

Comparative Effectiveness Research for Two Medical-Home Models for ADHD

Final Project Report

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ADHD is a diagnosis which disproportionately impacts low income and minority children. For these children, ADHD is less likely to be diagnosed and treated effectively. Current literature shows that there are common and modifiable reasons for treatment failure among low income children with ADHD. These reasons include the following: 1) low-income and minority families often experience difficulty engaging with care or adhering to treatment plans; 2) parents of children with ADHD have disproportionately high rates of mental illness which interfere with ADHD self- management; and 3) low-income children with ADHD experience high rates of comorbid illness, which can confound diagnoses or make the underlying ADHD more refractory to treatment. A consensus has emerged across professional societies regarding best practices for diagnosis and treatment; however, approaches to ADHD in primary care settings generally do not conform to this evidence.

We have completed a randomized trial to compare the effectiveness of two care models on ADHD outcomes: one, a model of basic care management and structured communication with specialists, consistent with conventional descriptions of patient-centered Medical Home (conventional Medical Home); and another, which combines the Medical Home with theory-based care management strategies to address these common reasons for ADHD treatment failure (enhanced Medical Home arm).

The study reached its target enrollment of 156 participants, of whom we were able to follow 91% through our target follow-up assessment time of one year. Analysis of the trial results is complete; and our primary manuscript concerning the main effects of the trial has been accepted for publication in *Pediatrics*. We are awaiting word of publication date.

In summary of the trial, we recruited participants from pediatric primary care clinics at both Boston Medical Center, a major tertiary medical center, and Dorchester House Multi-Service Center, a federally qualified health center. In total, 418 patients were assessed for eligibility after being referred by their PCP. One hundred-and-eight patients did not meet eligibility criteria, 100 were unable to be reached, 46 refused to participate, and 8 were excluded for miscellaneous reasons. We achieved a 91% retention rate across study arms. Reasons for loss to follow up include caregiver losing custody, being

unable to reach, caregiver in state custody, no longer being interested and doctor refusing service due to too many missed appointments.

A common group of care managers served both sites and a centralized specialist panel (based at Boston Medical Center) discussed patients and provided decision support. Care managers had access to electronic medical records at both sites, facilitating chart review and decision support. Care managers within the Conventional Medical Home arm performed initial interviews, collected diagnostic instruments, performed a chart review and presented information to a panel of specialists who returned decision support and then followed up with families over the phone. Care managers within the Enhanced Medical Home arm delivered conventional medical home service in addition to engaging with caregivers using Motivational Interviewing and Triple P (theory based parent management course) to address common reasons for treatment failure.

Participants were eligible if they had symptoms consistent with ADHD; were aged 6-12; caregivers spoke English or Spanish; child had no known autism spectrum disorder or bipolar; child was not receiving specialty care in pediatric psychiatry, pediatric neurology, or developmental behavioral pediatrics; and caregiver did not have serious untreated mental illness. The initial study plan was to enroll and randomized only those with confirmed ADHD diagnoses; however, after nearly a year of low enrollment, we had to broaden our eligibility criteria.

Follow-up assessment measures included ADHD and ODD symptoms, social skills, and time- to-symptom improvement. Patient adherence to medication was assessed through the EHR- from the perspective of prescription writing as well as the Medication Adherence Scale. ADHD and ODD symptoms were measured using the SNAP (IV). Social skills were assessed using the SSRS measure and time-to-symptom improvement will be based on regular follow-up ADHD symptom scales administered by care managers.

The results, in brief, were that for children with clinical presentations consistent with ADHD, those in the Enhanced treatment arm experienced markedly better outcomes at one year relative to ADHD symptoms and social skills. We are currently working on additional manuscripts concerning medication adherence, the role of maternal depression and ADHD, and process metrics.