Improving the Management of Abnormal Cancer Screening Results at a Large Federally Qualified Health Center (FQHC)

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12-month quality improvement (QI) initiatives using Mesosystem and Microsystems to redesign the process of cancer screening follow up at Community Health Center Inc., a large, multi-site community health center in Connecticut.

Methods: This project used formal QI tools to improve the notification of patients with abnormal cervical, colorectal, and breast cancer screening results, and timely follow-up. Front-line staff working with an improvement coach used quality improvement tools to map out and redesign the process for managing abnormal cancer screening test results. Key elements of the new process included: (i) centralizing the process of ordering cancer screening tests, (ii) a reminder function in the electronic health record to track patients with abnormal results, (iii) designation of a nurse care coordinator at each site to ensure patients receive timely notification of abnormal results and timely follow-up imaging and treatment, and (iv) monthly reports generated from the data warehouse to provide feedback to staff on adherence to the new process. The new process was pilot-tested by a front line Clinical Microsystems team and standardized based on their feedback. A step-wedge design was used to implement the new process across all 12 medical sites and to evaluate the impact of the new process. Implementation included engaging Clinical Microsystems teams at each site, adapting the process to the local context, and training all staff on the new process. Chart reviews and electronic queries were done to determine the percentage of patients with abnormal results who received notification within 30 days and appropriate follow-up treatment within 90 days.

Results: Process efficiency and effectiveness improved for colorectal cancer screening. The mean notification time was reduced to 8.4 days (18.3-day reduction); the mean time to receive follow-up care was reduced to 42.5 days (32.3-day reduction). We observed a 14.7% relative increase in patients notified of abnormal results in 30 days and a 34.3% relative increase in patients receiving appropriate follow-up care within 90 days. Further, 100% of all patients that received follow-up care due to a positive fecal occult blood test attained this treatment within 90 days.

For cervical cancer screening, mean notification time remained relatively stable pre- and post-implementation (post- mean notification time was 9.0 days). We observed an 11.6% relative increase in patients receiving appropriate care within 90 days. Nearly all (94.5%) patients that received follow-up care for an abnormal Papanicolaou test attained this treatment within 90 days. Barriers to data collection inhibited the research team from assessing any changes in process efficiency and effectiveness for breast cancer screening.

Conclusions: Formal quality improvement methods at the Mesosystem and Microsystem level were used to improve the management of abnormal cancer screening tests across a large, multi-site
primary care delivery system. Measurable and clinically significant improvements were observed on patient notification and follow up of abnormal tests. This study demonstrates the potential to use rigorous scientific methods to study the impact of quality improvement work in the clinical setting and highlights the potential for Clinical Microsystems to promote system-level change across a large delivery system.

The **Weitzman Quality Institute** is a community-based research center established by Community Health Center, Inc., dedicated to quality improvement and research in primary care for the underserved. The Institute promotes innovations in quality improvement techniques as well as critical investigation in primary care and systems redesign.