# Cohort 2 Report Synopsis


Authors:

**Chris Sheldrick, PhD,** Co-Director, Research & Evaluation

**Emily Feinberg, ScD, CPNP,** Director of Emerging Projects

**Anita Morris, MSN,** Executive Director

**Elijah Boliver, MPH,** Practice Transformation Analyst



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The TEAM UP Scaling and Sustainability Center (TEAM UP)'s mission is to work toward a future in which "all children and families will live within a community that fosters and promotes physical and behavioral health, wellness, and resilience." To do so, TEAM UP promotes "innovative and consistent delivery of trauma-informed, culturally responsive, integrated behavioral health care from birth to young adulthood." Consistent with prominent frameworks in implementation science,[1] we seek to evaluate TEAM UP's overall impact with respect to how many children and families are served (i.e., reach of services), how well those services promote improvements in health (i.e., effectiveness of services), and the extent to which all children and families have real opportunities to benefit (i.e., equity).

In this report, we first summarize the overall, peer-reviewed findings to date with respect to key domains of impact and implementation. We then describe key findings of each individual report produced at the conclusion of a five-year TEAM UP implementation period that engaged the second cohort of TEAM UP Legacy Practices: Brockton Neighborhood Health Center, DotHouse Health, New Bedford Community Health, South Boston Community Health Center.

## Summary of Impact

- Reach: Several rigorous analyses of medical claims data have compared TEAM UP sites to non-TEAM UP sites.[2–4] These analyses consistently confirm that TEAM UP extends the reach of behavioral health services compared to children who receive standard pediatric care.
- Effectiveness: To date, TEAM UP has adopted two approaches to assess for changes in health outcomes. First, we enrolled a cohort of families who received behavioral health services through TEAM UP and then completed standardized questionnaires about their children over a series of months.[5] Analyses confirmed that these children experienced decreased symptoms over time as well as improved school functioning.[5] Second, we leveraged data from screening questionnaires that exist in electronic health records to conduct propensity score analyses of the effectiveness of behavioral health services provided through TEAM UP.[6,7] Analyses confirmed that children who have visits with behavioral health clinicians and/or receive psychopharmacology experience decreased symptoms over time compared to children who do not receive such services.[6,7]
- Equity: Given its mission to improve equity, TEAM UP has always had a unique focus on populations served by community health centers or practices that serve a large Medicaid population. In addition, evaluation activities have focused on ensuring that all families served by TEAM UP practices have equal access to care. As described in **report #1** (see below), we launched TEAM UP for Equity, a unique initiative designed to engage clinicians in identifying key patient populations, identifying differences in care between those populations, and collectively strategizing to address any inequities revealed. In addition, **report #2** explores the impact that telehealth services had on behavioral health (BH) service equity.

## Summary of Implementation

- Healthy workforce. Too often, innovation in healthcare places greater burdens on frontline providers. TEAM UP strives to foster and sustain an engaged workforce and satisfying work environment. Consistent with prior surveys[8] and qualitative studies,[9] **report #3** (see below) suggests that TEAM UP continues to be successful in this aim, and **report #4** describes clinician's engagement with the TEAM UP model.
- Improved workflows. TEAM UP improves operations by pragmatically improving workflows. **Report #5** describes how TEAM UP developed innovative data visualization tools to engage clinicians in the quality improvement process, focusing specifically on care for anxiety and depression. **Report #6** extends these tools to care for ADHD. **Reports #7 and #8** continue the focus of ADHD care and offer further detail derived from chart abstraction (#7), including the critical role of continuous quality improvement to test and optimize workflows (#8).

## Key Findings of Cohort 2 Individual Reports

### Report 1. TEAM UP for Equity: Use of Data on Race, Ethnicity, and Language to Improve Equity in Behavioral Healthcare

- The TEAM UP model strives to understand and address disparities in BH service use, especially among populations served by partner health centers.
- Utilizing a clinician-engaged approach on healthcare outcome analyses by race, ethnicity, and language offers more precise insight in identifying differences in care and preferences among patients with unique cultural backgrounds.
- Our approach allowed for the creation of meaningful categorizations of patient populations, enabled clinicians to test their own hypothesis, and ensured equity in subsequent healthcare improvements.
- This reported has been presented at two separate conferences: the 16th Annual Academy Health Conference on the Science of Dissemination and Implementation and the Healthcare Data & Analytics Association 2024 Annual Conference[10,11]

### Report 2. TEAM UP Special Report on Telehealth

- Practices pivoted to telehealth quickly with the onset of COVID-19 pandemic; telehealth visits accounted for 75% of BH visits.
- Telehealth usage for BH visits has remained an important modality for providing BH services, accounting for more than 40% of BH visits in more recent years
- Telehealth was disproportionately used by male school-aged patients and female adolescents, presumably related to the distribution of behavioral concerns (ADHD for school-aged males[12] and anxiety & depression for adolescent females).[13]
- The likelihood of utilizing telehealth was affected by the primary language spoken by the patient. Patients who spoke Spanish, Cape Verdean Creole, or Albanian were less likely to have telehealth visits when compared to the average patient. However, one practice demonstrated that Vietnamese speaking patients were more likely to have telehealth visits compared to the average patient.
- Demographic characteristics such as language varied greatly by site, and these interactions should be considered in future analyses.

### Report 3. Cohort 2 Staff and Provider Survey Report: Analysis of Perceptions of Burnout and Job Satisfaction

- Cohort 2 implementation coincided with the COVID-19 Pandemic, which was associated with significant worsening of burnout among the healthcare workforce.[14] Consistent with that trend, Cohort 2 practices implementing the TEAM UP model also saw levels of burnout increase over the study period. However, these levels remained lower than national comparisons.
- Based on the Maslach Burnout Inventory – Human Services Survey for Medical Personnel (MBI),[15] Cohort 2 staff and providers felt more competent in their work and achievements, less emotionally drained, and had fewer impersonal responses towards patients, as compared to national samples by the end of the study period.
- There were no significant differences across the study period among staff and providers completing the Areas of Worklife Survey (AWS).[16]
- Despite the onset and continued ramifications of the COVID-19 Pandemic, Cohort 2 practices maintained lower levels of burnout compared to national samples across the study period, which is encouraging.

**Report 4. Cohort 2 Staff and Provider Survey Report: Analysis of Behavioral Health Integration**

- Consistent with the first cohort of practices to implement the TEAM UP model, we assessed the level of BH integration (BHI) and team readiness over the course of TEAM UP model implementation among Cohort 2 practices.
- Compared to baseline, staff and providers scored higher on the Level of Integration Measure (LIM) by the end of the study period, suggesting that the TEAM UP model was highly integrated at practices.
- Staff and providers scores on the Mental Health Practice Readiness Inventory (MHPRI)[17] significantly improved from baseline to the end of the study period, suggesting increased readiness to address BH issues among pediatric patients.
- Collectively, Cohort 1 and Cohort 2 survey results were largely the same; both cohorts demonstrated higher overall levels of BHI and readiness to treat BH issues by the conclusion of the study period.

**Report 5. Practice Transformation to Implement an Integrated Behavioral Healthcare Pathway: Novel Tools for Anxiety and Depression Quality Improvement**

- While universal screening (via the Survey for Wellbeing for Young Children [SWYC] or the Pediatric Symptom Checklist [PSC]) predicts patients aged 0-18 years in need of BH services, the majority of patients receiving BH services screen negative.
- Among patients aged 0-18 years receiving universal screening, 15% had an indicated anxiety or depression issue.
- Among patients aged 0-18 years that had an indicated anxiety or depression issue and received a referral to onsite integrated BH, the majority had a visit with a BHC or CHW within 30 days following their screening.
- Quality improvement (QI) tools are effective at improving issue-specific workflows when co-developed by those utilizing such tools.
- Our QI Toolkit, comprised of an anxiety and depression-specific Care Cascade and Patient Registry, was effective in improving clinical workflows for identifying and treating anxiety and depression among patients at Cohort 2 practices.

**Report 6. Practice Transformation to Implement an Integrated Behavioral Healthcare Pathway: Attention Deficit Hyperactivity Disorder (ADHD) Quality Improvement**

- This report was completed as a parallel to the Anxiety and Depression QI Report, leveraging data from the ADHD Chart Abstraction Report and EMR-data similar to that in the Anxiety and Depression QI Report.
- Similar to the results in the Anxiety and Depression QI Report, universal screening had a similar influence on the detection of ADHD. Similarly, patients were more likely to receive services if they screened positive, and yet a majority of patients who received services screened negative.
- Results differed primarily in that patients with an ADHD-related concern were less likely to be referred to integrated care than patients with an anxiety and/or depression concern.
- Patient identified with a concern for ADHD, anxiety, and/or depression were more likely to receive BH services when screened negative; this suggests that the identification of common BH concerns is largely completed by highly trained integrated BH staff that are comfortable in completing clinical decisions in the absence of screening positivity.

**Report 7. The Effect of Practice Transformation Efforts on the Care of Children with Attention Deficit Hyperactivity Disorder**

- Similar to Cohort 1, we intended to assess ADHD-specific diagnostic and treatment outcomes from before and after the implementation of ADHD-specific practice transformation efforts. However, pre-implementation findings were not available to Cohort 2 practices in real time to inform practice transformation efforts. This was due to restrictions put in place during the COVID-19 Pandemic that limited the ability of evaluation team members to be on site at practices to conduct chart abstraction. Thus, practice transformation for ADHD was not data informed in Cohort 2 as it had been in Cohort 1 (see Report 8).
- The total number of patients newly diagnosed with ADHD increased from before practice transformation (n=110 over 12 months), which occurred from January 2019-December 2019, to after practice transformation (n=134 over 12 months), which occurred from June 2022-May 2023.
- The proportion of Teacher's Vanderbilts returned to the Cohort 2 practices increased from before practice transformation (75.3%) to after practice transformation (80.0%) among all practices, however, the proportion of Parent Vanderbilts decreased from 85.2% to 81.9%.
- Compared to before practice transformation, patients newly diagnosed with ADHD after practice transformation were less likely to receive at least one touchpoint and less likely to be prescribed psychotropic medication within 30-days following a diagnosis. Given that a touchpoint is only indicated following medication, this finding may be attributable to variation in parents' preference for medication as a first-line treatment for ADHD.
- Compared to before practice transformation, patients newly diagnosed with ADHD after practice transformation were more likely to receive their first touchpoint after diagnosis via telehealth.
- Our findings highlight the role of external factors (i.e., COVID-19 Pandemic) and their impact on expected findings. They also reinforce the importance of continuous quality improvement of the TEAM UP model.

**Report 8. Cohort 2 ADHD Chart Abstraction Companion Report: Workflow Development for ADHD**

- In comparison to Cohort 1, Cohort 2 workflow development and improvements pertaining to ADHD were left to the discretion of each practice as a result of the COVID-19 Pandemic.
- Cohort 2 practices differed in their prioritization of particular ADHD workflow components (i.e., Vanderbilt screening processes, medication prescription protocols, etc.) over their course of TEAM UP model implementation.
- By the conclusion of May 2023, all Cohort 2 practices were had implemented their ADHD-specific workflows. However, variable levels of practice transformation and limitations to data monitoring attenuated effectiveness.

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