

Technology for Optimizing Population Care in a Resource-Limited Environment (TOP-CARE)

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| Principal Investigator: | Atlas, Steven J., M.D. |
| Organization: | Massachusetts General Hospital |
| Mechanism: | PAR: HS08-270: Utilizing Health Information Technology to Improve Health Care Quality Grant (R18) |
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Summary: In recent years, many organizations have designed health information technology (IT) initiatives to help provide consistent, high-quality care to everyone, thereby improving health care in the primary care setting. Despite the increasing adoption of basic health IT capabilities, studies continue to reveal low rates of appropriate preventive screening. The Technology for Optimizing Population Care in a Resource-Limited Environment (TOP-CARE) project is working to design, develop, and implement a novel cancer screening intervention program. The goal of this study is to improve clinical decision support and enhance preventive cancer screening. The screening program is being integrated with electronic health record (EHR) data to assess whether clinical decision support can efficiently enhance preventive care—specifically, breast, cervical, and colorectal screening—in a primary care setting.

User feedback, particularly from key stakeholders such as primary care physicians, practice contact delegates, patient navigators, and central administrative personnel, has been critical to guide the successful design of the TOP-CARE system. A practice cluster randomized trial of the TOP-CARE program provided an opportunity to assess its impact on cancer screening rates in eligible patients. Practices within the Massachusetts General Primary Care Practice Based Research Network (MGPC-PBRN) were randomly assigned to intervention or augmented standard care. This randomized clinical trial used a tailored outreach, including letters and practice personnel or patient navigator contact to see whether screening rates differ when outreach is linked to the patient’s needs. The control group received a standard of augmented care that mimics current population-level reminder systems, supplemented by the use of automation.

The data analysis for this study is on the average screening test completion rates for breast, cervical, and colorectal cancers. Dr. Atlas and his research team hope to demonstrate the use of a state-of-the-art approach to automated, cancer-specific patient reminders and its impact on involving clinicians in patient population management to facilitate between-visit, patient-centered cancer screening. This research is relevant to nationwide efforts to rigorously demonstrate the most effective ways to implement new IT-based delivery models.

Specific Aims:

- Design, develop, and implement a novel cancer screening intervention program (TOP-CARE) that facilitates the identification, individualized contact, and subsequent tracking of patients overdue for screening. **(Achieved)**
- Conduct a practice-randomized trial of the TOP-CARE program within the MGPC-PBRN

- assessing its impact on cancer screening rates in eligible patients. **(Achieved)**
- Collect data prospectively throughout the randomized trial on costs, preferences, and clinical and process outcomes to inform a subsequent formal cost-benefit analysis. **(Ongoing)**

2012 Activities: The focus of activity was on completing the randomized trial of the TOP-CARE intervention, which concluded in June 2012, and conducting the subsequent data analysis. At the close of the trial, the study included 17,618 patients in the intervention group and 17,057 in the control group, all of whom were identified as being overdue for at least one screening test. Following the intervention, analytic datasets were created to look at primary and secondary outcomes. Preliminary unadjusted analysis of the primary outcome was conducted using data from the TOP-CARE databases and hospital billing systems. However, further data abstracts from the hospital medical record system were required to complete the analysis. Follow-up surveys to providers were also administered.

The study team presented information at several conferences throughout the year using data from the TOP-CARE system at venues including the Massachusetts General Hospital Clinical Research Day 2012, the 2012 Harvard Center for Primary Care Innovations Conference, and the 2012 AHRQ Annual Conference. The team also helped collaborate on a manuscript and several abstracts detailing the preliminary results from the randomized controlled trial, the cost-effectiveness model, provider surveys, and disparities in screening.

As last self-reported in the AHRQ Research Reporting System, project progress, activities, and budget spending are completely on track. Due to a delay between the time the randomized controlled trial ended and when the hospital billing systems can provide the most accurate and up-to-date information to complete the analytic dataset, a 12-month no-cost extension period is being implemented. During this period, the research team will complete the cost-effectiveness analysis and disseminate findings.

Preliminary Impact and Findings: The project has no findings to date.

Target Population: Adults

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Knowledge Creation