team. • Monitored data and shared results.
Reduce the number of psychotropic medications, as appropriate, from admission to discharge through assessment and tracking.	Integration of treatment team members: • Psychiatric care provider increased participation in treatment team reviews. • Admissions, therapist, unit managers, and psychiatric care provider sharing information and working collaboratively. • Resulted in the appropriate reduction of psychotropic medications.
Improve family participation in residential psychiatric care through education, engagement, and improved tracking.	Increased family engagement: • Established expectation for psychiatric provider to connect with families. • Family engagement specialist and admission team engaged with families prior to admissions.
Strengthen ties with community psychiatrists.	• Strengthened ties with community providers. • Aligned with statewide Care4Kids Program. • Transformed practice to have a discharge summary available for parents upon discharge.

Northern Family Institute Site Profile

Site Name: Northern Family Institute: Adolescent Intensive Residential Treatment Program (IRTP)

Team Members: Advanced Practice Nurse, Director of Nursing, Nursing Staff

Location: Worcester, Massachusetts

Facility Highlights: Northern Family Institute IRTP is a secure, locked facility housed in the Worcester Recovery Center & Hospital, owned by Massachusetts Department of Mental Health—two units, 30 beds total

Average Length of Stay: Six to nine months

Referral Sources: All youth are referred through Massachusetts Department of Mental Health

Baseline Psychotropic Medication Utilization: 94% of youth receive psychotropic medication

Treatment Model Highlights:

- Normative model—interdisciplinary approach—similar philosophies.
- Integrated, Attachment, Regulation and Competency-informed treatment care planning

Quality Objectives:

Objective	Related Key Accomplishments
Implement improved communication and monitoring strategies.	Improved use of trauma-informed care. Partnership between psychiatric care provider and nurses on psychotropic medication use and education strategies.
Inform and educate stakeholders, including youth and their caregivers, staff, and clinicians, to the intent and purpose of prescribed medications.	Increased family involvement and engagement through increased outreach and education regarding psychotropic medication, starting at admission and continuing throughout treatment. Ensure that every youth understands the indications for their medications and the target symptom/behavior for medication use.
Reduce the number of youth receiving PRN or "as-needed" medications for non-emergent reasons.	Significant reduction in PRN medication utilization. Evaluating PRN medication use is part of quality improvement program to ensure sustainability beyond the Quality Collaborative on Improving the Use of Psychotropic Medications in Residential Treatment Facilities.

The Home for Little Wanderers Site Profile

Site Name: The Home for Little Wanderers

Team Members: Psychiatrists, Director of Nursing, Vice President of Clinical Quality and Outcomes, Director of Evaluation and Research, Occupational Therapists

Location: Boston, Massachusetts

Facility Highlights: Serving 127 youth at four residential/group home facilities where psychiatric treatment is provided directly by prescribers.

Average Length of Stay: One year to 18 months

Referral Sources: 19% referred by the Massachusetts Department of Mental Health, and 81% (103 youth) are referred by the Massachusetts Department of Children and Families

Baseline Psychotropic Medication Utilization: 83% receive psychotropic medication

Treatment Model Highlights:

- Residential and intensive group home treatment settings for youth and families.
- Focus on providing trauma-informed care in milieu and clinical work.
- Utilize Integrative Treatment of Complex Trauma (ITCT) as an organizing framework for treatment intervention.
- Expertise in treating complex trauma and in supporting families with youth who have been adopted.
- Use of parent and youth peer supports.

Quality Objectives:

Objective	Related Key Accomplishments
Reduction in the use of sleep medication.	Utilized an interdisciplinary approach involving psychiatric, nursing, clinical, milieu, and occupational therapy resources to develop and focus on individual and environmental sleep assessments as well as modifications in staff behavior to better support sleep.
Reduction in polypharmacy.	Development of a Judicious Use of Polypharmacy thought tool that prescribers can use to self-check best practices.
Focused efforts to support better permanency outcomes for youth.	Co-occurring agency-wide focus on permanency has driven shorter lengths of stay, increased youth hopefulness about the future, and has contributed to improved mental health functioning.

Vista Del Mar Child and Family Services Site Profile

Site Name: Vista Del Mar Child and Family Services

Team Members: Unit Director, Psychiatrist, Director of Quality Assurance, Senior Vice-President of Intensive Intervention Programs, Nursing Director

Location: Los Angeles, California

Facility Highlights: The community treatment facility, originally classified as level 14 by the state of California, is a 24-bed locked unit short-term residential treatment program under California's Continuum of Care Reform; 24 children.

Average Length of Stay: One year

Referral Sources: 96% referred by DCFS, 4% referred by probation

Baseline Psychotropic Medication Utilization: 75% of patients currently take psychotropic medication

Treatment Model Highlights:

- Trauma-informed care.
- Relationship-based and Dialectical Behavior Therapy-oriented treatment.
- Substance abuse counseling.
- LGBTQ-based groups.

Quality Objectives:

Objective	Related Key Accomplishments
Reduce psychiatric emergency room visits/ hospitalizations.	Created protocols to minimize unnecessary emergency room visits and hospitalizations.
Improve monitoring of physiologic parameters when prescribing psychotropic medications.	Development of a Judicious Use of Polypharmacy thought tool that prescribers can use to self-check best practices.
Improve adherence to medication.	Integrated staff and patient education about the use of psychotropic medication into programming.

Appendix B: Project Update Call Slide Template

Progress/Innovations

- <Use this slide to highlight progress or innovations that have been realized, since the last Project Update call, related to your objectives. You may not have something to report for every objective.>

Challenges

- <Use this slide to highlight the most significant challenges – and solutions if applicable – you have encountered or anticipate that you will have to address/resolve between now and the next call in December.>

Current Data

- <Use this slide to identify any measures for which you have seen progress, or that demonstrate the need for improvement.
- Be prepared to verbally articulate your thoughts on what is contributing to both successes and the areas you need to work on moving forward.>

Next Steps

- <Identify any next steps your have/are implementing for the next phase of you work.>

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