

Pharmaceutical Safety Tracking (PhaST): Managing Medications for Patient Safety

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Organization:	Children's Research Institute
Mechanism:	RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality through Clinician Use of Health Information Technology (IT) (R18)
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Summary: Pharmaceutical Safety Tracking (PhaST) is a health information system that assists clinicians' management of medications in ambulatory settings. It is an automated system for monitoring medication adherence, side effects, and patient symptoms using research-based assessment procedures administered via interactive voice response (IVR) telephony. The PhaST system was developed to improve monitoring efforts of pediatric antidepressant use. This project compared PhaST to usual care on measures of patient and provider satisfaction, patient outcomes, and measures of the quality of medication management, such as rates of patient medication non-adherence.

To compare the use of PhaST to usual care, the project conducted a randomized trial in a large, urban, and specialty mental health system that primarily serves a Medicaid population. The project enrolled youths who were receiving new prescriptions for antidepressants to assess them for adverse events at baseline and 1-, 2-, and 3-month milestones. Patients were recruited based on physician referral and included 153 families of children aged 6-17 years who had been prescribed an antidepressant in the past week. Families were randomized to a PhaST or treatment-as-usual (TAU) regimen. PhaST families received seven IVR screening calls over 3 months.

Because the monitoring calls were able to screen for potential concerns and provide routine reports, on-call triage, and patient contact, subsequent physician contact or action was needed only when an immediate risk was detected. The technology also simplified the monitoring process for the patient's family, since calls were conveniently scheduled and additional transportation or treatment costs occurred only if medically required.

The goal of PhaST was not to replace clinician visits with telephone calls, but to improve safety and remediate access problems by augmenting communication channels already available to families.

Specific Aims:

- Determine whether PhaST is superior to usual care on measures of system process. **(Achieved)**
- Determine whether PhaST is superior to usual care on measures of patient and provider outcomes. **(Achieved)**

2011 Activities: Obtaining complete medical records on study participants had been a challenge in early phases of the project. The project team exercised the remainder of a 6-month no-cost extension period to focus on obtaining complete records on all remaining study participants, organize the analytical data, develop a final report, and lastly, disseminate findings in a manuscript titled [*An automated clinical monitoring system*](#)

benefits patients, lightens loads on families and providers and published in the November 2010 volume of Behavioral Healthcare. As last self-reported in the AHRQ Research Reporting System, project progress was on track and project budget spending was on target. The project concluded in May 2011.

Impact and Findings: Dr. Gardner and his study team tracked all call attempts and call completions in the PhaST group (by design, no calls were made in the TAU group). Of the 76 PhaST children, the team reached 74 (97 percent) at least once. Of the 74 participants contacted, the number of completed calls ranged from 3 to 13 (M = 6.6, SD = 1.2). Thus, the average number of successful calls was close to the desired target.

Overall, the system was shown to maintain and establish contact with patients, and it achieved its targeted rate of followup supervision. The screen has strong psychometric properties, and families used it to report significant rates of mental health problems. This information increased the amount of data on children's mental health condition available to clinicians, as shown through medical record reviews. Preliminary analyses showed that PhaST enables clinicians to have substantially increased information about patients, without the burden of significant additional tasks. Dr. Gardner is pursuing additional analyses into the comparison of chart-documented adverse events against adverse events as determined by an examiner blind to the patient's randomization. He will also compare PhaST and usual care on measures of patient and provider satisfaction, patient outcomes, and measures of the quality of medication management such as rates of patient medication non-adherence.

Target Population: Medicaid, Mental Health/Depression, Pediatric*

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: Implementation and Use

* *This target population is one of AHRQ's priority populations.*